

Laser - Power Supply & Ballast Replacement



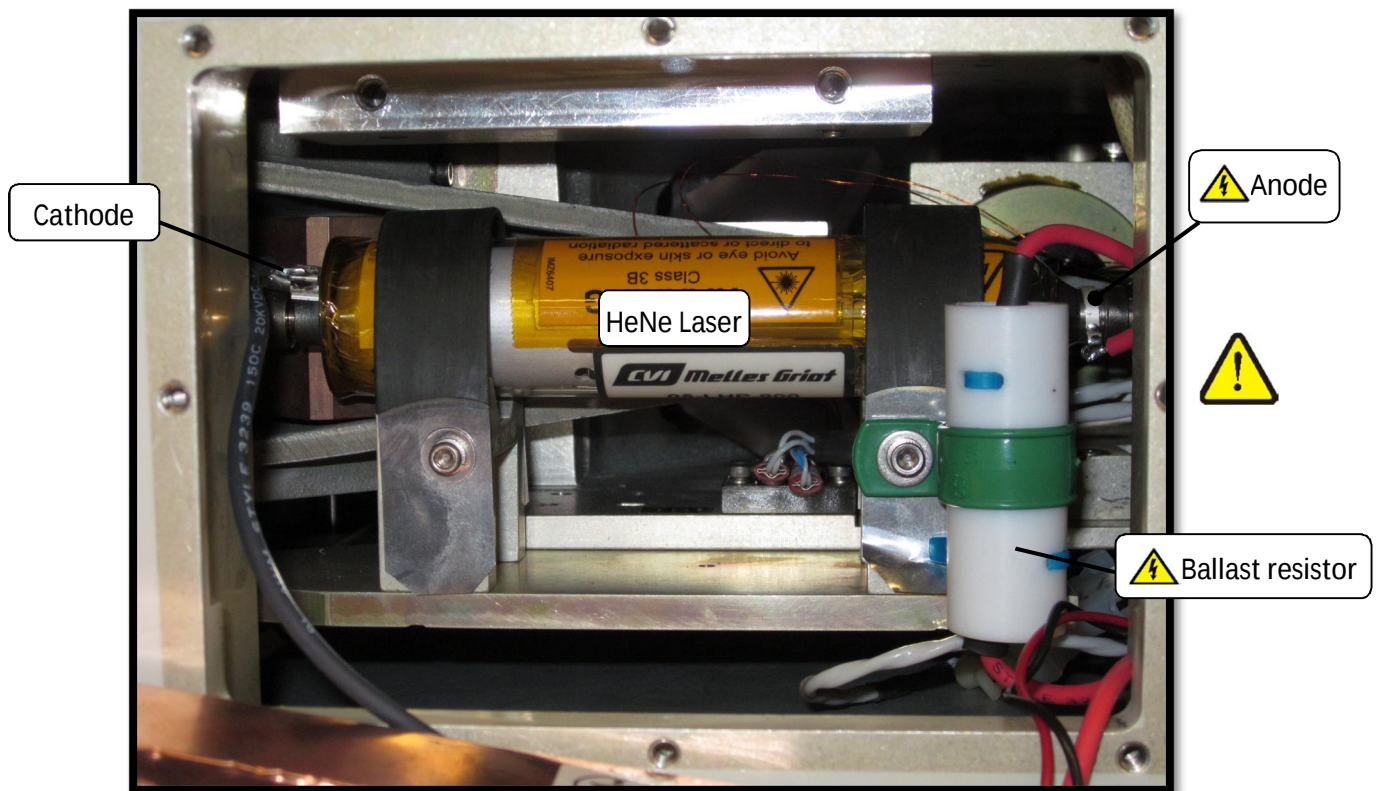
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This document is intended for field service personnel qualified by ABB to perform service.

Refer to the instrument user's guide for safety to observe on servicing the instrument. Failure to comply with any of the warnings, cautions or notices can result in personal injuries and/or equipment damages.

1. Tools required to perform this maintenance are 1 philips screwdriver  medium size, 1 hexagonal screwdriver for SHCS 6-32 screw, 1 plier tool (small size) and 1 scissor.
2. Turn **the instrument** power **OFF**. Observe precaution for handling parts in this area. Residual voltage might be present and must be drained to the instrument chassis prior to specific manipulation. By aware of the Anode of the HeNe laser.

