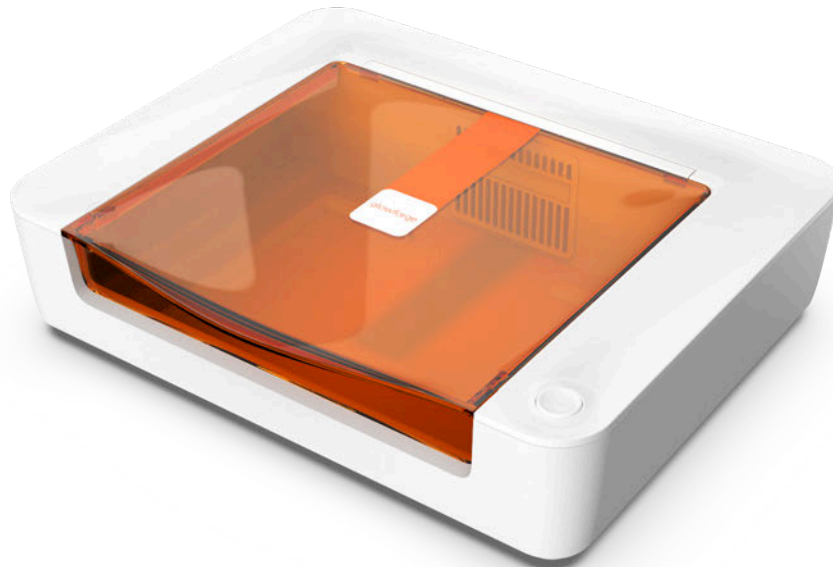




Glowforge Spark™

User Manual



Introduction

Welcome!

And thank you. We're so grateful to share Glowforge Spark with you, and to introduce you to all the amazing features you'll use to create wonderful things. The best part of Glowforge is our generous, welcoming community. We're so happy that you're a part of it.

This manual covers just about everything you need to know about your Glowforge Spark. We'll show you how it works and how to set it up — super quickly. We'll introduce you to the Glowforge App — the powerful, easy-to-use software that brings your imagination to life. You'll learn about the Glowforge Catalog, featuring thousands of designs you can make your own. We'll even guide you through your first (of many) prints and introduce you to some advanced techniques. We want to make sure you have the skills and knowledge to do what you do best: creating beautiful things.

We're dedicated to making sure you're delighted with your new Glowforge Spark. If you ever have any questions, we'd love to help. Just reach out to Customer Care at support.glowforge.com.

Thank you again for joining the Glowforge Community. We can't wait to see what you create.

P.S. The next section is long and very important: it covers how to safely use your Glowforge Spark (it's a laser, after all, and should always be used carefully.)

Please read the safety instructions closely, and follow them every time.

We always want you to create safely!

Safety

First, it's time to get serious. Improperly operating the Glowforge unit can cause fire, eye or skin injury from laser exposure, or exposure to chemicals that may be health hazards. These can result in serious injury or even death.

Before you start

- Read this manual before using your Glowforge unit, and ensure everyone else who uses it reads this too.
- Always follow all instructions in this section and in the Glowforge App.
- Children require the supervision and assistance of an adult at all times.
- Do not use your Glowforge unit while under the influence of alcohol or drugs.
- Lasers may be subject to regulations and standards, particularly when installed in an educational institution or place of work. Ensure that you comply with all applicable rules.
- Do not touch the head or arm of the Glowforge unit while the power is on. If you do so by accident, turn it off, then back on again to prevent the possibility of damage.
- Under rare circumstances, materials or components inside your Glowforge unit may become hot during printing. Use caution before touching surfaces inside the printer.

Electrical Safety

To reduce the risk of electric shock or fire:

- Do not try to service, repair, or modify the Glowforge unit.
- Never try to access the wiring of the Glowforge unit.
- Do not open the power supply or any sealed portion of the Glowforge unit.
- If the Glowforge unit is damaged, unplug the power cord and contact support@glowforge.com immediately.
- In the event of any emergency or malfunction, unplug the power cord on the back of the unit.
- Use only a properly grounded outlet that meets local building codes and has at least 300 watts of power available.

- The power cord is intended to serve as the disconnect device. Make sure the outlet is near the equipment and easily accessible, so you can unplug the unit if needed.
- The minimum rating of the circuit breaker, also known as an overcurrent protective device, on this circuit feeding the outlet should be at least 5 amps.

Fire Safety

The Glowforge unit's laser cuts and engraves with a beam of high-intensity visible light. The laser can generate extremely high temperatures in the material being cut or engraved. Under some circumstances, it is possible for the material inside the Glowforge unit to ignite and for the flame to spread outside of the area being cut or engraved. If ignited, the flame could destroy your unit and spread, potentially setting fire to the building.

Fire Risk

- Do not put anything inside the Glowforge unit that is not laser-compatible, even if you do not intend to cut or engrave it. Learn more about laser-compatible materials below.
- Do not stack materials; for example attempting to cut two or more sheets of material at a time. Multiple sheets are more likely to burn.
- Clean out leftover bits inside the Glowforge unit when it builds up. (See "**Cleaning**")
- Do not place anything on top of the Glowforge unit. Do not store things that can catch fire above it.
- Do not store sources of flammable vapors like oil-based paint, acetone, gasoline, or alcohol in the same room as your Glowforge unit. Flammable vapors could be ignited during operation.
- When a print is complete, certain materials, like plastics, can remain hot. Allow them to cool down before you touch them.

Keep watch during operation

- Never leave the Glowforge unit unattended while operating – either when it's paused and ready to print (with the button flashing) or while it's actually printing (with the button on). Always stay within sight and look inside frequently.
- A small, candle-like flame where the laser beam strikes the material is normal. This flame should move with the laser and should not remain lit when the laser has moved past.

- If there is a lasting flame inside the Glowforge unit that does not extinguish when the laser has moved past:
 1. Pull the plug on the back of the unit.
 2. If it is safe to do so, extinguish the fire with a wet towel. Note that water may damage your Glowforge.
 3. If that is not an option, then if it is safe to do so, extinguish the fire with a fire extinguisher. Note that fire extinguishers may cause damage to your Glowforge.
 4. If the fire cannot be safely extinguished or if it spreads outside the Glowforge unit, call your local emergency number (for example 911) and evacuate the building.
 5. Do not operate the unit further until you have contacted Glowforge for service information at support.glowforge.com.

Laser Safety

Laser Products

The Glowforge Spark is a Class 1 laser product containing an embedded Class 4 laser. The embedded laser emits enough visible light energy to cause instant injury to the skin and eye if directly exposed, or start a fire when exposed to flammable materials. The Glowforge Spark provides an engineered protective housing which blocks harmful levels of laser light, allowing you to safely utilize this versatile tool.

CAUTION! Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Do not use if the case is damaged or modified.

Any damage or modifications could allow dangerous contact with moving and/or electrical parts, and/or allow visible and invisible light, heat, smoke, and fumes to escape.

The lid has magnetic safety interlock switches that turn off the laser immediately if the lid is opened. Do not place magnets near the lid or doors as they can interfere with the switches. Do not try to defeat the switches.

Do not modify or service.

CAUTION ! Attempting to modify or service the Glowforge unit may result in hazardous laser light exposure.

To reduce the risk of injury:

- Do not attempt service. All service must be performed only by the Glowforge factory or by factory-authorized technicians.
- Do not attempt to alter or modify the unit.
- Only use the top lid to open the case. Do not try to open the case any other way, such as by drilling holes, removing fasteners, or removing coverings.
- Do not try to disassemble or open sealed portions of the Glowforge unit, including any protective coverings or housings.
- If the crumb tray is removed, use extreme caution to ensure that the laser only strikes laser-compatible material, and does not touch the metal bottom of the unit which could cause a reflection and damage the unit.

Additional Laser Safety Information

The Glowforge Spark (Model Number GFD 100) is a Class 1 laser product as defined in International Standard IEC 60825.

The Glowforge Spark contains a Class 4 embedded laser source, known as the Laser Head, which is fully enclosed by the product safety enclosure with safety interlock that reduces the product to a Class 1 laser product.

In the image below the Laser Head is indicated, all operators should be aware that the Laser Head is a class 4 laser source with the laser beam path exiting from the bottom of the head towards the base plate of the product.

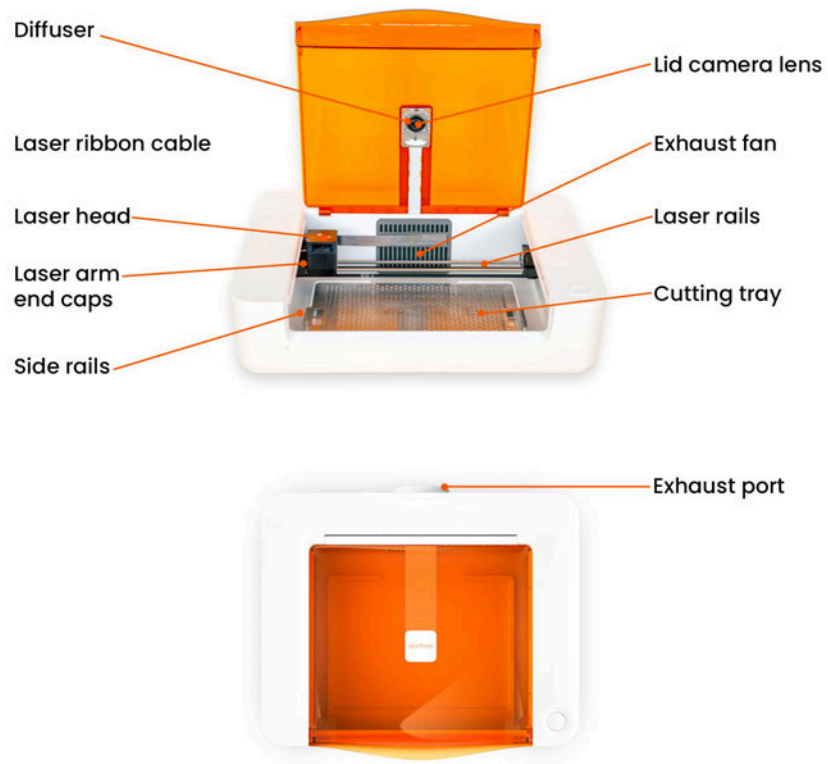


Figure 1: Glowforge Spark with Laser Head location shown.

