

FAQs

Laser

What is a Laser Cutter?

A laser cutter is a digital fabrication tool that uses a laser to cut & engrave through a variety of materials. The laser light bounces off a series of mirrors before being pointed downwards onto the work piece you're going to engrave or cut.

How difficult is it to set up the Dremel LC40 Laser Cutter?

Set up is very easy with the Dremel LC40 Laser Cutter. All items to set up are included in the box and takes approximately 10-20 minutes with guidance from the quick start guide and touchscreen. Consult the operating and safety instructions for proper ventilation instructions.

How do I know when to change my laser tube?

Look for noticeable changes in output. If you're no longer able to cut through materials that you've been able to previously, it's possible the laser tube needs to be changed. When used according to the operating and safety instructions, your laser tube can last 800-1,500 hours depending on the settings you use and whether you're cutting or engraving most frequently.

How do I change my laser tube?

Your laser tube has been designed so that you can replace it yourself if desired. Instructions will be shipped with the replacement tube.

What if I need to have my Dremel LC40 Laser Cutter serviced?

Depending on what needs to be serviced, our expert customer service team based in Racine, Wisconsin will either send you documents and help walk you through servicing parts yourself, or they will help to get you the shipping info needed to send your Laser Cutter in so they can service it and send it back to you.

What's the maximum resolution of the Dremel LC40 Laser Cutter?

The maximum resolution is 1000DPI.

What's the bed size of the Dremel LC40 Laser Cutter?

The bed size is 12"x 20."

What's the maximum thickness of material I can cut?

We recommend a thickness of no more than ¼" for wood or acrylic. Other materials may vary depending on their hardness.

How do I know if my mirrors need to be aligned?

1. When engraving quality or cut penetration varies from left to right or front to back on the work piece this, is usually an indication that re-alignment is due.

2. Anytime the laser tube is removed or replaced will require beam re-alignment.
3. Anytime the mirrors are removed or replaced will require beam re-alignment.

If you believe your mirrors need to be aligned, refer to manual mirror alignment section for detailed instructions.

How do I align my mirrors?

Refer to the user manual mirror alignment section.

Which parts should I expect to replace over time?

Parts that may need replaced over time are the laser tube, all mirrors and lenses. Life of the tube depends on how often it is used but can be replaced by the user after purchasing a new laser tube from shop.Dremel.com. Ensure you are regularly and properly cleaning and maintaining your laser cutter to get long life out of all parts. Refer to manual for detailed instructions.

How long does it take for a project to cut or engrave using the Dremel LC40 Laser Cutter?

Cutting and engraving is very fast with the Dremel LC40 Laser Cutter but largely depends on the size of the project. A project can range from minutes up to an hour or more depending on the size of the image being cut/engraved.

What do I do if my Dremel LC40 Laser Cutter isn't working correctly?

Discontinue use and contact Dremel customer service at 1-844-437-6533.

Ventilation/Filtration Systems

Do I need a filtration unit?

Refer to Exhaust Management Method Selection table to determine the most suitable exhaust management method based on your set up location.

How do I vent my laser outside?

Refer to manual exhaust management section for detailed instructions. You may need to consult a local HVAC specialist. Ensure you are always complying with local codes and ordinances.

How often do I need to change filters?

Consult the manufacturer of your filtration system.

Where can I buy replacement filters?

You'll need to go to your filtration manufacturer to purchase replacement filters.

Will my current filtration unit work with the Dremel LC40 Laser?

Refer to Exhaust Management section in the manual to determine if your system meets the required performance specifications.

Materials

Which materials are safe to use?

The list of commonly used material types found in the manual are generally acceptable to use. Ensure you're never using materials from the prohibited list. Doing so may result in adverse health or environmental effects. Consult with the material manufacturer if you have any doubts.

Which materials aren't safe to use?

Never cut materials if you don't know they are laser safe. Go to digilab.dremel.com/support for more details and the most up to date information. A list of prohibited materials can also be found in the laser manual.

Where can I buy materials to use in my Dremel LC40 Laser Cutter?

Birch and walnut plywood, and acrylics can be purchased directly through Dremel at shop.dremel.com.

Can the Dremel LC40 Laser Cutter cut/engrave metal?

If the surface of the metal has a finish, the laser may remove or alter the finish. However, 40W for any CO2 lasers are not strong enough to cut or engrave bare metals. Never cut or engrave prohibited materials, or materials or finishes you don't know are laser safe.

How can I identify the optimal print settings for my material?

The easiest way to identify optimal print settings is to select the material type from the material library in your Dremel LC40 Control Software. This will auto-populate your print settings with recommended settings. If your material isn't listed in the library, then you can run test files from the LCD touchscreen on the material you would like to use. You can choose either engrave or cut test files under Tools>Test Files that will run a wide variety of settings on a single sheet. You can then select the desired results based on the output.