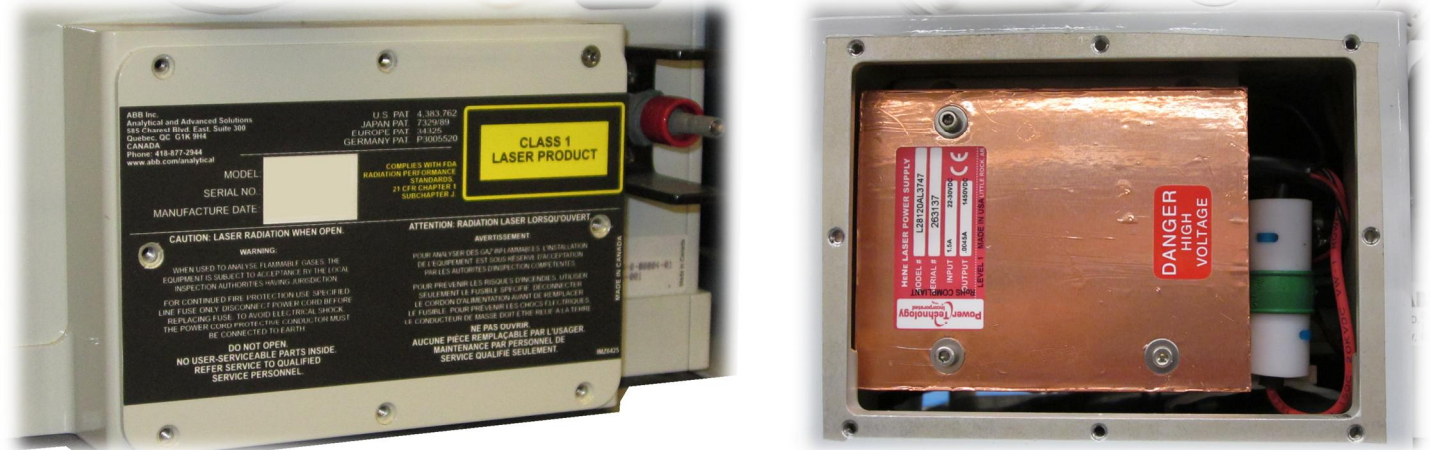


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3. Open the laser access cover of the instrument; there are 8 philips screws that maintain the cover in place.



4. Remove the laser power supply by unscrewing the 3 hexagonal screws
5. To prevent cable stress, temporary secure the power supply using one of the thread of the access cover.
6. Remove the laser power supply mounting plate by unscrewing the 2 philips screws.

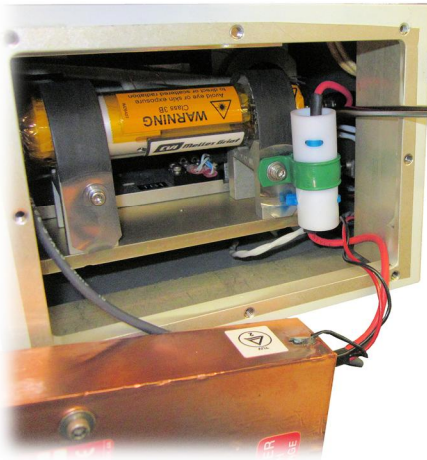


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7. Drain residual voltage from the Anode of the HeNe laser. Holding the insulated part (non-metallic) of your screwdriver, perform a bridge (short-circuit) between the Anode and the instrument chassis. Note that arcking might not be visual.



Avoid touching any metallic part with your hand. The handle of your tool must be made with non-conductive material.

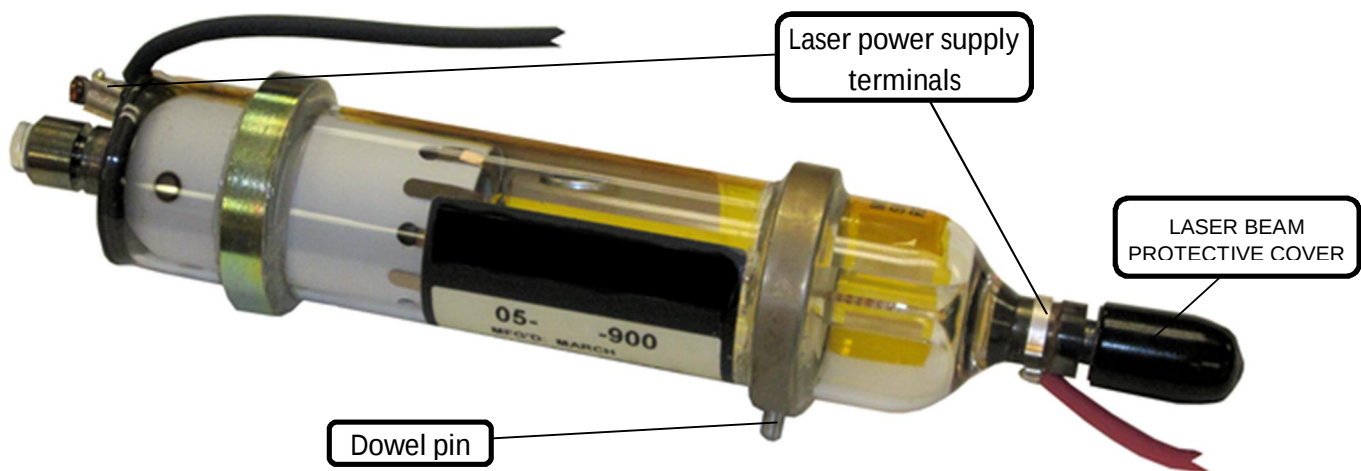
Ballast enclosure replacement

8. See Ballast enclosure replacement on page 5

Laser replacement



The laser tube is pre-aligned at factory to fit proper orientation and position in the instrument using a dowel pin and "V" shape support cavities. Laser power supply wire connections are spring type terminals.



