

LASER TROUBLESHOOTING GUIDE

MY SOFTWARE ISN'T CONNECTING

My software isn't connecting

Browser Error

- If your software says “disconnected,” it is having trouble communicating with your laser. Try refreshing your browser

Lost Connection

- Validate that your computer and your laser are both still connected to the network and/or the Ethernet hasn't come unplugged.

IP Address

- Occasionally your IP address changes. Double check that the IP address at the bottom left of your touchscreen matches the one you've typed into your browser.

Security Topics

- Sometimes there are security measures built into your network and/or your browser that could be preventing you from accessing the Dremel software. Check with your IT/Data Security team.

MY “UNDO” IN THE
SOFTWARE ISN'T
WORKING

My “undo” isn’t working

Software Limitation

- “Undo” currently works for resizing, moving, rotating and other object based functions, but not for copy, paste, delete, or auto array. This is a software limitation we hope to continue improving.

MY CAMERA CAPTURE ISN'T WORKING

Some variation is to be expected in both color/lighting and alignment.

My camera capture isn't working (camera capture)

Dirty Lens

- Make sure your camera lens is clean and the cover has been removed.

Material Placement

- If the edge of your material is right on one of the stitch lines or if your material is especially reflective/shiny or clear, your results could be less accurate. Try moving your material slightly away from the stitch line, or if reflective, try another material.

Material Height Incorrect

- 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, close to the center so that when the LED lights flash off, the red dot is on top of the material. 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.

Calibration Problems

- If you continue to encounter issues, your camera may not be calibrated correctly. In this case, please contact customer service for assistance. Either camera calibration file has been lost/corrupted, or something has been moved in shipping, so the unit needs to be recalibrated. In some instances this might be corrected with the "offset" issue Ken identified.
- Typically if the calibration file needs to be re-downloaded, the customer will get a camera error (camera doesn't work at all)

My camera capture isn't working (trace)

Drawing Issues

- 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.

Material Height Incorrect

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ANY OTHER SOFTWARE ISSUES

Any other software issues

File Type

- Sometimes the software has problems importing certain files. Try exporting your design as a different file type. PDF is the most reliable.

Design Software

- Sometimes the software has problems reading certain files from certain design software programs. Typically when this happens (scaling issues, importing hidden layers, etc) “printing” to PDF from the design software rather than “exporting” to PDF will solve the problem.

White Space

- Most of the time the Dremel software will remove the white space from your objects so the boundary is encompassing the actual object, but occasionally it detects the boundary of the workspace you created the object in. For engraving especially, if this boundary is within ~1” (18.4” total engraving width) of the left or right side of the software, it will think your engrave object is too close to the edge. This can be solved by making the workspace smaller in your design software and re-exporting, or by exporting as another file type.

MY MATERIAL ISN'T CUTTING THROUGH

My material isn't cutting through

Material Variation

- Most materials have some natural variation. The most common cause for not cutting through is that your material isn't perfectly flat, so the laser is out of focus as it gets closer/further away from the material. Differences in material composition can also prevent the laser from cutting through (areas with more glue in plywood, pockets of air, knots in wood, etc.). Always store materials in a flat, dry area with something heavy on top to prevent warping.

Focus Laser Head

- Make sure your laser head is focused.

Incorrect Settings

- Validate that you have the correct material selected and/or appropriate cut settings selected. You may need to adjust settings provided in the library up/down 5-10%.

MY ENGRAVING LOOKS BAD

My engraving looks bad

Focus Laser Head

- Make sure your laser head is focused.

Incorrect Settings

- Validate that you have the correct material selected and/or appropriate engrave settings selected. If you're looking for something photorealistic, make sure you've selected "greyscale" in the software.

Image Contrast

- In your design software, bump up the contrast drastically so there's a bigger difference between the lightest and darkest areas in the image.

Image Size

- Sometimes images look better when scaled up. Typically the larger the image the better it looks engraved, so maybe it's currently too small.

Material

- Not all materials look great engraved (like felt). If nothing above works, try using a different material.

MY SOFTWARE AND/OR
TOUCHSCREEN IS
FROZEN

My software and/or touchscreen is frozen

Browser Problem

- Refresh your web browser to see if that solves the issue. Double check to make sure your browser is up to date. Outdated browsers can cause software issues.

Connection Problem

- Most software problems are caused by a loss of connection. Validate that your computer and your laser are both still connected to the network and/or the Ethernet hasn't come unplugged.

Hardware Problem

- Restart the machine by power the laser off, waiting a few seconds, then back on. Once the laser starts back up, refresh your web browser as well.

Software Problem

- Check for updates through your laser's touchscreen and update to the most recent software version where applicable

Problem Persists

- If all else fails and the problem persists, we can push an older version of software that's more reliable.