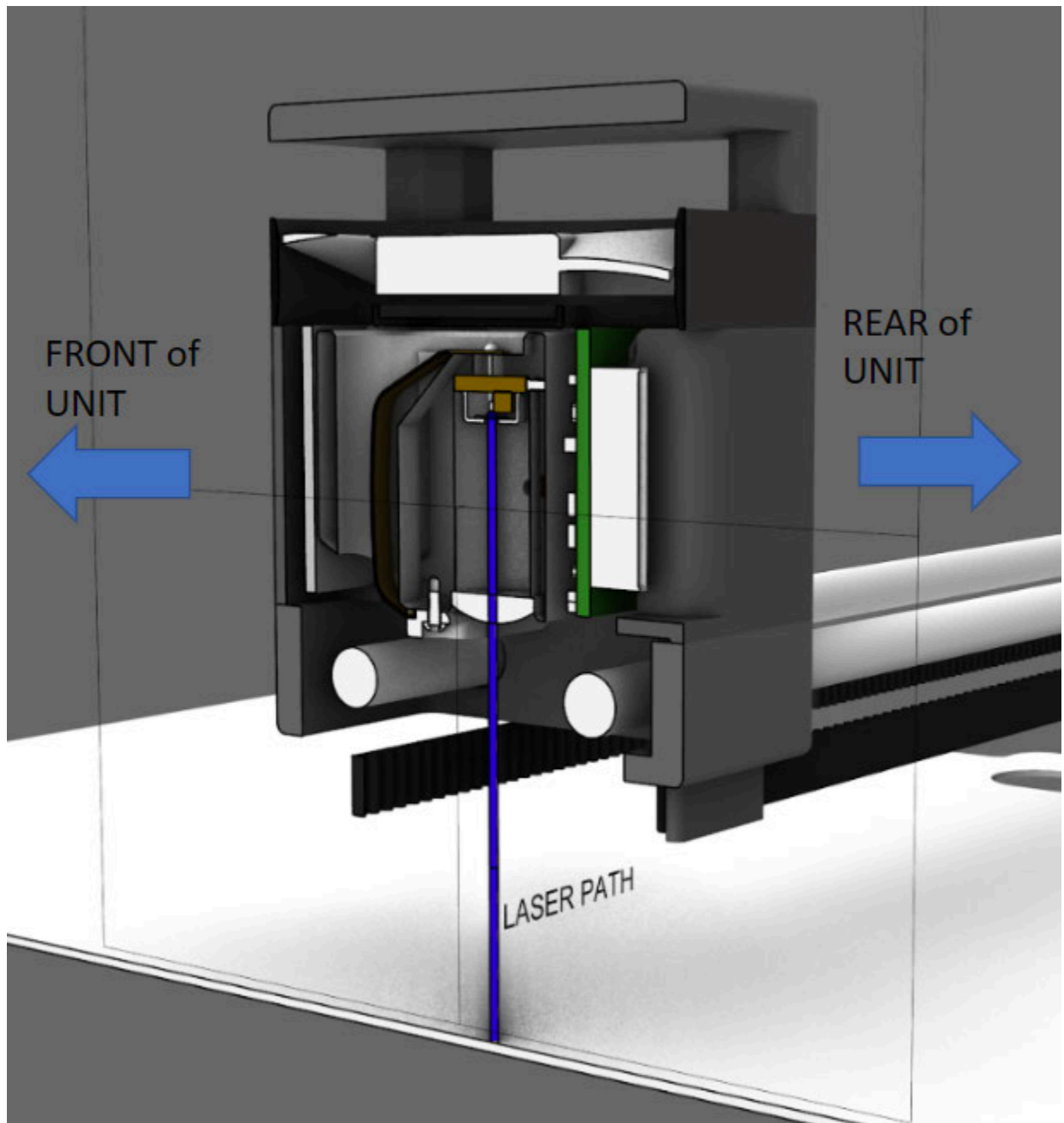


Figure 2: Laser Beam path as viewed from inside the safety enclosure.



Exposure to Hazardous laser light (Class 4) may result if misuse occurs.

CAUTION! Do not modify or tamper with the safety enclosure, viewing window or interlocks of your Glowforge.

CAUTION! Do not attempt to use a Glowforge unit that has suffered physical damage to the safety enclosure, viewing window or interlocks.

Smoke and Fume Safety

When you use your Glowforge unit, the laser creates visible and invisible aerosols, gasses, vapors, and particulates (referred to here as “smoke and fumes”). The smoke and fumes can include carbon monoxide and other chemicals which present health hazards, as well as being unpleasant and stinky. The chemical composition of the smoke and fumes depend on the material being lasered. Smoke and fumes from laser-compatible materials are controlled by exhaust or filtration.

Exhaust

Only operate your Glowforge unit when it is exhausted to the outdoors or through the Glowforge Personal Filter™.¹ Failure to exhaust will cause smoke and fumes to escape into the room, presenting a risk of health hazards or death.

¹ Do not connect your Glowforge Spark to a Glowforge Air Filter. Only the Glowforge Personal Filter is compatible with Glowforge Spark.

If you vent exhaust outdoors, be sure that the exhaust location won't be bothersome to neighbors or passers-by, and don't forget to check your local rules for air quality regulations that may apply to you.

To prevent smoke and fumes from escaping the unit, do not open the lid until the fans stop. Follow all of the instructions in "Setting Up" carefully.

There may be some odor present while printing. However, if you detect a strong, sharp smell that also causes eyes, nose, or throat irritation, or if there is visible smoke escaping while the lid is closed, stop immediately and re-check your exhaust setup. If the irritation and/or smoke emissions do not abate, discontinue using your Glowforge unit and contact Customer Care at support.glowforge.com.

Safety Equipment

Be sure carbon monoxide detectors are installed and tested in the building as recommended by local codes and manufacturer recommendations.

Materials Safety

Laser-Compatible Materials

"Laser-compatible" refers to materials that can be safely processed with the diode laser in the Glowforge Spark. Materials that are not laser-compatible may catch fire, emit hazardous smoke and fumes that cannot be controlled by exhaust or filtration, and are a health hazard to you, your neighbors, and your Glowforge unit. For this reason, you must only put laser-compatible materials in the Glowforge unit.

Diode-Compatible Materials

Glowforge Spark cuts and engraves laser-compatible materials including wood, acrylic, leather, veneer, paper, & cardboard, and also engraves on denim, mylar, rubber, cork, sandpaper, food, stone, slate, titanium, aluminum, marble, ceramic tile, and hundreds more.

Because Glowforge Spark uses a blue, 6-watt, solid-state diode laser, it is **not compatible with glass, clear acrylic, white acrylic, blue acrylic, vinyl, or Draftboard® materials.**

Material Sizes

Glowforge Spark fits material up to 12 in x 12 in (30.4 cm x 30.4 cm), but we recommend materials sized at 8 in x 12 in (30.4 cm x 20.32 cm) or smaller to optimize your print experience.

Glowforge Spark works with thicker materials than traditional craft cutters — you can cut materials up to ¼ in (0.635 cm) thick and engrave objects up to ¾ in high with the cutting tray removed.

Proofgrade® Materials

Glowforge sells a line of Proofgrade® materials that are laser-compatible and give top-quality results when used with your Glowforge Spark printer. To learn more about Proofgrade® materials, go to glowforge.com/materials.

Laser-compatible materials from other suppliers

Other suppliers like Inventables.com sell material that they indicate is laser-compatible. If you are uncertain, ask the supplier if the material may be processed safely with a diode laser.

Food Safety

Many food products can be engraved, and some can even be cut. However, residue from prints on acrylic or other materials might be present in your Glowforge and could contaminate food that you put in your Glowforge. For that reason, if you use your Glowforge for materials other than food, then don't eat any food you put inside it.

What if I'm not certain whether my materials are laser-compatible?

If you aren't completely sure that your material is laser-compatible, do not put it in the Glowforge unit.

- **Some materials look similar to laser-compatible materials, but are different.** For example, vinyl can be mistaken for some laser-compatible materials but emits harmful and destructive smoke and fumes. Printing on vinyl, even briefly, will permanently destroy your Glowforge Spark.
- **Materials may have contaminants, coatings, or additives that are not laser-compatible.** For example, certain plywood glues, inks, adhesives, dyes, and paints may not be laser-compatible.
- **Some materials can reflect the laser and damage your Glowforge unit.** For example, mirrors or shiny surfaces can reflect the laser light.

Materials must fit

Materials that do not fit properly may obstruct operation and result in damage and increased risk of fire.

- With the cutting tray installed, materials must be no more than $\frac{1}{4}$ in (6.75 mm) in height and should be no more than 12 in (30.4 cm) in length or 12 in (20.3 cm) in width.
- With the cutting tray removed, materials must be no more than $\frac{3}{4}$ in (20mm) in height and should be no more than 12 in (30.4 cm) in length or 12 in (20.3 cm) in width.
- Do not place rolled-up material in the Glowforge. It may be too tall, or unroll during printing, obstructing operation.

Materials must be flat

- Materials must be flat so they rest on the cutting tray.
- While a bulge is acceptable, for example from warped wood, the highest point of the material may not extend more than $\frac{1}{4}$ in (6.75 mm) above the cutting tray.
- Material must never double back on itself, for example curling up.
- Should material curl or bend so it reaches more than $\frac{1}{4}$ in (6.75 mm) above the cutting tray during a print, turn off the power immediately.
- If the material has a protective paper or plastic coating, that coating must be firmly affixed to the material. If it begins to peel off, discard the material and do not print on it.

Operating Environment

To prolong the life of your Glowforge unit and to reduce the risk of fire or mechanical failure, do not put the Glowforge unit where it could experience:

- Extreme temperature or humidity
 - Temperatures below 55 degrees Fahrenheit (13 Celsius) or over 110 degrees Fahrenheit (43 Celsius)
 - Extreme humidity conditions (below 20% or more than 80%)
 - If venting outdoors, ensure that changing conditions do not cause extreme temperatures or humidity to enter the Glowforge unit through the exhaust hose. Disconnect the hose from the outside air when the Glowforge is not in use.
- Direct sunlight
- Rain, moisture, or liquids
- Excessive hair, dust, or small particles
- Loose materials such as paper or a tablecloth that could be sucked into the air intake on the bottom of the Glowforge

Print when the ambient temperature is within the following ranges. Printing outside these ranges may cause your print to pause periodically or fail to complete.

- Between 60 degrees Fahrenheit (16 Celsius) and 75 degrees Fahrenheit (23 Celsius).

Stop Using Your Glowforge Unit If...

If any of the following occur, immediately turn off the power switch, unplug the unit, and contact us through our Help & Learning Center at support.glowforge.com. Do not use your Glowforge unit again until the issue has been addressed by Customer Care.

- The default settings for a piece of Proofgrade® material do not cut through the material
- There is a fire in the unit which persists after the laser turns off
- The head stops moving but the laser is on
- The unit's button turns any color other than white, yellow, or teal
- You see any damage or discoloration to the case

- There are any cracks in the case, lid, or trim
- You see any moisture present inside the Glowforge unit
- You see any damage to the interior components of the Glowforge unit
- You notice unusual light coming from the unit that was not occurring previously
- You notice an unusual sound coming from the unit that was not occurring previously



DE: Informationen zur Sicherheit finden Sie im Anhang.



IT: Trovare informazioni sulla sicurezza nell'appendice.



ES: Encuentre información sobre seguridad en el apéndice.



FR: Retrouvez les informations de sécurité en annexe.

