

Laser module MZR.5300.01

Work steps should only be carried out by a licensed electrician!

Please keep a copy of the operating instructions.

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A.1 - How to use these operating instructions

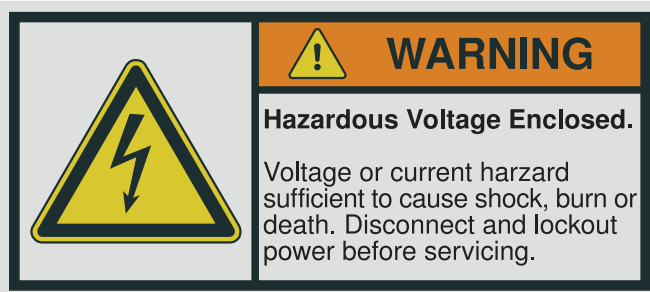
- Please keep a copy of the operating instructions.
- Before starting work, please read the installation instructions and follow all safety instructions.

A.2 - Safety instructions

- Work steps should only be carried out by a licensed electrician.
- Carefully read the operating instructions before laser module assembly.
- When using the MINIPRESS P or MINIDRILL P, the MINIPRESS P and MINIDRILL P operating instructions should be followed.
- When operating the laser module, please make sure that no one is within the projection area of the laser beam. Please also make sure that unintentional, reflected beams (e.g. from reflective objects) can not intersect with any people in the area. Do not look directly into the laser beam and never point it at a person. Lasers can cause eye and skin injuries. Never point the beam at mirrors or reflective surfaces. Uncontrolled, diverted beams may hit a person. Only operate the laser in a monitored area. The laser module is not intended for children. Trained personnel are required to monitor the operation of the laser module in schools, training facilities, hobby and self-help workshops.

A.3 - Danger information

- The safety and danger information in the MINIPRESS P, MINIDRILL P operating instructions must be followed when starting up, operating, retrofitting, servicing, repairing and dismantling the MINIPRESS P, MINIDRILL P.

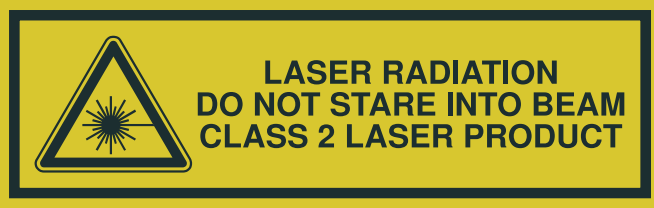


Please familiarise yourself the following safety information before starting any electrical work. Electrical work should only be carried out by a licensed electrician.

No one should deviate from the following instructions even if this should cause the work to be more difficult, more expensive or take longer:

Any person working on MINIPRESS P, MINIDRILL P electrical parts is responsible for following all local codes and therefore, may be liable for any damages.

- Never work on components or control unit parts that are still energised. Always disconnect electrical power from machine and set the main switch to 0 before starting work.
- Follow all LOCKOUT / TAGOUT procedures established by management
- Always use a voltage tester to ensure that components as well as control unit components are not energised before starting work.



- Never look directly into the laser beam. The laser can cause eye damage

**Safety information:**

This exclamation point indicates important safety information that must be followed.

Comment:

This exclamation point indicates a comment. If this comment is not followed, then assembly machine components as well as the work piece itself may be damaged or the assembly machine may be rendered inoperable and/or the work piece unusable.