HOW CAN I IDENTIFY
THE OPTIMAL SETTINGS
FOR MY MATERIAL?

How can I identify the optimal settings for my material?

Materials Library

- The easiest way to identify optimal settings is to select the material type from the material library in your Dremel software. This will auto-populate your print settings with recommended settings.
- If these don't work perfectly, try adjusting the settings up or down 5-10%. Once better settings are identified, they can be stored by creating a duplicate of the Dremel material, or creating your own in the Materials>More menus.

Test Files

- 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.

MY LID SWITCH IS GIVING AN ERROR

My lid switch is giving an error

Lid Open

- If your lid is open, the switches will not be triggered.

Uneven Surface

- If your surface isn't level, one or both of the lid switches might not be activated.

Lid Sponge

- Check the small sponges on your laser lid. If they are cracked, damaged, or worn down, they might not be triggering the lid switches.

Faulty Sensors

- If none of these fix the error, and physically pressing both sides of the lid down so the switches are activated does not turn the icon white, then one or both of your lid switches are damaged/faulty and your laser needs to be serviced.

MY COOLING/WATER SYSTEM IS GIVING AN ERROR

My cooling/water system is giving an error (water flow sensor)

Tubes Incorrect

- Double check that your water tubes have been hooked up correctly. Blue tube should match the blue stickers on both the HexBox and Laser, and clear tube should match the white stickers.
- Also ensure that your HexBox power cord is plugged into both your HexBox and Laser.

Not Enough Water

- Open the HexBox cap and ensure that the water level covers both holes in the water tank. If water isn't coming out of the top hole, add more water.

HexBox

- Unscrew the top of your HexBox (metal lid). Double check that none of the tubes have come disconnected, and listen to ensure the pump is running. If any of the tubes have come disconnected, customer would notice a water leak.

Water Flow Blockage

- Something could be lodged in your pump, or tubes that's blocking water flow. (send this customer to Brad to fix)

Sensor Error

- If none of these fix the error, then your cooling sensor is damaged/faulty and your laser needs to be serviced.

My cooling/water system is giving an error (temperature error)

Environmental Temperature

- The temperature in your room might be too hot or too cold. The recommended environmental temperature is 60-85F. While you can run the laser at hotter or colder temperatures, the tube is glass and is filled with water, which makes it especially vulnerable to extreme temperatures.

HexBox Fan

- Unscrew the top of your HexBox (metal lid). Listen to ensure the fan that's blowing towards the water tank is running. If it is not, the fan needs to be replaced.

Sensor Error

- If none of these fix the error, then your cooling sensor is damaged/faulty and your laser needs to be serviced.

MY VENTILATION SYSTEM IS GIVING AN ERROR

My ventilation system is giving an error (using internal fan to window)

Wrong Setting

- Is your fan spinning? If not, then go to your touchscreen – Tools – Settings – Ventilation and switch to “Onboard Fan”

Jammed Fan

- Is your fan spinning? If not, your fan could be jammed or clogged. Unplug your laser, remove your laser tube guard and visually check for anything that could impeded the fan from spinning.

Sensor Error

- If none of these fix the error, then your ventilation sensor is damaged/faulty and your laser needs to be serviced.

My ventilation system is giving an error (using filtration system or booster fan)

Power Off

- Double check that your booster fan/filtration system is powered on.

Duct Disconnected

- Double check that your ducts haven't come loose/are connected on both ends.

System Not Strong Enough

- Fan/filtration system isn't pulling at a high enough speed
 - Blocked/dirty filters or fan
 - Cardboard blocking filters (inside filtration system) – new systems only

Blocked Ducts

- Ducts are blocked and need to be replaced.

Sensor Error

- If none of these fix the error, then your ventilation sensor is damaged/faulty and your laser needs to be serviced.

I'M SEEING/SMELLING A
LOT OF SMOKE

I'm seeing/smelling a lot of smoke (NO ventilation error)

Material Settings

- Double check that the correct material is selected in your material library or that your settings are what you meant to select. Having the power and/or heat too high can cause a lot of smoke.

Material Compatibility

- Not all materials are good and/or acceptable for laser cutting and engraving. Moisture, finishes, different types of glues, and material composition can create a lot of smoke.

Ducts Loose/Kinked

- Double check that your ducts are securely connected at both ends. Smoke may be escaping if not secured properly. Also, verify that there are no kinks in your ducts.

Open Lid Too Soon

- Try waiting a few seconds after the job finishes to open the lid. This helps the ventilation system remove extra smoke from the laser.

Stacked Materials

- If you've stacked several layers of materials, or if your material naturally has layers, this could be preventing your ventilation system from working properly. Always use a single piece of material.