Glowforge Model Details

	Glowforge Spark
Glowforge Model No.	GFD100
Warranty	12 months
Laser Class	Class 1
Laser Optical Output Power	6W
Certified to UL Standards (only when indicated on label on back of unit)	Certified to UL 62368-1:2014 by TUV Rheinland

Glowforge Regulatory Information

In the United States, lasers are regulated by the federal Center for Devices and Radiological Health (CDRH), a subsidiary of the federal Food & Drug Administration (FDA). The CDRH and the FDA, in conjunction with other agencies, help ensure that laser devices, from CD players to industrial lasers, can be used safely.

The Glowforge Spark unit has a Class 1 laser equipment classification.

The included laser diode has the following characteristics:

- Wavelength: 450 nm CW
- Internal laser power: less than 6000 milliwatts peak
- Beam diameter: 0.1mm
- Beam divergence: 9mRad

The Glowforge unit is manufactured by:

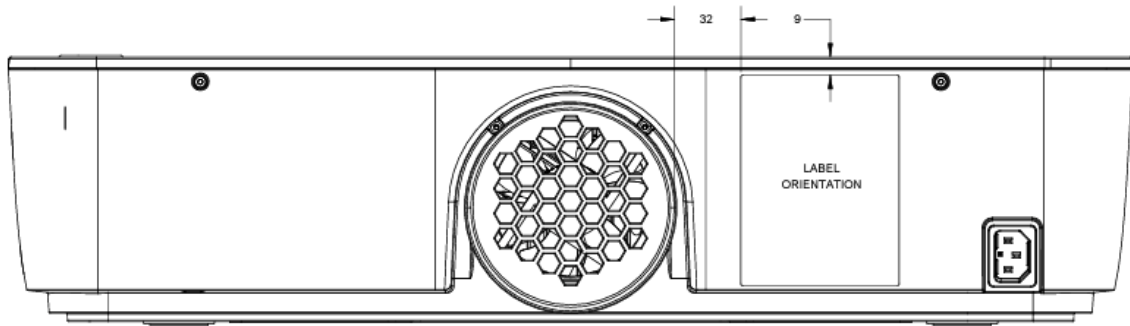
Glowforge Inc.
1938 Occidental Ave S, Suite C
Seattle, WA 98134

For more information or support, contact us through our Help & Learning Center at support.glowforge.com.

The following label information applies to the Glowforge Spark.

The Manufacturer's Label will appear on the back of every Glowforge Spark, with an appropriate serial number, in the position indicated.

1. APPLY LABEL AS SHOWN



CLASS 1 LASER PRODUCT
CLASSIFIED EN/IEC 60825-1 2014

PRODUIT LASER DE CLASSE 1
CLASSIFIE EN/IEC 60825-1 2014



1938 Occidental Ave South
Seattle, WA. 98134
USA

Glowforge Spark
Serial Number: XXX-XXX-6

Rated: 100-240 Vac, 50/60 Hz, 2.1A

Complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This product may be covered by one or more U.S. patents or pending patent applications. See glowforge.com/patents for details

Electrical Diagram: GFD200

Branch Circuit Over Protection Required; 15 Amps

Minimum Protective Earth Ground conductor size AWG 18, IP 20

No User serviceable parts inside enclosure

Designed by Glowforge in Seattle. Assembled in Mexico.

Model: GFD100



FCC ID: 2A83C-BZQ6R CLASS B
IC:29844-BZQ6R

EN/IEC 62368-1:2018 EN/IEC 60825-1:2014
CAN/CSA C22.2 No. 62368-1-14:2014 UL 62368-1:2014

Glowforge Spark FCC Warning Statements

FCC ID 2A83C-BZQ6R

The Glowforge Spark complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To satisfy RF exposure requirements, this device and its antenna must operate with a separation distance of at least 20 cm from all persons.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

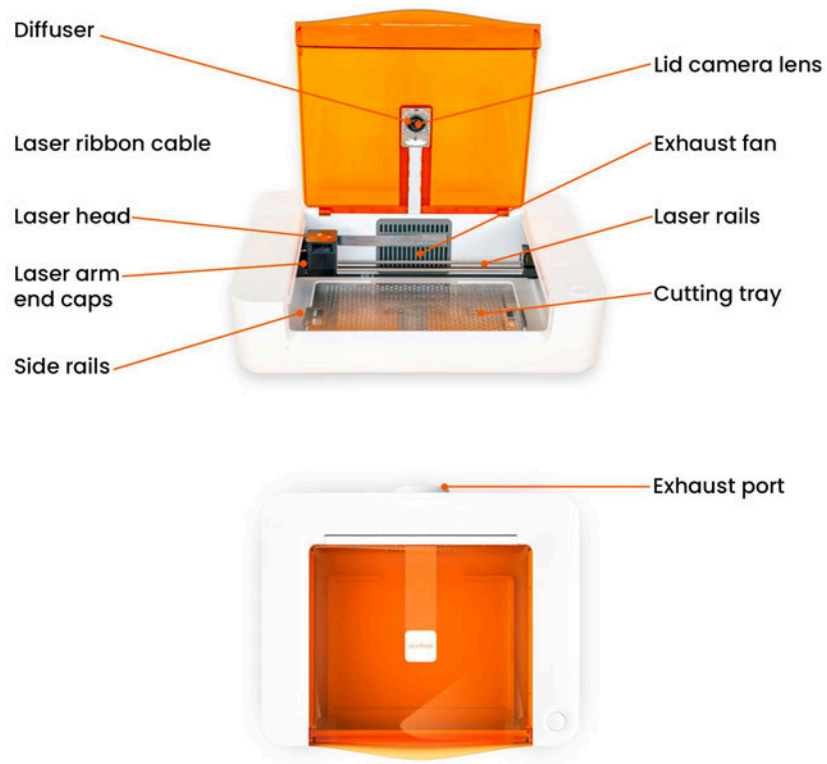
Glowforge Spark Innovation, Science and Economic Development Canada (ISED) User Notification

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device. (Per RSS-Gen, Section 8.4.)

Unboxing & Setting Up

Getting Acquainted



Let's Get Started

Now that you've read about safety and know how to operate your Glowforge Spark, it's time to start creating!

In just a few minutes, you're going to have a working laser in your home (or office, classroom, workshop, or design studio)! Of course, if you encounter any challenges along the way, you can find more information by visiting our [Help & Learning Center](#).

Let's get started!

Any damage?

Once the seal on your Glowforge Spark's box has been broken, you can't return it to the retail store. We're here to help, though!

If any part of your Glowforge Spark is visibly damaged out of the box, we want to make it right as soon as possible! Send photos of the damage to support@glowforge.com and wait until you hear back from us. If the printer itself is visibly damaged, do not plug it in or attempt to operate it; contact us immediately.

Prepare Your Area

Before you set up, make sure you have a stable surface on which to place your Glowforge Spark, and nearby access to an electrical outlet.

Unboxing and Assembly

1. Gently place the Glowforge Spark box on the floor or large flat surface. Open it.



2. Using two hands, remove the top foam piece from the box, and voila! You've revealed your Glowforge Spark.

3. Lift your printer out of the box and place it on your stable surface. Remove the clear plastic bag.



4. In the box where your printer was, you'll find a cardboard sleeve containing your cutting tray. Remove this sleeve from the box and set it aside — you'll need it shortly!



5. Open the lid and remove the foam sheet to reveal more boxes containing the laser head, power cable, and vent hose. If you don't spot your power cable right away, check inside the vent hose!



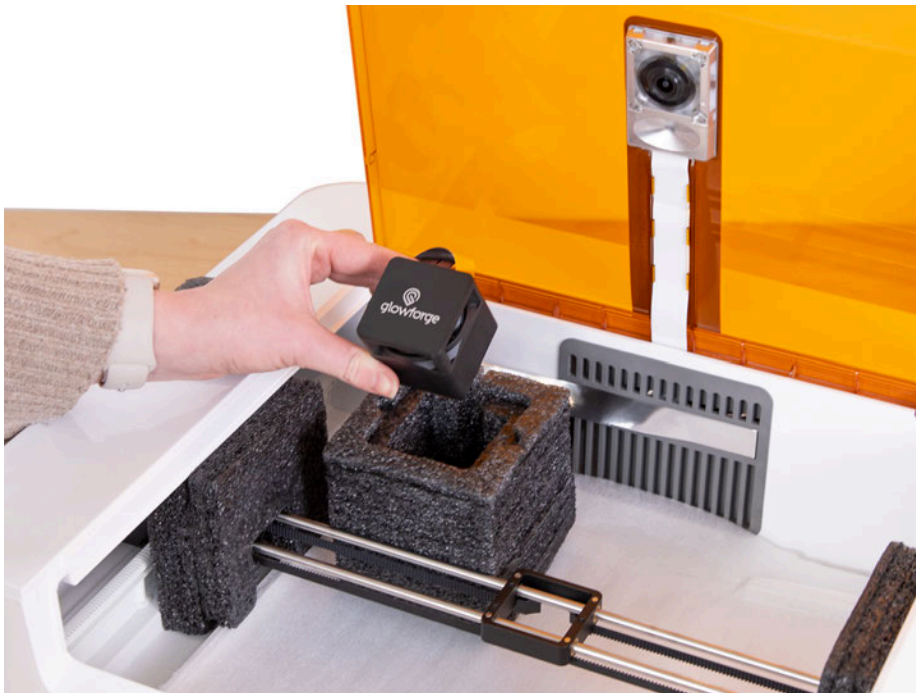
6. Open the cardboard package closest to the front of the printer bed. Remove the exhaust hose and power cord and set them aside. You can also remove the bottom cardboard piece.



7. Next, you'll set up your Glowforge Spark's laser head. It's packed snugly in the black foam cube in the top left area of the printer bed. The laser head is already attached to your printer with a laser ribbon cable, so take care not to disconnect it.
8. With one hand, lift the whole foam block gently up and out of the cardboard holder. With your other hand, remove the top cardboard insert from the printer.



