



LASER TROUBLESHOOTING CHECKLIST

Plan well.
Cut clean.
Create memories!

STEP-BY-STEP CHECKS FOR CLEANER CUTS AND BETTER RESULTS

1 MY LASER WON'T CUT THROUGH

- Material thickness correct?
- Lens clean?
- Mirrors clean? (CO₂)
- Focus correct?
- Air assist running?
- Material flat?
- Power accidentally changed?
- Speed too high?
- Material density changed?
- Run material test

TIP: Start with the simple checks first!

2 EXCESSIVE CHARRING

- Increase air assist
- Clean lens
- Raise material from honeycomb
- Use masking
- Increase speed slightly
- Add additional passes
- Improve exhaust
- Check wood quality

TIP: More air and a cleaner lens solve most issues.

3 SMOKE STAINS

- Exhaust fan operating?
- Air assist functioning?
- Material elevated?
- Masking applied?
- Honeycomb cleaned?
- Exhaust duct restricted?
- Work area well ventilated?

TIP: Good airflow = cleaner cuts.

4 CUTS ARE NOT LINING UP

- Belts tight?
- Loose pulley?
- Material shifted?
- Overscan too aggressive?
- Mechanical obstruction?
- Stepper motor issue?
- Rails clean?

TIP: Check mechanics before changing settings.

5 LASER SUDDENLY LOST POWER

- Lens dirty?
- Mirrors dirty? (CO₂)
- Focus changed?
- Air assist nozzle blocked?
- Tube aging? (CO₂)
- Power supply issue?
- Material different than usual?

TIP: Clean optics and check focus first.

6 DOUBLE OUTLINES

- Edit > Delete Duplicates
- Check imported SVG
- Check trace settings
- Preview tool
- Remove stacked vectors

TIP: Duplicate lines cause double cuts and burns.

7 ENGRAVING TAKES FOREVER

- DPI too high?
- Excessive fill area?
- Artwork oversized?
- Use line mode instead?
- Reduce scan angle complexity?

TIP: Lower DPI and use line mode when possible.

8 PIECES FALL OUT TOO EARLY

- Cut outer shape last
- Reorder layers
- Use tabs if needed
- Verify cut sequence
- Check material flatness

TIP: Cut inner details first, outer shape last.

9 CORNERS ARE BURNING

- Speed too slow?
- Acceleration settings?
- Air assist weak?
- Excessive power?
- Dirty optics?

TIP: Faster speed + good air assist help corners.

10 INCONSISTENT RESULTS

- Material from new supplier?
- Humidity change?
- Lens clean?
- Focus checked?
- Air assist verified?
- Material thickness measured?
- Settings documented?

TIP: Consistency starts with consistent inputs.

MONTHLY MAINTENANCE CHECKLIST

- Clean lens
- Clean mirrors (CO₂)
- Inspect belts
- Clean rails
- Check wiring
- Check air assist
- Check exhaust system
- Backup LightBurn settings
- Run material test card
- Inspect nozzle

Regular maintenance prevents most problems and extends the life of your machine.

EMERGENCY RULE – BEFORE CHANGING SETTINGS

- CLEAN OPTICS**
Lens and mirrors should be clean.
- CHECK FOCUS**
Verify the correct focus height.
- VERIFY AIR ASSIST**
Ensure air assist is working properly.
- RUN A TEST**
Run a material test before real projects.

★ **REMEMBER**
Most laser issues are solved by the basics.
Clean • Focus • Air • Test
DO THESE FOUR THINGS FIRST.
SAVE TIME, MATERIAL, AND FRUSTRATION.