Laser Not Focused

- Verify that your laser head is properly focused.

Material Inconsistency

- Most materials have inconsistencies across a single piece. Knots in wood, holes/gaps in the material, changes in density, and patches of glue are just some of the examples that could cause smoke.

Booster Fan

- If none of the above help, it's possible that due to your material and/or environmental settings you need a booster fan to help pull the smoke out.

MY AIR ASSIST SYSTEM IS GIVING AN ERROR

My air assist system is giving an error

Tube Disconnected

- Confirm that your air assist tube (small black) is connected to the back of the laser and to your HexBox

Air Pump

- Unscrew the top of your HexBox (metal lid). Listen to ensure the air pump is running. If it is not, the pump needs to be replaced.

HexBox Power

- Confirm that your HexBox power cord is plugged into both your HexBox and your Laser.

Sensor Error

- If none of these fix the error, then your air assist sensor is damaged/faulty and your laser needs to be serviced.

MY LASER ISN'T FIRING

Is the tube lighting up (near the ends should be strongest) when you test fire?

My laser isn't firing (tube IS lighting up)

Material Compatibility

- Not all materials are laser compatible. Harder materials like stone, glass, and metal are too strong to be engraved by a 40W laser, so you will not see any marks appear even if the tube is firing.

Material Settings

- It's possible your material settings are too low in the software. Try turning up your power and heat in small increments (~10) to get a stronger laser output.

Mirror Alignment

- Perform the 4 corner test to ensure that your mirrors are properly aligned. If not, then align your mirrors to improve laser output.

Tube Life

- Check your hour counter in your touchscreen (tools > about). Your tube should last 800-1200 hours, but can be less with really intense applications. Your laser tube likely needs replaced.

Beam Combiner

- Beam combiner could be loose. See if it wiggles when you touch it. If so, snap it back into place and tighten the screws.

My laser isn't firing (tube IS NOT lighting up)

Tube Disconnected

- Unplug your laser, remove the tube guard and confirm that your laser tube is plugged in

Tube Life

- Check your hour counter in your touchscreen (tools > about). Your tube should last 800-1200 hours, but can be less with really intense applications. Your laser tube likely needs replaced.

Power Supply

- If none of the above, your power supply likely needs replaced and will need to be sent in for servicing.

MY JOBS ARE
INCONSISTENT FROM
ONE SIDE OF THE BED
TO THE OTHER

My jobs are inconsistent from one side of the bed to the other

Material Inconsistency

- Most materials have inconsistencies across a single piece. Knots in wood, holes/gaps in the material, changes in density, and patches of glue are just some of the examples that could cause this.

Mirror Alignment

- Perform the 4 corner test to ensure that your mirrors are properly aligned. If not, then align your mirrors to improve laser output.

Nozzle Alignment

- If your nozzle cone is not aligned, your laser beam could be nicking the side. Double check that you can see the diode shining through the cone and that it's not loose when you touch it. If needed, adjust and retighten the screw.

MY LASER SEEMS TO
BE WEAKER (LIGHT
ENGRAVINGS OR NOT
CUTTING THROUGH)

My laser seems to be weaker

Dirty Parts

- Make sure your lens, mirrors, and beam combiner lens are clean. Clean regularly to ensure maximum performance.

Mirror Alignment

- Perform the 4 corner test to ensure that your mirrors are properly aligned. If not, then align your mirrors to improve laser output.

Beam Combiner

- Beam combiner could be loose. See if it wiggles when you touch it. If so, snap it back into place and tighten the screws.

Laser Tube

- If the mirrors are aligned and you're still noticing decreased output performance, your laser tube likely needs replaced. Note that the tube will not suddenly stop working, but as the gases inside start to degrade, you'll notice that the output gets weaker and weaker over time. We've observed this starting to happen after about 800 hours of intense laser usage (actual laser run time).

MY LASER IS MAKING A
LOUD NOISE WHEN IT
GETS TO ONE OF THE
EDGES

My laser is making a loud noise when it hits one of the edges

Laser Needs Homed

- The laser has lost its location and needs to be homed. This can be done by tapping “home” on the touchscreen home screen.

Tube Guard

- If the tube guard isn't installed properly it will impede the homing sensors from working properly. Double check that the holes in the guard align with the screws on the bottom of the laser bed.

Air Hose

- Double check that the air tube isn't sticking out too far, preventing the laser head from reaching the homing switch. If so, shorten the hose slightly by pulling it up, near the top of the laser head.

Damaged Switch Activators

- If the above didn't eliminate the noise, it's possible one or more of your location switches are bent. Check your location switches to make sure they're not bent.
- If they're not bent, they're likely broken and you'll need to send your laser in to be serviced.