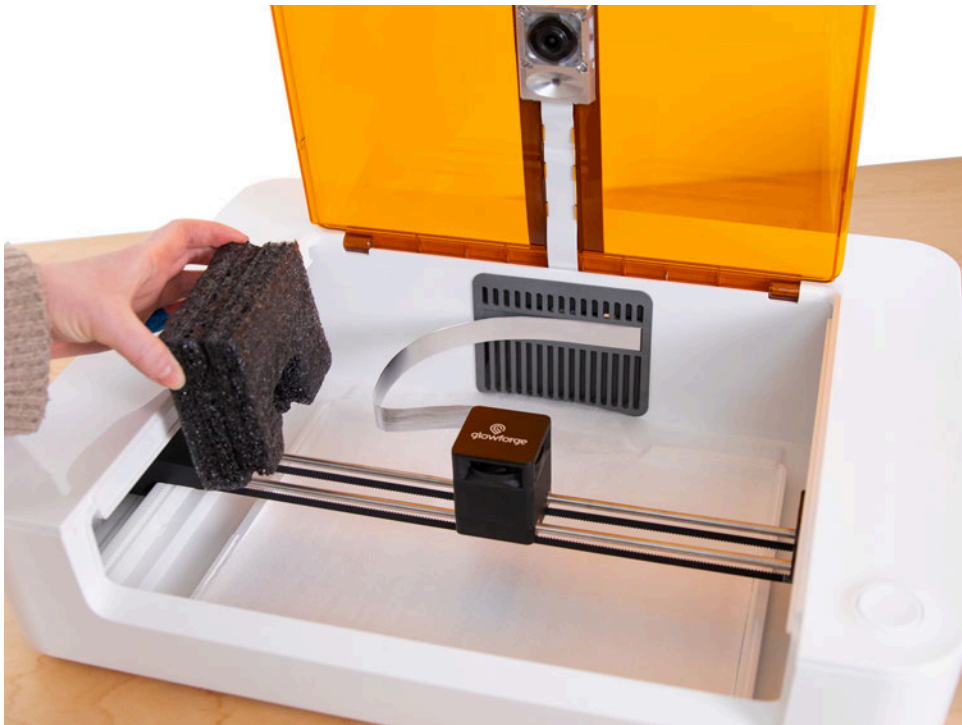
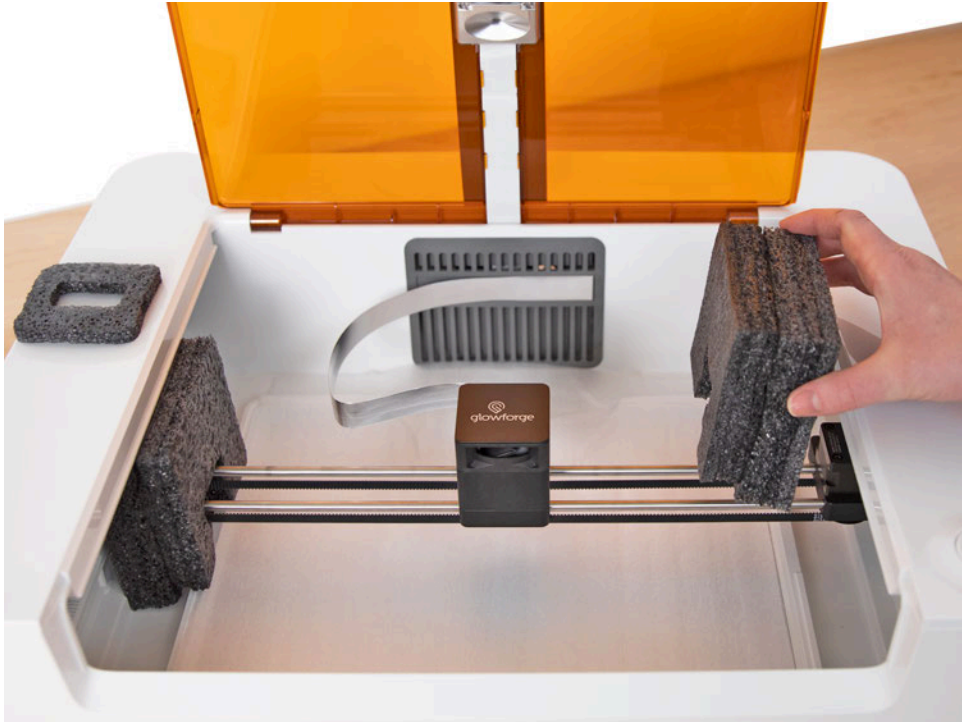
9. Remove the top piece of foam, and carefully lift the laser head out of the foam block. Take care not to pull or twist the laser ribbon cable.



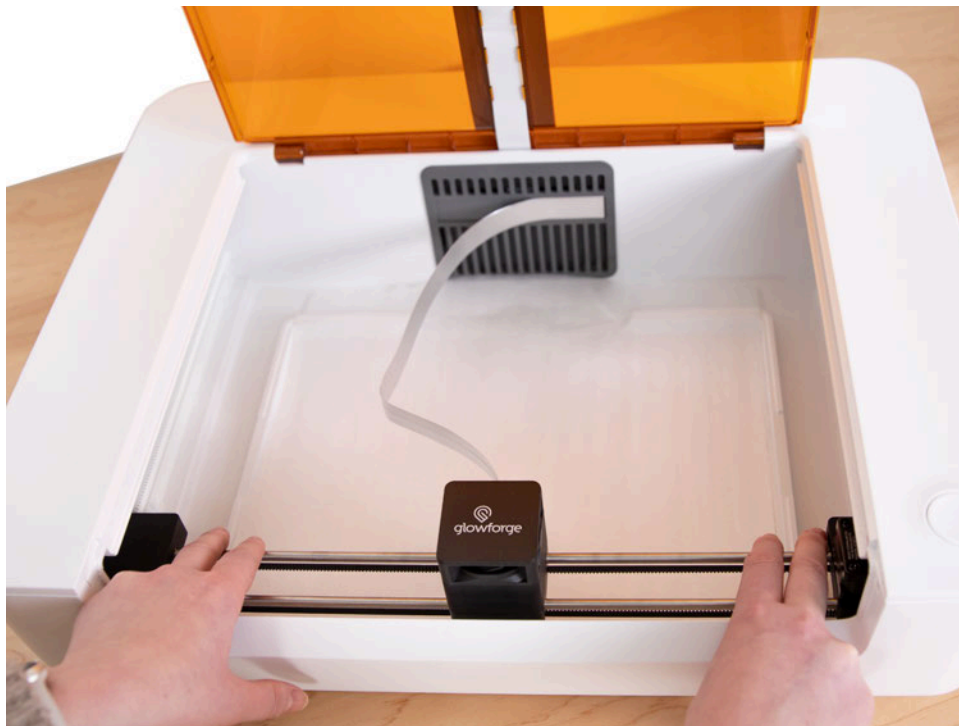
10. Next, you'll place the laser head on the magnetic dock — it's the black square mounted on top of the two silver laser rails. Set the laser head on the dock with the laser ribbon cable at the back and the Glowforge logo reading left to right. You'll feel it magnetically snap into place.



11. You may find some foam pieces tucked under the rails on the left and right side. Gently remove them by pulling out, then up, and store them with your other packaging.



12. Once you've attached the laser head, it's time to align the rails! It's likely that your laser arm is already sitting perfectly straight, but just in case there's any skew there, these steps will take care of it.
13. Place your hands on the black end caps on either side of the laser arm. Gently pull the laser arm all the way to the front. Apply a bit of pressure to make sure both end caps are flush with the front. If the laser arm was skewed at all, you'll feel it snap into place.



14. Now, still holding on to the end caps, gently push the laser arm all the way to the rear of the printer. Again, apply some pressure to make sure both end caps are flush with the rear.

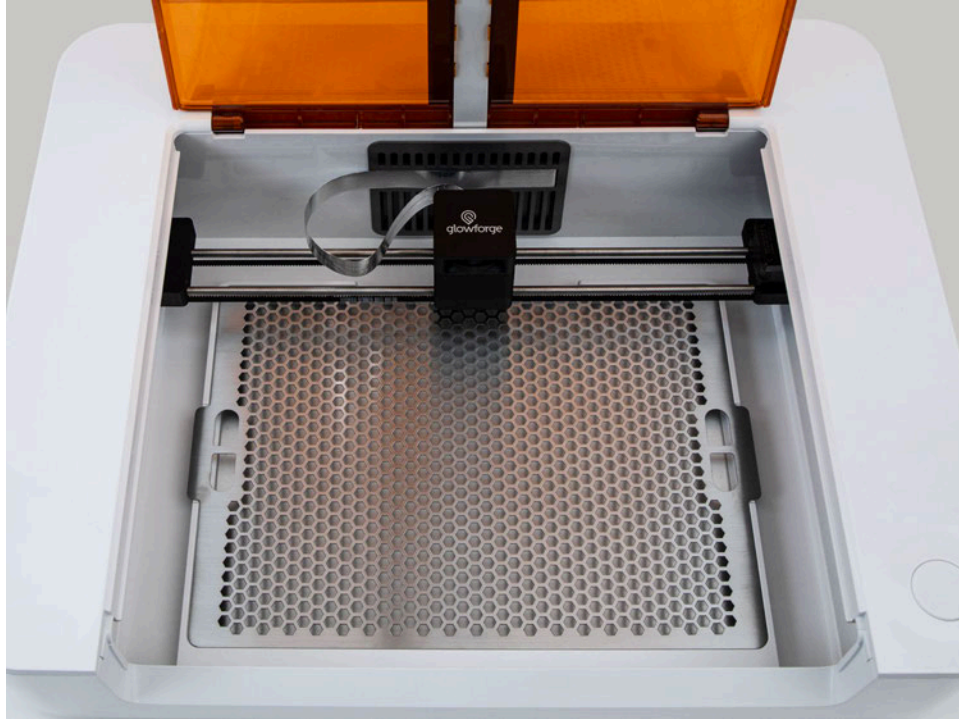


15. Remember that cardboard sleeve you removed earlier? Open the sleeve and remove the cutting tray.

16. Remove the foam sheet at the bottom of the printer, then slide the cutting tray into your Glowforge Spark. The handles on the left and right sides will slide into the notches on either side of your printer. It should fit snugly.



17. Almost done! Your Glowforge Spark should look like this.



18. Save everything! If you need to move your Glowforge Spark or ship it (for warranty service for example), you'll need all the original parts: boxes, foam, plastic covering, cardboard inserts, so make sure you store them safely.

Exhaust Setup

1. Connect your exhaust hose to the back of your printer by sliding the rubber ring over the exhaust connection. Push it on as far as it will go. It should be a snug fit around the entire flange, and should not come off with a gentle tug.



2. If you're using a Glowforge Personal Filter, connect the other end of the hose to the lip on the top, and refer to the Glowforge Personal Filter Manual to complete setup.
3. To vent outdoors, connect the other end of the hose to the outdoors through a window or a vent that connects directly outside. Do not use a vent that extends the length of the hose past 8 feet (2.4384 m) or that adds any turns. Make sure the hose isn't twisted, pinched, kinked, or flattened.
4. If you are venting outdoors, disconnect the hose after use. Changing weather conditions may cause hot, cold, or humid air to enter your Glowforge Spark that could damage it. When your Glowforge Spark is not in use, remove the hose from the vent or window, or disconnect it from your Glowforge Spark.

Connect to Electrical Power

1. Finally, connect the power cord to the back of the printer and plug it into an outlet.



2. Your printer automatically turns off after 30 minutes. To turn it back on, open the lid. To turn your printer on, simply plug it into the outlet. To turn it off, unplug it. Or, you can leave it plugged in and it will automatically enter a rest mode after 30 minutes of inactivity.

