

## Exchanging the Piezo Actuator (PZT)

Purpose of this document is to support users of Sacher Lasertechnik Littrow Laser System with the exchange of the piezo actuator (PZT). Please note that there are security risks for the technician who performs the work as well as for the laser head accompanied with the exchange of the PZT.

- You are working with a Class IIIB laser system. Make sure to wear protective eyewear.
- The PZT is operated with high voltage up to 150V. Make sure to disconnect the laser system from the wall plug power supply prior to any action.
- Consult your security officer on all required security precautions prior to starting the scheduled exchange work.
- Laser Diodes are electrostatic discharge (ESD) sensitive devices. Make sure to take care on ESD protection, e.g. grounded wrist bands.
- The grating attached on the other side of the holder is a sensitive component which may be damaged by a single finger print.
- Avoid electrical short circuits of the piezo cables with the body of the laser head. A single electrical discharge may damage the laser diode.
- Avoid damages of PZT cables by holder's edges.

The customer should keep in mind that she/he are doing the exchange work at their own risk. Sacher Lasertechnik will not be liable in case of any damage to the laser system or any injury to the operating technician.

The holder is composed of diffraction grating, piezo actuator, brass-screw and coarse tuning screw ([Figure 1](#)). PZT shall be exchanged in the following procedure:

1. Unscrew the brass-screw (the yellow one) from the holder ([Figure 2](#)). You will find the PZT attached with glue within the holder.
2. Detach carefully the PZT from the holder (for example, by slightly waggling PZT from each side).
3. Remove the PZT from the holder ([Figure 3](#)).

For exchanging the PZT proceeds in the reverse order.

4. Put the new PZT and attach the front side of the PZT on the holder (using glue).  
The back side of the PZT has a small metal-plate attached to it to avoid damage caused by the coarse tuning screw.
5. Screw the brass-screw in.
6. Turn the coarse tuning screw a little bit to confirm the contact of the screw with the PZT.



Figure 1



Figure 2



Figure 3

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Note: Specification are subject to change without further notice

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