Shanghai BOCI Automation Technology Co., Ltd.

BLT Lower Protective Lens Temperature Rise Alarm FAQ

Version: V1.0

Keywords: Temperature rise alarm, lower protection lens contamination, other lens set contamination

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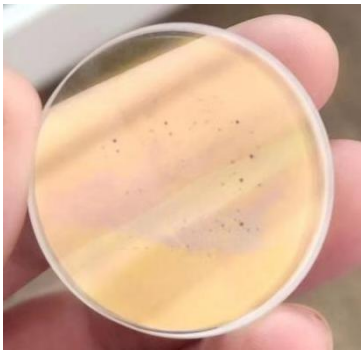
Please complete the relevant operations under the guidance of the manufacturer's professional technician!

1. Lower protective lens problem

1.1 Lower protective lens contamination

1.1.1 Burning point on the lower surface of the lower protective lens



- **Cause: The perforation focus point is too negative, causing the perforation slag to return to the lens.**
- Solution: Elevate the perforation focus point.

- **Causes: Inappropriate perforation energy, perforation time is too extreme, perforation burst hole.**
- Solution: Reduce the duty cycle and increase the piercing time.

- **Cause: Parts common edge layout cutting, plate deformation joint cut can not be connected.**
- Solution: Common edge jointing tool position with perforation, or typesetting parts to increase the micro-links.

- **Cause: Metal particle contamination in the air pipe.**
- Solution: Clean the pipes or replace them, find the source of metal dust source and replace it (pipe joint connections, etc.).

1.1.2 Lower protective lens surface with dust, oil or white spots

- **Cause: The air compressor filtration does not meet the use standard.**
- Solution: Check the air compressor filter cartridge for failure or increase the filtration level.

- **Cause: The air pipe is not clean.**
- Program: unplug the air inlet pipe of the cutting head, flush with high purity alcohol from the air inlet filled with atmospheric pressure, repeatedly clean the pipe 3-4 times, or replace the air line pipe.

- **Cause: The air inlet seat screen is blocked by PTFE tape or other foreign objects.**
- Program: disassemble the air inlet seat and check whether the air inlet filter screen is blocked by foreign objects.

1.1.3 White spots on the upper surface of the lower protective lens

- **Cause: Improper handling during lens replacement, resulting in dust falling onto the lens.**
- Program: before replacing the protective lens, please close the surrounding fan, seal the nozzle with tapes, clean the dust under the protective lens door cover position, the above steps operation is completed before inserting and removing the drawer to replace the lens, the drawer must be

pulled out in time to close the door cover, drawer inserting and removing action should be gentle.

- **Cause: Lower protective lens was struck through, contamination exists between the lower protective and lower second protective lens.**
  - Solution: Clean the passage between the lower protection and the lower second protection with a long cotton swab and alcohol wipe.

- **Cause: Failure of the spring seal of the lower protective lens drawer.**
  - Solution: Replace with a new spring seal.

1.2 Lower protective lens quality issues

If the lower protective lens is in a clean condition but the lens temperature rise is too high, the following reasons may exist.

- **Reason: Sub-factory lens coating or material has problems.**
  - Solution: It is recommended to replace the original protective lens.

- **Reason: The power band to which the lens is adapted does not match the current laser power (such as 12kw lens used in 20kw).**
  - Solution: It is recommended that the selected lens adaptable power band must meet the current power of the laser.

2. Other issues

2.1 Contamination of other lens

When the temperature rise alarm occurs even when the original lower protective lens is used and the lower protective lens is determined to be clean, the contamination of the cutting head can be determined by printing the photo paper.

- **Cause: Second lower protective lens contamination (improper operation to replace the lower protective lens causes dust in the air to enter the cutting head, causing contamination of the lower second protective lens).**
  - Solution: It is recommended to replace the original second lower protective lenses.

- **Cause: Replace the original second lower protective lenses, still appear temperature rise phenomenon.**
  - Solution: Please contact the manufacturer's relevant technical staff and conduct the next step of troubleshooting under the manufacturer's guidance.

Please do not tear the tear-proof label without authorization from BOCI, otherwise the warranty will be void.

2.2 The cutting head is normal and the cutting temperature rises

Replace the new lens, point shooting temperature rise is normal, cutting a period of time there is a temperature rise, please follow the 1.1.1-1.1.3 steps to review.

Note: material car inside put a block of ≥ 20mm thick edge carbon steel, move the machine red light aligned with the edge, so that it is located in the middle of the two rows of rack, nozzle ≤ 1.8 blow 0.8bar oxygen, continuous light 3min, observe the rate of rise in temperature of the protective lens.

Recommended parameter settings for point shooting: power 100%, duty cycle 100%, frequency 5000Hz, focus point 0mm.