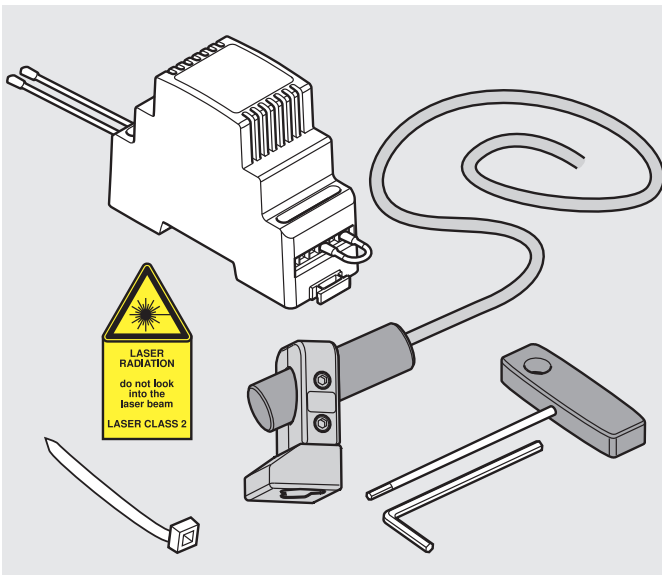
A.4 - Intended use

- The intended purpose of laser module MZR.5300 is measurement and position determination on the work piece in conjunction with MINIPRESS P, MINIDRILL P. Only wood or particle board should be used as the work piece since they are non-reflective. Coated and/or reflective work pieces may not be used. Laser module MZR.5300 may only be used in combination with MINIPRESS P, MINIDRILL P in commercial and industrial applications. The manufacturer does not assume liability for uses not described in these operating instructions or the MINIPRESS P, MINIDRILL P operating instructions.

B.2 - Technical data

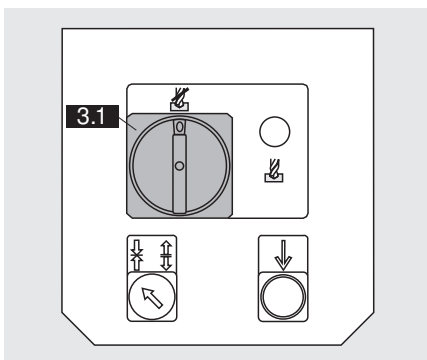
- Length: 40 mm
- Diameter: 12 mm
- Diode power: 5 mW
- Operating Distance: 250 mm
- Wavelength: 650 nm
- Operating voltage: 2.5 - 6 V DC
- Operating current: 30 mA
- Operating temperature: -10 - 40 °C
- Storage temperature: -40 - 80 °C
- Laser class: 2M
- Optics: acrylic lens
- Wirelength: 1510 mm
- Material of housing: aluminium
- Cable type: LifYY 2y 0.5 mm²
- fan angle: 90° or 60°
- line thickness: 0.5 mm @ 250 mm
- Potential of housing: VDD

C.1 - Standard components



- Wrench DIN EN 911 SW 2 mm
- Wrench with "T" handle DIN EN 911 SW 3 mm
- Sub-assembly MZR.5300.01
- Power supply unit
- 1 screw DIN 912 M 4x16 (ASTM F 912M:2004)
- Cable clips
- Label

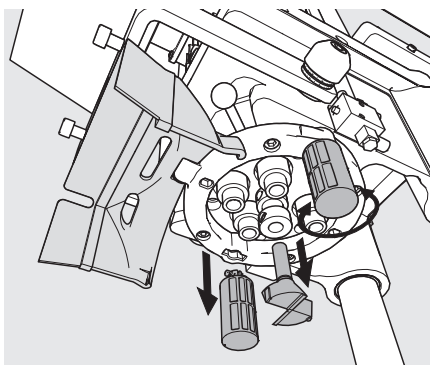
C.2 - MINIPRESS P preparation



- Set main switch **3.1** to **Pos.0**
- Disconnect electrical and pneumatic connections from the machine