Which materials can I use with my Dremel LC40 Laser Cutter?

The Dremel LC40 Laser Cutter comes equipped with a 40W laser, which can cut and engrave into a variety of materials including wood, acrylic, glass, leather, paper, etc. It can also mark metals that have been anodized. While the LC40 can cut and etch a variety of materials, some materials such as most metals, cannot be marked and will give less than desirable results. Other materials may not have acceptable finish quality. Go to digilab.dremel.com/support for more details and the most up to date information. A list of prohibited materials can also be found in the laser manual.

What are some best practices for sourcing and storing materials?

The more consistent and flat the material is, the better results you'll get with your laser. Avoid materials with lots of knots, voids in the layers, and unknown finishes or treatments. Store in a dry area with something heavy on top to keep them flat. Never cut prohibited materials you don't know are laser safe. See digilab.dremel.com/support for more details.

Safety Sensors

Why is my cooling sensor showing an error?

If your cooling sensor is showing an error, either your Laser Cutter is not detecting that the water is flowing or your water temperature is too warm. There is a built in tutorial on the LCD touchscreen that will help you to troubleshoot and resolve the issue. If you're not able to fix the issue, you should contact Dremel customer service.

Why is my ventilation sensor showing an error?

If your ventilation sensor is showing an error, your onboard fan, external booster fan, or external system is not operating as intended. There is a built-in tutorial on the LCD touchscreen that will help you to troubleshoot and solve the issue. If you're not able to fix the issue, you should contact Dremel customer service.

Why is my lid sensor showing an error?

If your lid sensor is showing an error, either your lid is not closed or one of your switches might be faulty. Placing the laser cutter on an uneven surface can cause lid to not close properly. Check for a level surface and shim the rubber feet under the laser cutter if necessary to level the unit. There is a built-in tutorial on the LCD touchscreen that will help you to troubleshoot and solve the issue. If you're not able to fix the issue, you should contact Dremel customer service. Never circumvent the lid interlock switches

Why is my air assist sensor showing an error?

If your air assist sensor is showing an error, your air assist is not blowing hard enough to trigger the sensor. There is a built in tutorial on the LCD touchscreen that will help you to troubleshoot and solve the issue. If you're not able to fix the issue, you should contact Dremel customer service.

Software

How do I use the Dremel LC40 Control Software included with the Dremel LC40 Laser Cutter?

The Dremel LC40 Laser Cutter comes with print software which allows you to import your design file, modify the size and position of each object, and adjust the print settings (speed, power, etc.) before sending your job to the laser cutter.

What type of design files can I import into the Dremel LC40 Laser Cutter Software?

The Dremel software accepts both vector (SVG, PDF) and image (JPEG, PDF, PNG) based files. Most designers use software such as Corel Draw or Adobe Illustrator to create the design files to import into the Dremel software, but you can also import pictures that you've taken with a camera. Vector file types are optimal if you want to cut something out of a material, or trace along lines with the laser. Image file types are optimal if you want to etch into the surface of a material with various levels of intensity. Be sure that you have the legal right to use all design files you choose to import into the Dremel LC40 Laser Control Software.

How do I access the Dremel LC40 Control Software?

Access the Dremel LC40 Control Software by connecting both your computer and your laser cutter to the same network (either WiFi, static IP, or proxy). Then type the IP number from the bottom of your laser cutter's touchscreen into the URL bar of any web browser.

How does the Dremel LC40 Control Software work?

The Dremel LC40 Control Software is stored on a computer inside your laser cutter. This allows you to access the Dremel LC40 Control Software without an internet connection, on a large variety of devices, through any web browser.

How do I know which print settings to use on different materials?

The Dremel LC40 Control Software has a library of materials to choose from that will recommend print settings for you. These settings have gone through extensive testing, but due to the natural variety in materials, you may need to adjust or create your own. You can do this by selecting "More" from the materials menu in the Dremel LC40 Control Software.

What does "grayscale" mean?

"Grayscale" takes your black and white image and assigns different densities of dots to different areas to visually create a number of different shades of gray. Darker areas of your image will have more dots, while lighter areas will have fewer dots.

Why can't I cut/engrave my file?

With the exception of PDF which can both cut and engrave, file types are optimized for either cut or engrave. If you're trying to perform the other function, try saving your source file as a different file type.

What do I do if the material I want to use isn't in the library?

You can add your own material, or adjust/copy materials that already exist by going to "More" under the materials library. Never cut prohibited materials you don't know are laser safe.