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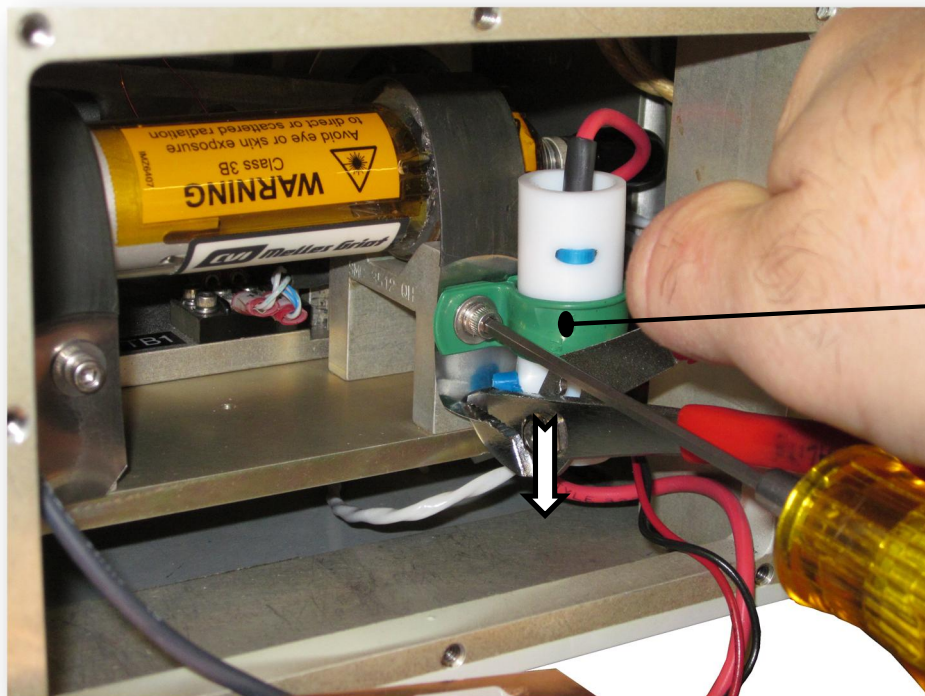
9. To replace the laser tube:

- disconnect the 2 terminals from the laser tube
- unscrew both metallic straps
- replace the laser tube by the new one
- Align the new tube so that its dowel pin is properly inserted and aligned in V shape cavities of the laser support brackets.
- Tighten metallic straps as described.



The laser tube is maintain in place using 2 metallic straps that must be bent to ensure the laser beam position. So, you must maintain strength down holding metallic strap with plier until the screw is properly tighten.

- Reconnect the 2 terminals on the laser tube to their original position.



TEFZEL CLAMP



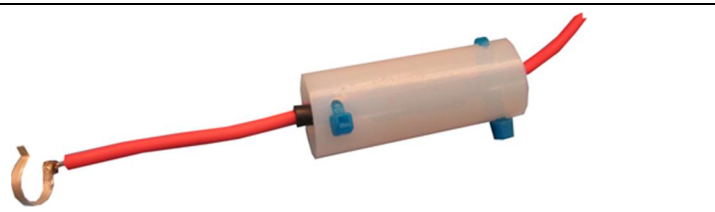
10. Perform steps in reverse order from step 6 up to the installation of the access cover. Pay attention to wires position; make sure they are properly dressed to prevent interference by reinstalling parts.

11. Connect the instrument power cord then turn the instrument power ON.

Ballast enclosure replacement

To replace the ballast protective tubing proceed as follow:

- 1. Disconnect the spring terminal from the laser tube
- 2. Cut the 2 tie-wrap
- 3. Slide out the Teflon tubing then cut it for easier removal.
- 4. Insert the new Teflon tubing
- 5. Secure the tubing over the ballast resistor as shown with the 2 Tefzel tie-wrap provided.
- 6. Reconnect the spring terminal on the ANODE of the laser tube.

PREVIOUS BALLAST PROTECTIVE TUBING	NEW BALLAST PROTECTIVE TUBING
	
	 Note that the plastic clamp holding the ballast enclosure and provided with your maintenance kit must be used instead of the metallic version.
	