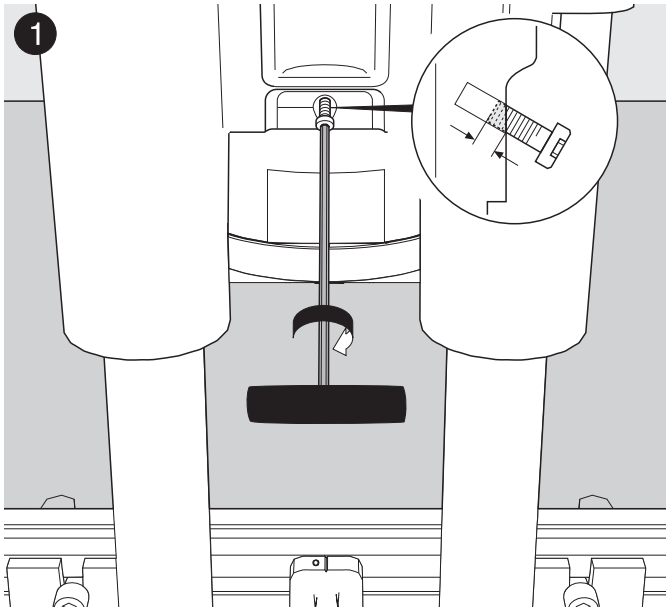


ATTENTION:
The main switch does not disconnect the machine from the air pressure system.

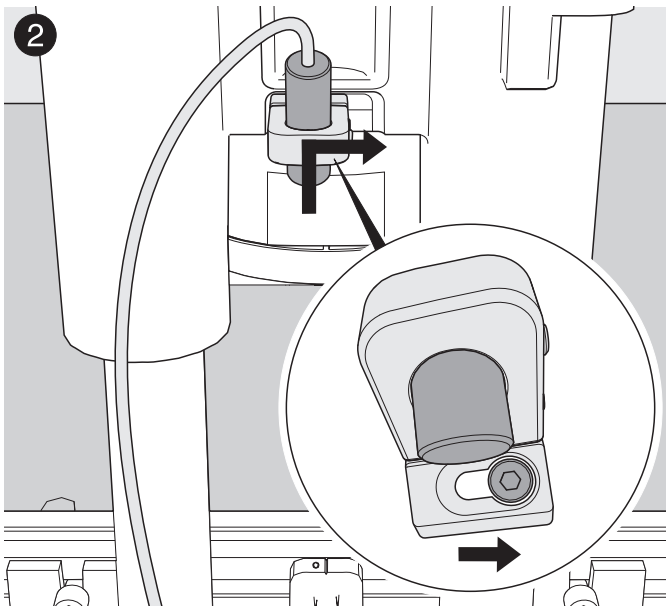


ATTENTION:
gash injury.

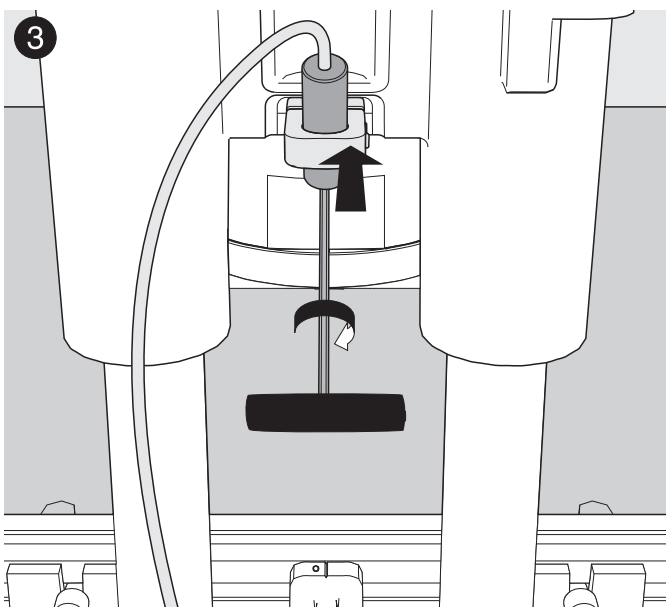
- Remove all inserted drill bits

**C.3 - Laser module assembly**

- Insert mounting screw into the mounting hole on the backside of gearbox housing and rotate the screw 2 turns clockwise