Sign In and Connect to Wi-Fi

1. Using a web browser, go to glowforge.com/create-account and follow the instructions on screen to create your Glowforge account.
2. After creating your account and logging in, navigate to setup.glowforge.com to finish setting up your Glowforge Spark.
3. Depending on your computer and browser, you may be prompted to download the Glowforge Setup app. If prompted, download and install it (this should take less than a minute). Open the Glowforge Wifi Setup app and log in with your Glowforge account email address and password. You'll

see the “Let’s Get Started!” page first. Scroll to the bottom of this page and click on “7. Connect to Wi-Fi”.

4. Follow the steps onscreen to get connected.
5. When you connect successfully, the laser head will center and begin its calibration process before completing and moving back to the printer’s back left corner.
6. Your Glowforge Spark is now connected to the internet and ready to print!

Welcome to Glowforge Premium

Your new Glowforge account includes a free trial of Glowforge Premium, an optional suite of powerful tools to take your creations to the next level.

Glowforge Premium includes Magic Canvas, which lets you turn a few words into one-of-a-kind images, plus a library of thousands of images and fonts you can use to personalize your designs.

You’ll also have access to thousands of ready-to-print designs in the Glowforge Catalog — all free and waiting for your personal touch.

And finally, Glowforge Premium includes discounts on Proofgrade® materials, so you can get the perfect print every time.

To learn more, go to glowforge.com/premium.

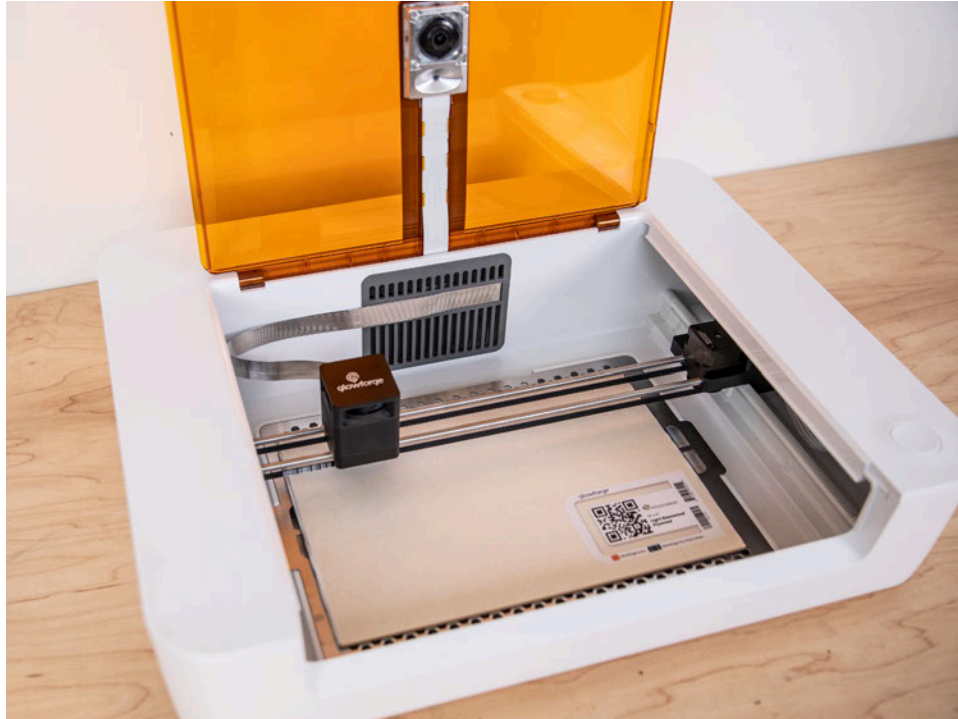
Proofgrade® Material

Your Glowforge Spark comes with a sample of Proofgrade® material. Proofgrade® materials are specially designed for your Glowforge Spark to help you get perfect prints every time.



For your peace of mind, Proofgrade Materials are lab tested for creating perfect prints safely at home. Each piece of material has a unique digital code, so your Glowforge Spark can instantly recognize the material and input the ideal settings for perfect prints every time. A protective masking covers your materials through the printing process for sharp, clean results. When the print is done, just peel it off to reveal your finished masterpiece.

Wood products are sanded and have a furniture-grade finish applied. Leather products are vegetable tanned for a beautiful, soft, and durable result. All acrylic products are cast acrylic, which is more suitable for laser projects, so you get smooth, polished cuts with every print.



Cleaning, Service, and Moving

Power Off

Always turn your Glowforge Spark off before cleaning or moving it by disconnecting from power at the outlet.

Printer Floor and Cutting Tray

Remove leftover cutting and engraving bits from the floor and the crumb tray whenever there is buildup. Bits on the tray can prop your material up in the air, and a buildup of cutting and engraving bits can create a fire hazard.

To remove the cutting tray, lift it up using the tabs on the right and left sides of the tray, and pull it out. Wipe the surface of the cutting tray using a cleaning

wipe (such as a Lysol wipe or similar). Use a cotton swab to gently remove any bits that have gotten caught in the metal grid.



With the cutting tray removed, remove, sweep, or vacuum out any tiny remains of past projects that have fallen onto the printer floor. Wipe away any remaining bits with a cleaning wipe.

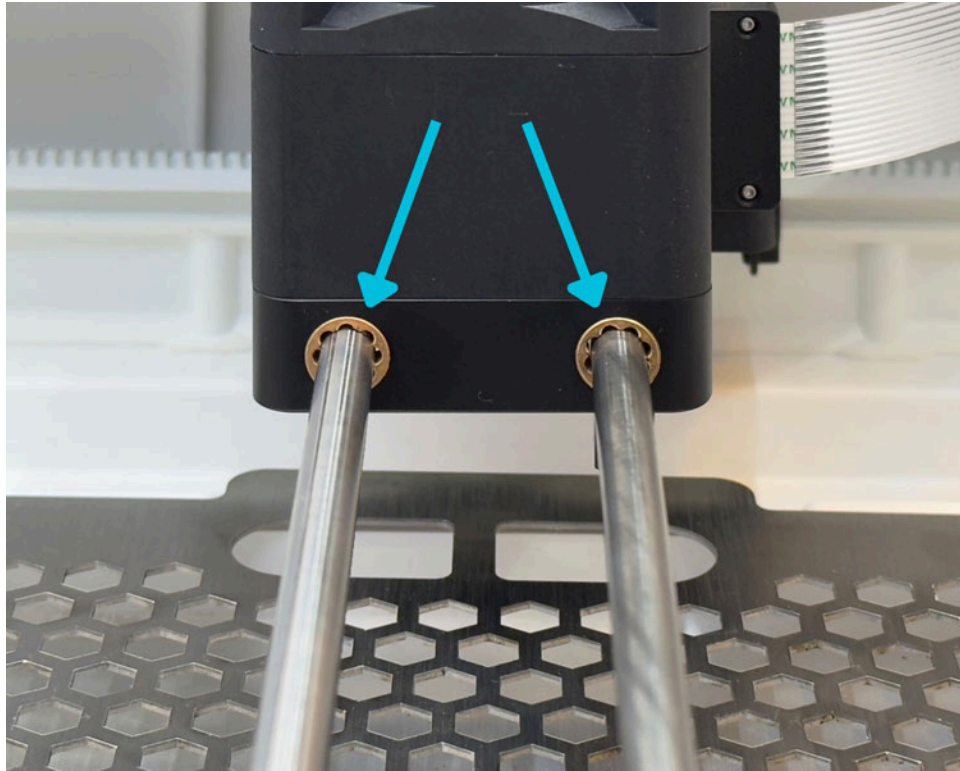


Laser Rails

If the rails get dirty, you'll experience misaligned prints and double images. You should clean the rails once for every ten hours of printing, but you may need to clean them more often depending on what you're printing.



- Wipe down the silver laser rails with a lint-free cloth and some isopropyl alcohol. We recommend using 90% or higher isopropyl alcohol.
- Be sure to clean all around the rail as you go — don't forget the underside of the rails!
- Also clean the areas on the magnetic dock where the rails slide through. Buildup can occur on each side of the bushings.
- Be sure the rails are completely dry before you get back to printing.



Diffuser and Lid Camera Lens

If you notice buildup on the diffuser, or if your camera images are dark, gently use a lens cleaning wipe (such as a [Zeiss lens wipe](#)) to wipe it. Take care not to apply excess pressure to the diffuser when cleaning.

You can also use a lens cleaning wipe to remove any dust and buildup from the lid camera lens.



Service

The Glowforge Spark Craft Laser may not be serviced or repaired by the user. Should service or repair be required, it must be returned to the factory; contact us at support.glowforge.com for instructions.

Packaging your Glowforge Spark to move

Whether it's for a big move, taking your Glowforge Spark to an event, or for a warranty repair, you'll need to package your printer properly with the original boxes, cardboard blocks, and foam. The original packaging is specially designed to protect your Glowforge Spark in transit.

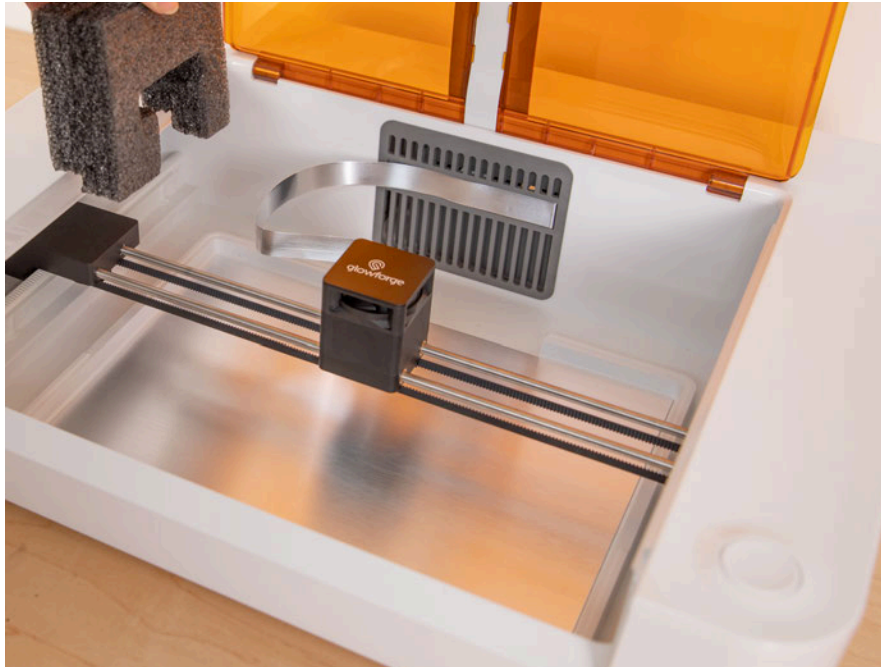
1. Unplug your Glowforge Spark from the outlet. Then, unplug the power cord from the Glowforge Spark, and set it aside.
2. Remove any material from your Glowforge Spark, and lift out the cutting tray. Put the cutting tray into the cardboard envelope. Then, place the envelope into the slot at the bottom of the box.
3. Holding onto the laser end caps, move the laser arm to the middle of the Glowforge Spark bed.