Why isn't "undo" working?

"Undo" currently works for resizing, moving, rotating and other object based functions, but not for copy, paste, delete, or auto array.

Can I prepare multiple jobs at once?

You can prepare multiple jobs by opening up the Dremel LC40 Control Software in multiple browsers. You can also ready your next job once your job is running on the Laser Cutter, in the same workspace.

Why isn't my camera working?

If your camera capture doesn't look right, it has likely not captured the correct height of your material. Make sure you place the material you want to capture on the bed of your Laser Cutter, close to the center so that when the LED lights flash off, the red dot is on top of the work piece. You can enable advanced mode by clicking the "advanced mode" button on the first screen of the camera capture, to

have a little more control over this process. If you continue to encounter issues, your camera may not be calibrated correctly. In this case, please contact Dremel customer service for assistance.

For the trace functionality, if the results are not what you expected, make sure there is a high contrast between the artwork and the paper or object on which you have drawn. Black marker on white paper produces the best results.

How can I use the camera?

The best use for the camera is to help align files to existing objects. For example, if you line up ten blank coasters in the bed, then use the camera capture, an image will appear in your workspace that helps you to place artwork in the exact location you desire on those coasters, ensuring you don't waste materials.

You can also use the camera to create files from hand drawings by placing the drawing in your laser cutter, and then using "trace" to create a file from that drawing.

Why are my PDF files bringing in hidden layers?

If you import cut files from a PDF where the source file was created in any of the Adobe programs, some hidden layers may show up. You can solve this issue by "printing" to PDF rather than "exporting" or by unchecking "create Acrobat layers from top layers."

Why aren't the suggested settings from the material library working?

Materials have a lot of variation depending on the actual species, the supplier, the environmental conditions and lots of other things. The material library should give you settings that are at least close to optimal, but you may need to adjust the settings up or down 5-10% for optimal results. Also, make sure that your laser head is focused and that you have the correct material selected in the material library, as these could also cause inconsistent results.

How do I ensure my objects are directly on top of one another?

If you export each of your files from the same workspace in your source file, then the Dremel LC40 Control Software will place them directly on top of one other by default. If you happen to move one, or want more control, there is a location text entry box in the bottom left corner of the Dremel LC40 Control Software that allows you to specify exactly where you would like each file to go. The easiest way to ensure they're in the perfect spot is to copy and paste the location of one onto the others.

How can I control the order in which my objects are run on the laser cutter?

Once you've gotten your job ready to go, clicking "start" will give you a print preview that shows the order in which your job will execute. To reorder, simply drag and drop the objects. You can also reorder the cut colors on the second tab within the print preview screen.

What's the difference between score and cut?

Score is very similar to cut in that the laser head needs a vector type file so that it can trace the lines. However, score is meant to add emphasis to lines, without actually cutting through the material.

Do I need to know how to use design software to use the laser?

You do not need to know how to use design software since you can use a variety of file types including even a JPEG. However, having some knowledge of design software will give you more control over your laser.

Do I need to be connected to the internet to use the Dremel LC40 Control Software?

You will need to have your computer and the laser cutter connected to the same network, but you do not need an internet connection to use your laser cutter. However, we recommend connecting your laser cutter to the internet in regular intervals to allow it to check for and download the most up to date software version.

Can I send files directly from my software program to the Dremel LC40 Control Software?

At this time, you cannot send files directly to the Dremel LC40 Control Software. You will need to export your file as one of the compatible file types, and then drag it into the Dremel LC40 Control Software.

Why am I getting an error that some objects may be too close to the border of the workspace?

Since the Laser Cutter needs some extra space to move when engraving, the available engraving area is slightly smaller than the available cutting area (roughly 18.4" wide rather than 20" when engraving is set at full speed).

Why does my Dremel LC40 Control Software say "disconnected?"

If your Dremel LC40 Control Software says "disconnected," it is having trouble communicating with your laser cutter. Try refreshing your browser, and if that doesn't work, make sure both your computer and your laser cutter are successfully connected to the same network.

Which browser versions are supported by Dremel LC40 Control Software?

We continually test for compatibility with most recent browser versions to ensure all security and usability improvements are being utilized. However, you should be able to use the Dremel LC40 Control Software on older versions, but it's possible not all functionality will be optimized.

Why won't my job start?

It's likely that you've lost your network connection, which means the laser cutter isn't able to receive your job, or the SMART laser™ sensors have indicated that the laser cutter is not ready to begin a job. There are a number of SMART laser™ sensors built into your laser cutter to ensure that your laser cutter is running properly. If one or more of your icons are red, the laser cutter is detecting that either that system is not set up properly, or the sensor has broken. For more information, consult your manual.