- Place the laser module on to the bolt slide to the right



- Temporarily tighten the screw using the allen key provided

D.1 - Safety instructions / Preparation of MINIPRESS P or MINIDRILL P and control unit

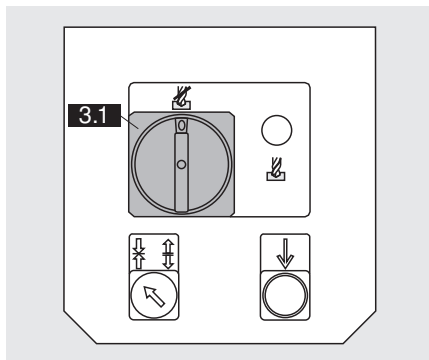



WARNING

Hazardous Voltage Enclosed.

Voltage or current hazard sufficient to cause shock, burn or death. Disconnect and lockout power before servicing.

- Never work on components or control unit parts that are still energised. Always disconnect electrical power from machine and set the main switch to 0 before starting work
- Follow all LOCKOUT / TAGOUT procedures establishment by management
- Always use a voltage tester to ensure that components as well as control unit components are not energised before starting work



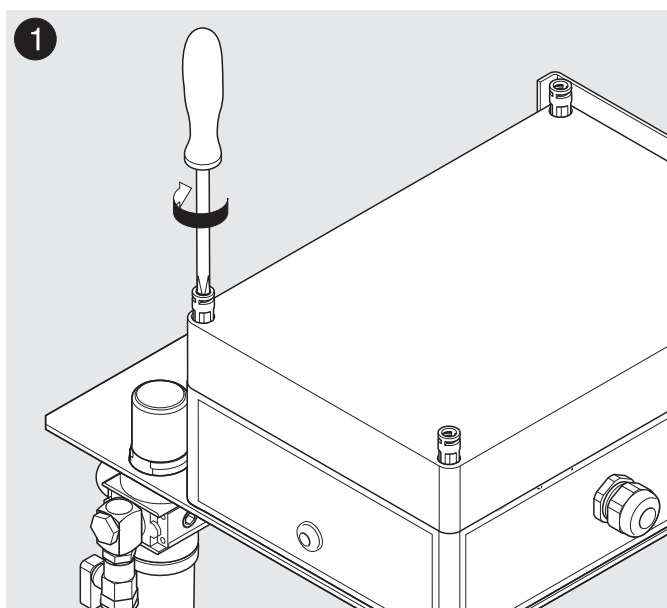
- Set main switch **3.1** to **Pos.0**
- Disconnect electrical and pneumatic connections from the assembly machine.



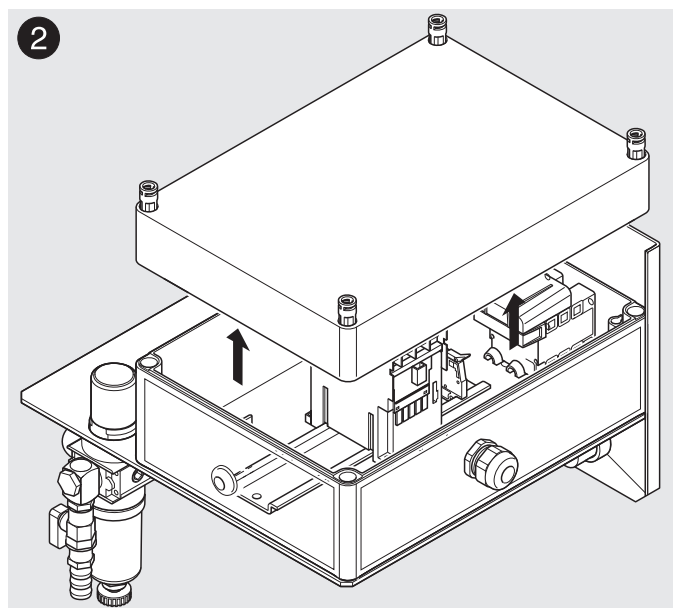
ATTENTION:

The main switch does not disconnect the assembly machine from the air pressure system.