4. Carefully move the laser head to the center of the laser rails.



5. Find the two foam pieces that fit against the laser arm caps. They each have a cut-out corresponding to the shape of one end cap. Place each foam piece over the laser rails, then slide it to the side until it fits over the end cap.



6. Lift the laser head, separating it from the magnetic dock. Slide the laser head into its foam piece with the logo facing up. The laser ribbon cable

will slide through the slot at the top of the foam piece behind the head.



7. With the secured laser head in one hand, use your other hand to place the top cardboard insert into your Glowforge Spark.
8. Put the packed laser head into the left-hand side of the cardboard insert. Then, place the square foam piece over the laser head.



9. Put the bottom cardboard insert into your Glowforge Spark.



10. Close the lid of your Glowforge Spark.
11. Place the Glowforge Spark back into its box.
12. Put the top piece of foam over the printer.



13. Close the box. Your Glowforge Spark is now snug and ready to move!

Changing to a New Wi-Fi Network

1. Using a web browser on a laptop or desktop, navigate to setup.glowforge.com and sign in.
2. Depending on your computer and browser, you may be prompted to download the Glowforge Setup app. If prompted, download and install it (this should take less than a minute). Open the Glowforge Wifi Setup app and log in with your Glowforge account email address and password. You'll see the "Let's Get Started!" page first. Scroll to the bottom of this page and click on "7. Connect to Wi-Fi".

3. Follow the instructions onscreen to connect to your desired Wi-Fi network.

Start Creating!

To help you get started with your new Glowforge Spark, we've prepared a tutorial series that'll teach you (almost) everything you need to know. From selecting materials, to working with our collection of designs, to printing photos, and turning everyday objects into one-of-a-kind gifts, these guides will give you a taste of all the great things your Glowforge Spark can do. Let's jump right in!

Your First Print

In this project, you'll learn about:

- Printing a design using your Glowforge Spark, from start to finish.
- Finding and opening a design from our extensive Glowforge Catalog.
- Proofgrade material settings.
- How to control where your design will print on your material using the Glowforge App.
- Pausing your print.

1. Start from your Dashboard

In your web browser, navigate to app.glowforge.com and sign in.

Glowforge Owners

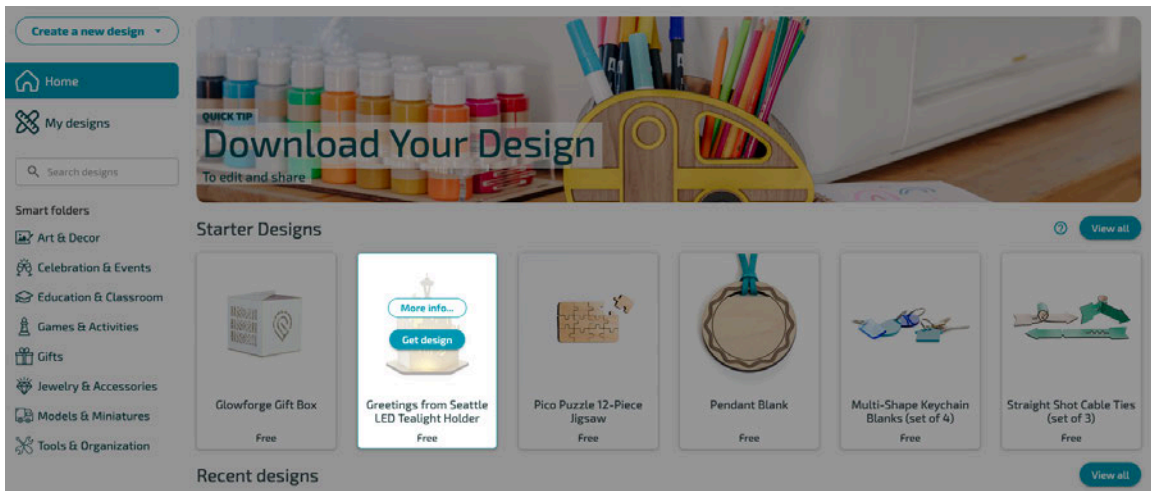
 remember me Need help?

SIGN IN

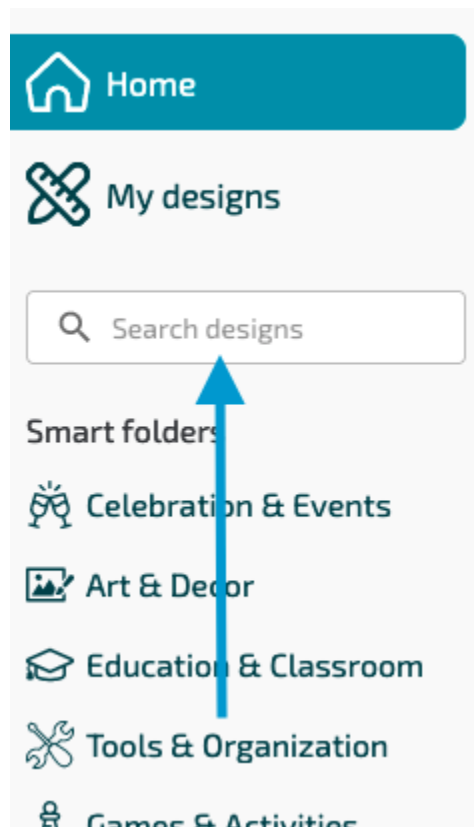
After you sign in, you will see your Dashboard, featuring designs you've recently worked with, as well as some designs from the Glowforge Catalog to get you started.

2. Get the Greetings from Seattle LED Tealight Holder design

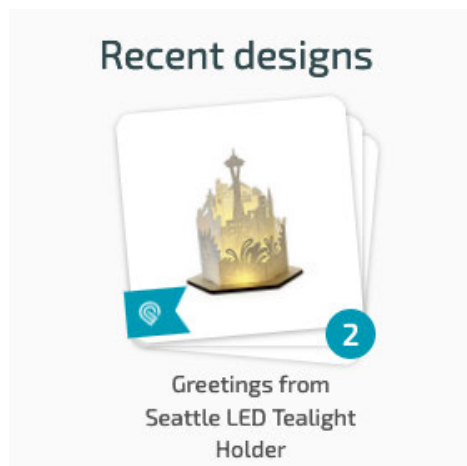
One of the first designs in your Starter Designs is the “Greetings from Seattle LED Tealight Holder design.” When you place your cursor over the design, select “Get design.”



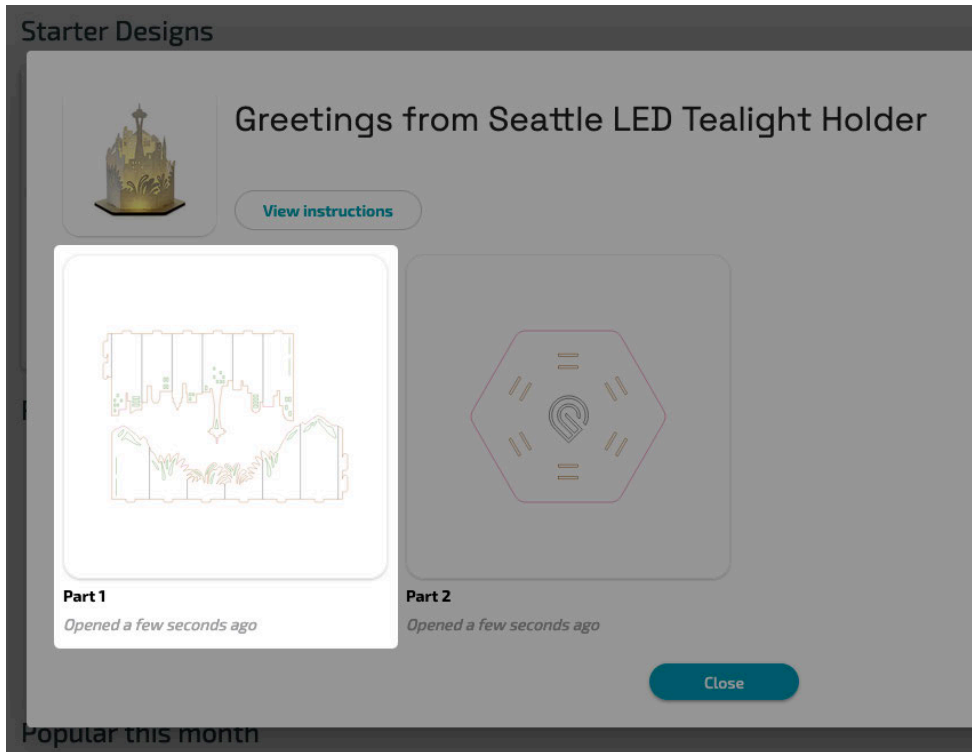
Tip: If you don't see the Greetings from Seattle LED Tealight Holder, use the search box on the left to find it.



3. Open your design to print it.



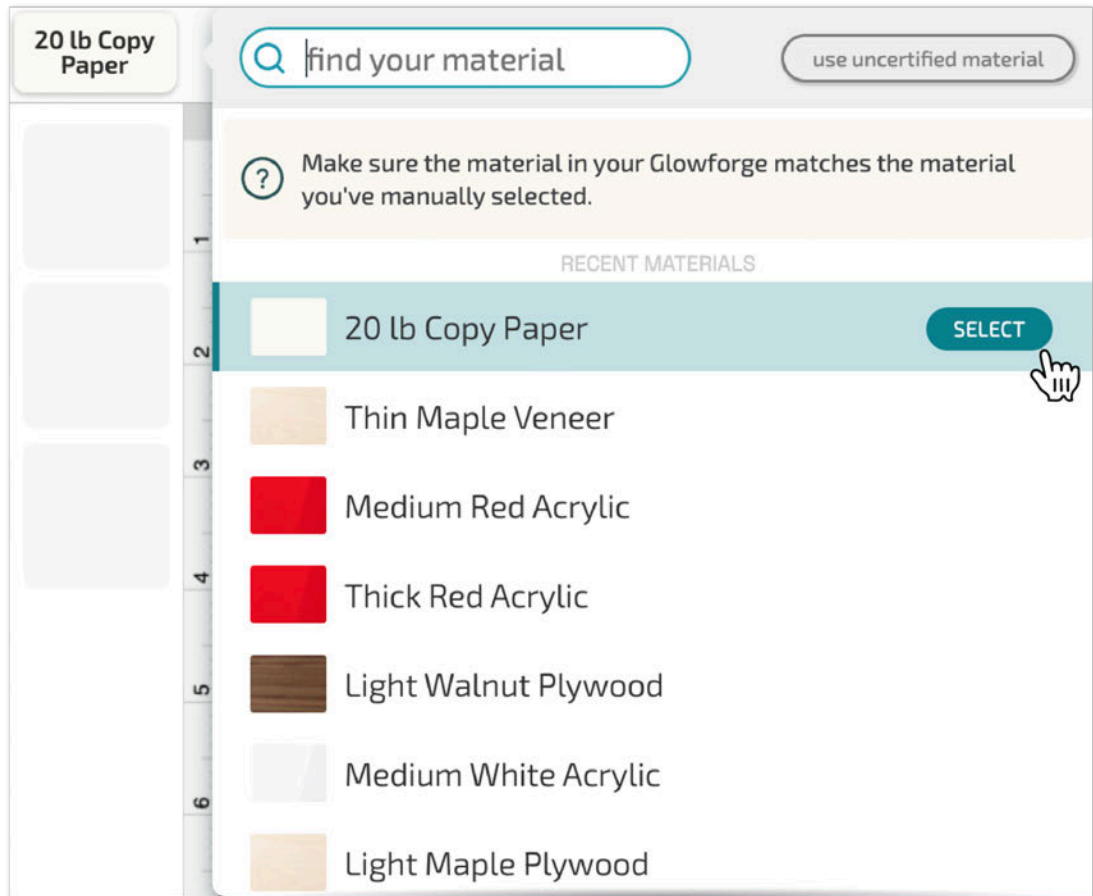
After you get your design, the design will appear in the Recent Designs section. Click on the LED Tealight Holder and open the first part.



4. Place Copy Paper on the Cutting Tray

We'll be printing the first part of this design on 20lb Copy Paper (Printer Paper) and Proofgrade Light Cherry Plywood. Open the lid of your Glowforge Spark. Take a sheet of any household Printer Paper, and place it into the printer bed. It should lay flat against the cutting tray. Then close the lid.

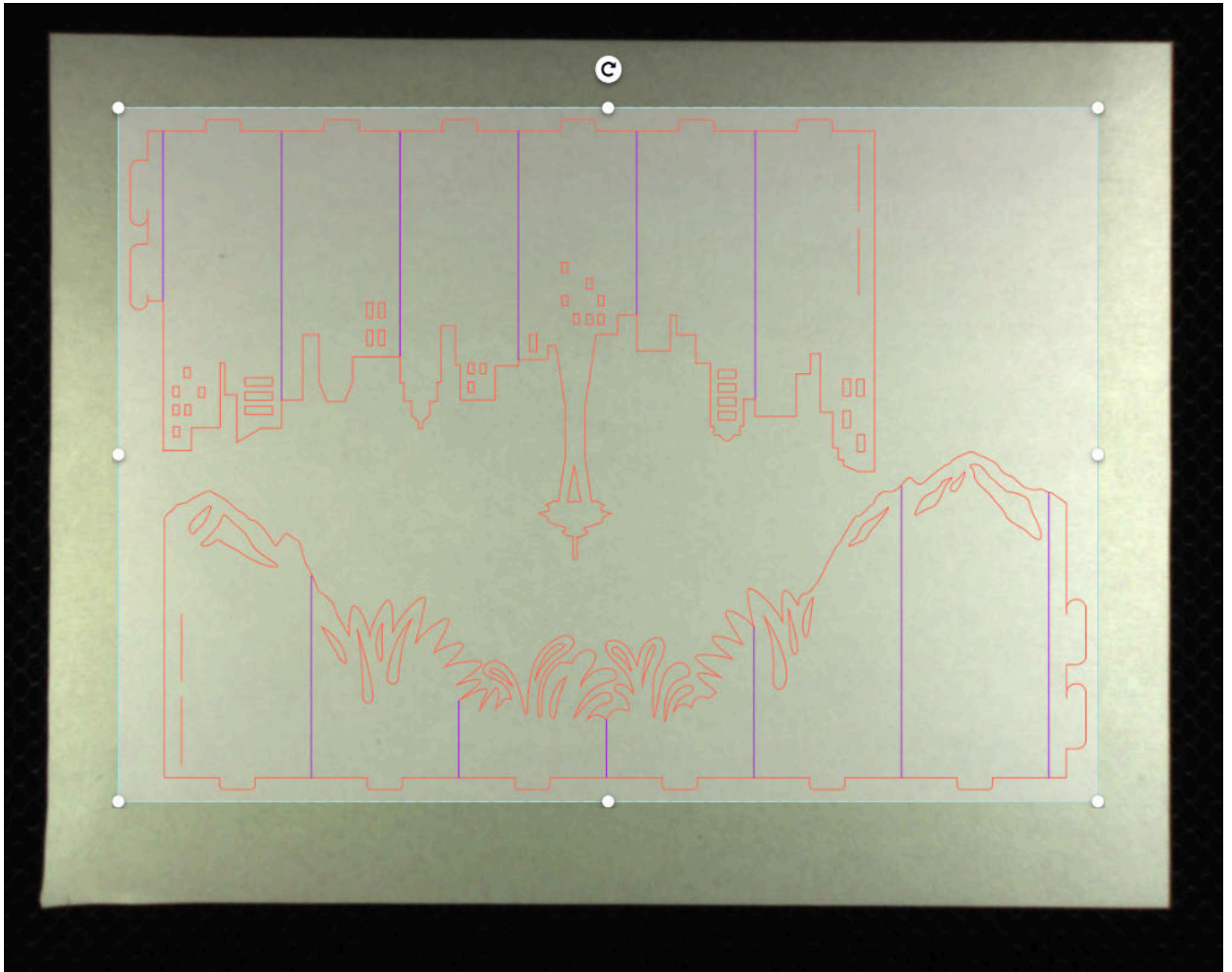
Your App workspace will refresh, showing the material you just placed.



In the top left corner of the workspace, select the material manually. You can scroll through the list of suggested materials, or type “20 lb Copy Paper” into the search bar.

5. Place and size your design

You will see an image of your material in the workspace of the Glowforge App. Click and drag your design to place it where you want it on your material. The design will print approximately where you place the outline on the workspace. It's easy to resize designs, just grab a corner and drag. We don't recommend resizing this one though as the design measurements are already precisely calibrated.



Tip: To get the best print, it's best to leave a bit of space between the edge of the design and the edge of the material.

6. Check your settings

Notice that this new artwork became a step in the sidebar. You are able to control whether portions of your design are cut, scored, or engraved just by selecting the step. Because this is a design from the Glowforge Catalog, all the settings have already been set for you.



7. Push the magic button!

Click "Print" at the top of your Workspace.



The software will take a moment to prepare your design. When everything is ready, you'll see the estimated printing time.

HIDE

MAGIC TIME

Push the button on your Glowforge to begin

09:08
MINUTES SECONDS

[CANCEL PRINT](#)



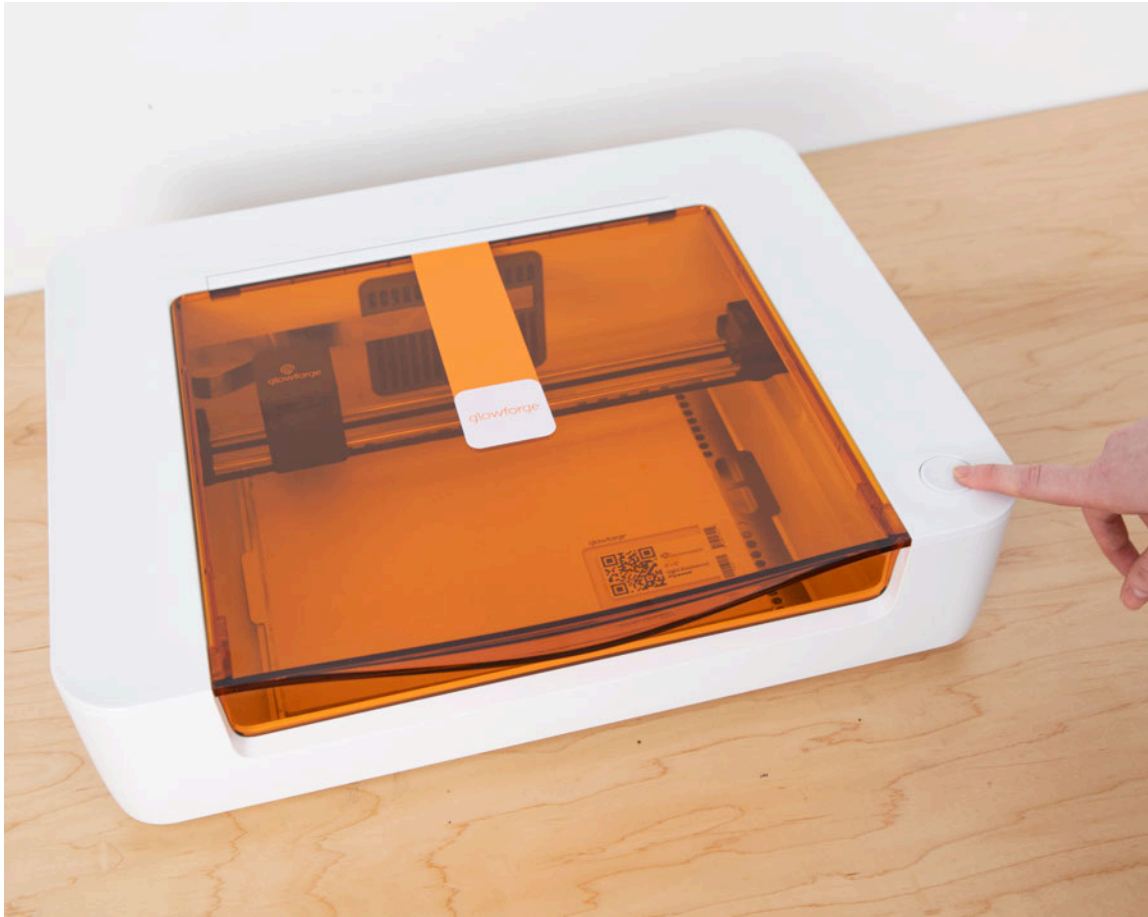
Proofgrade material not found: Printing on the wrong material or with the wrong settings can result in fire, toxic fumes, and damage to your Glowforge. [Read more](#)

You're in the Fast Lane!

Your print is being processed on the most powerful, ultra-high-performance servers, exclusively reserved for Premium members.

The button on your Glowforge Spark will blink. If you're using a Glowforge Personal Filter, its button will also blink when a print is ready to start.

Press the button on your Glowforge Spark to start your first print!