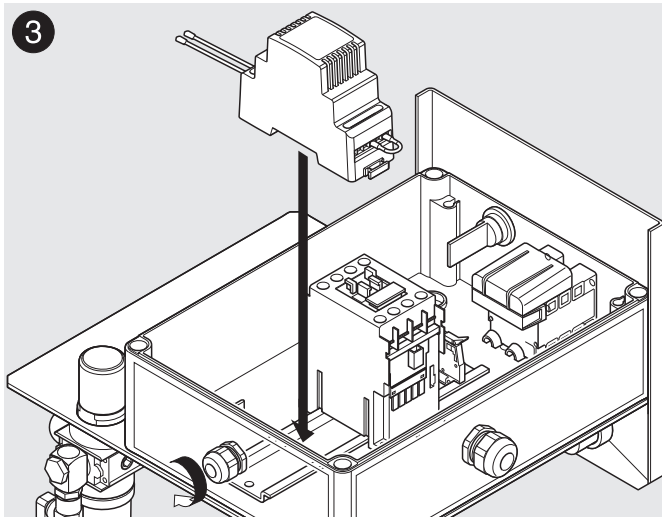
D.2 - Retrofitting the control unit



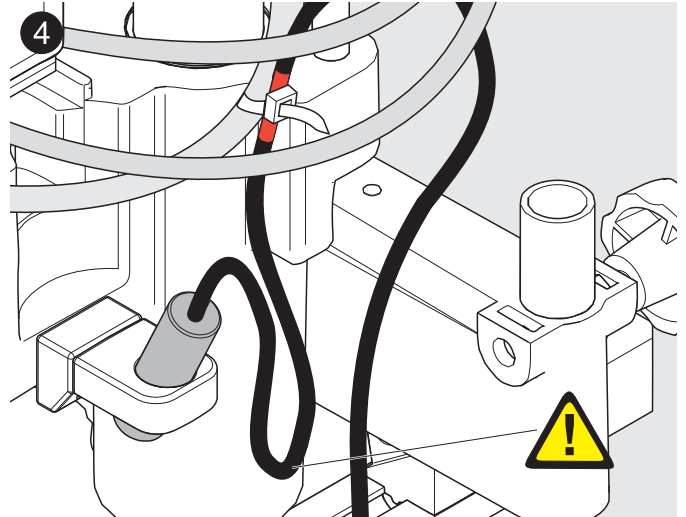
- Remove the screws of the control unit housing using a screwdriver.
- Turn the screws counter-clockwise