8. Watch the magic happen

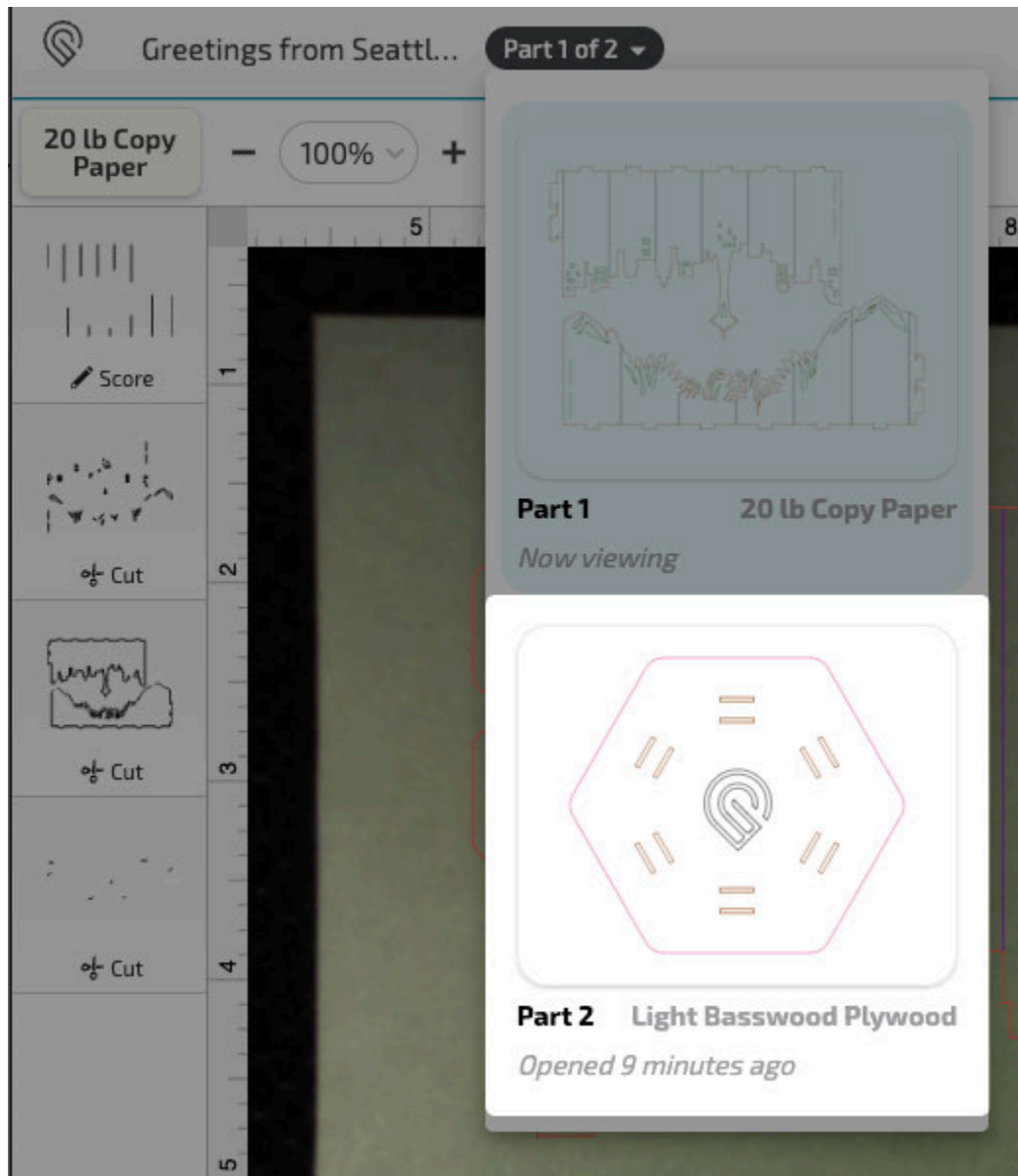
Remember - never leave your Glowforge Spark unattended while it's printing. If you need to walk away for any reason, press the button on your Glowforge Spark once to pause the print, and once again to unpaue it.

When your print is complete, the Glowforge App will show an updated image of the material in the Glowforge Spark, now featuring your printed design.

Open the lid of your Glowforge Spark and remove your completed print.

9. Print the base

From the top menu, select Part 2 from the dropdown menu to open the second part of this design.

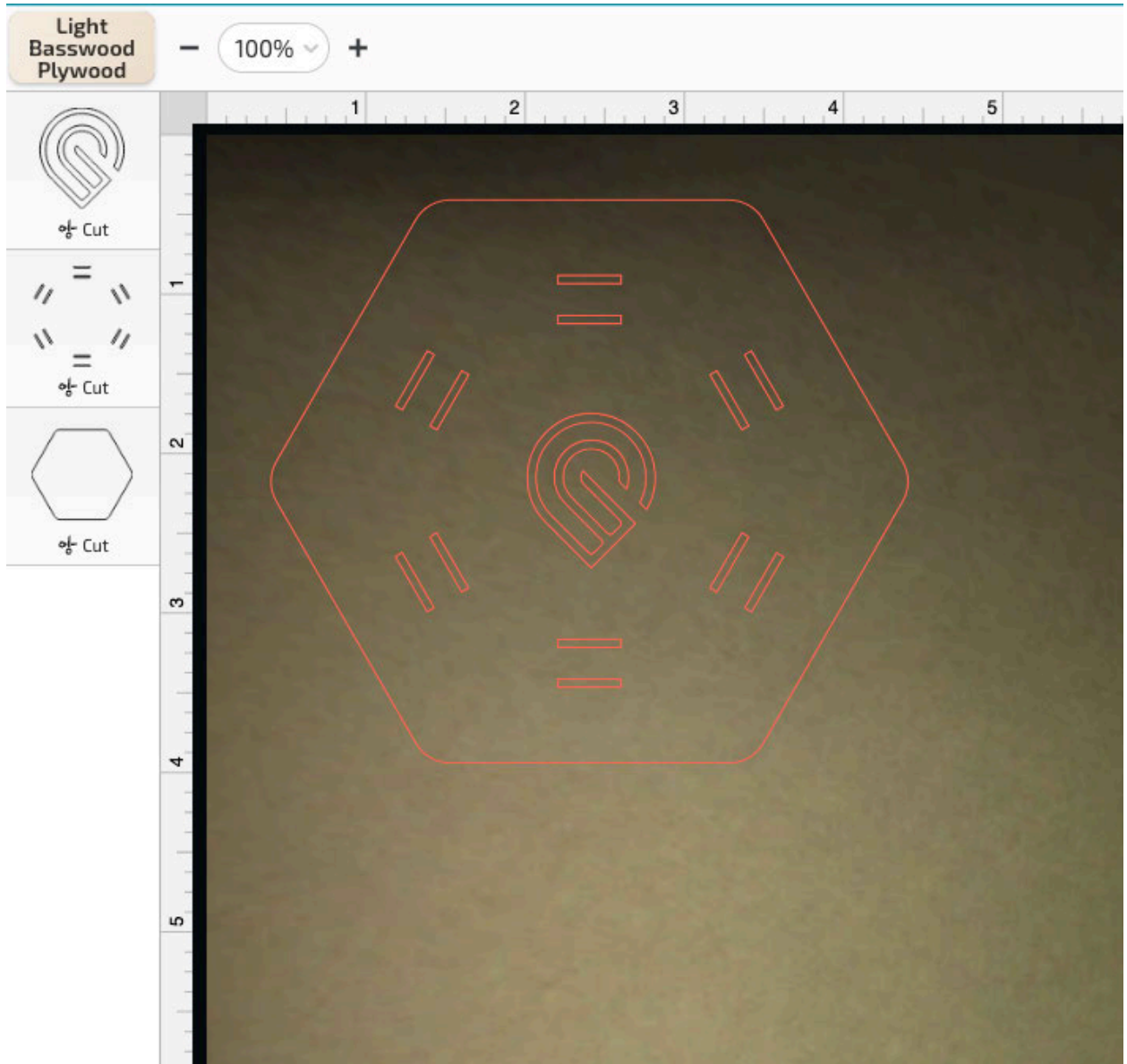


10. Place Proofgrade Material on the Cutting Tray

We'll be printing this base on Proofgrade Light Cherry Plywood. Open the lid of your Glowforge Spark. Take a sheet of Proofgrade Light Cherry Plywood, and place it into the printer bed. It should lay flat against the cutting tray, with the QR code facing up. Then close the lid.



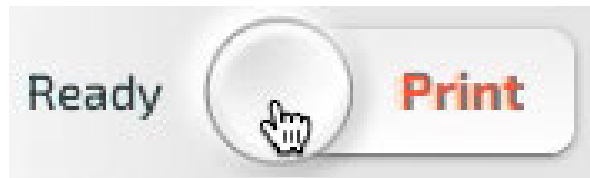
Your App workspace will refresh, showing the material you just placed.



Because you are using Proofgrade material, the Glowforge App has automatically detected the type of Proofgrade material in your printer thanks to the QR code, and automatically loaded the right settings for a perfect print.

11. Push the magic button!

Click "Print" at the top of your Workspace.



Once again, the software will prepare your design. When everything is ready, you'll see the estimated printing time, and the button on your Glowforge Spark will blink. Push the button to start the print.

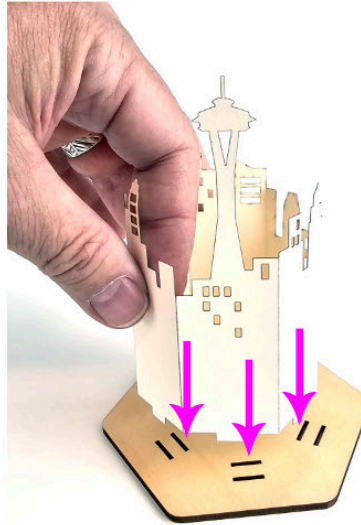
12. Assemble your print

Open the lid once the print is finished, and remove your new tealight holder base.

Remove the protective masking from both sides (a piece of Gorilla tape can speed this along).

Follow the step-by-step assembly instructions shown on the right side of the Glowforge App. If you do not see the instructions, click the 3-dots menu at the top and select "Design Details".

Insert the tabs into the slots as shown above.



Insert the skyline into the slots of the base.

13. Finishing touches

Congratulations, you've just created your first Glowforge Spark print! After assembling your design, place an optional LED tea light into it and enjoy!



Finding Community & Support

Having trouble? Want to do something new? We'll do our best to help you succeed!

Support Online

Go to our Help & Learning Center at support.glowforge.com to find guidance any time of day or night. The [Learn](#) area includes tutorials to get you started with your Glowforge Spark and Personal Filter, and our [Solve](#) area has troubleshooters and technical how-tos in case something doesn't go according to plan. You can also connect with our Customer Care team live in chat or [send us a message](#) if you can't find exactly what you need.

Community Forum

Most Glowforge owners have registered at the Glowforge Community Forum, where hundreds of Glowforge owners post each day. You'll find some incredibly talented (and helpful) folks who can provide assistance, suggestions, and ideas.

The [Made on a Glowforge](#) section is a great place to go for inspiration. You can also get help with many common questions from helpful community members in the [Community Support](#) section.

Support by Phone and Email

We are here for you! Our Customer Care team is available by phone at +1 (855) 338-2122 or contact us through our Help & Learning Center at support.glowforge.com with your questions, challenges, feedback, and even your stories of perfect prints. Our goal is to reply within hours on weekdays, and always within three days.

We provide the best support when we fully understand what you're facing.

When contacting Customer Care, please include::

- A description of the steps you took, what happened and what you expected
- The date and time of the issue
- The name of your file, if there was a file involved
- The name of your Internet browser and Operating System
- A screenshot or photo of what happened