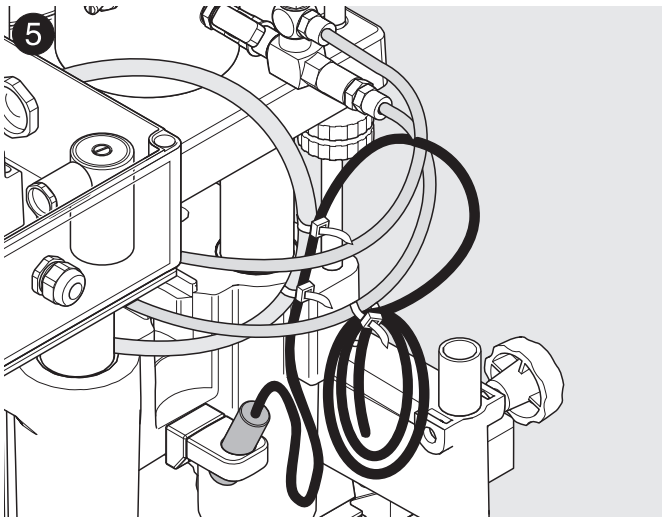
- Remove the control unit housing cover



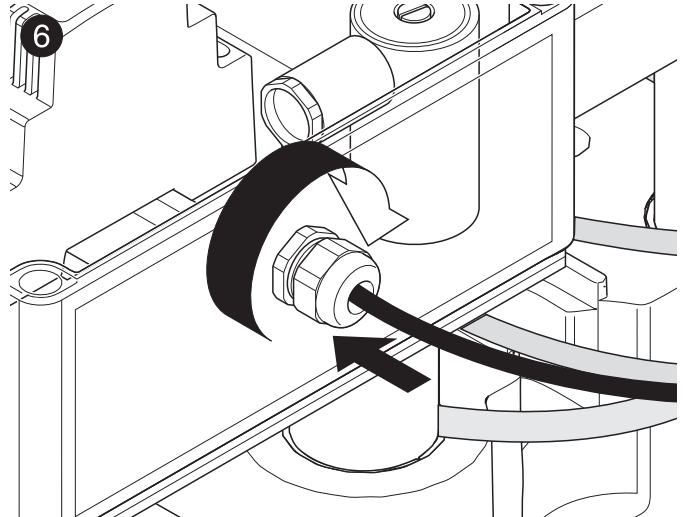
- Snap the transformer into place on the DIN rail
- Mount the cable bushing



- Set aside enough remaining cable up to the cable tie
- Thread the cable as shown



- Attach cable along the pneumatic lines using the cable ties



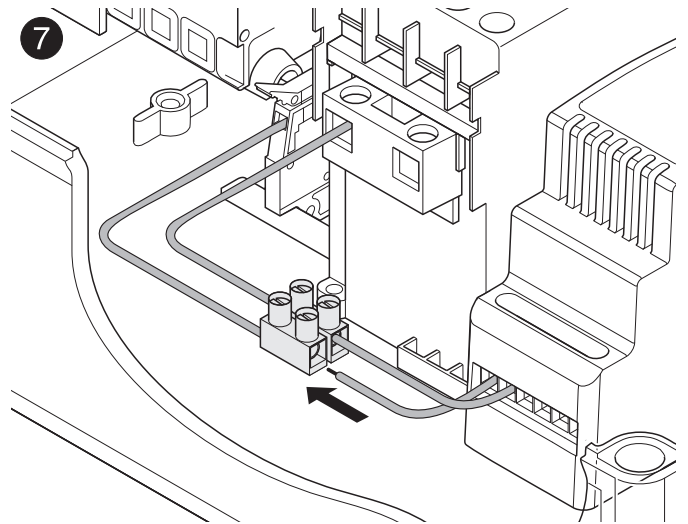
- Feed the cable through the cable bushing

WARNING

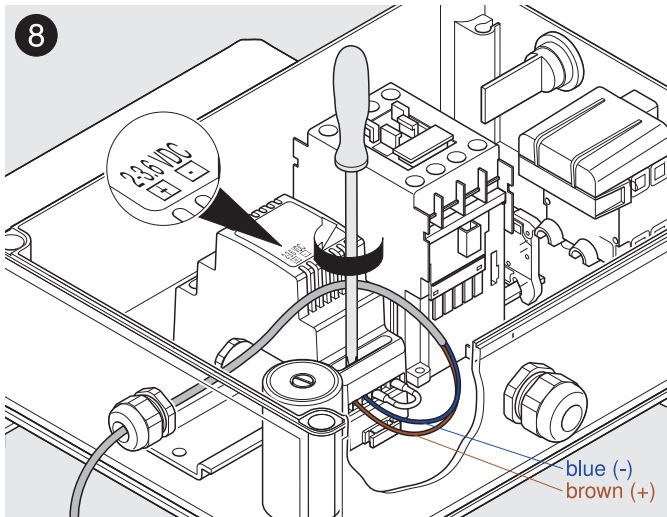
Hazardous Voltage Enclosed.

Voltage or current hazard sufficient to cause shock, burn or death. Disconnect and lockout power before servicing.

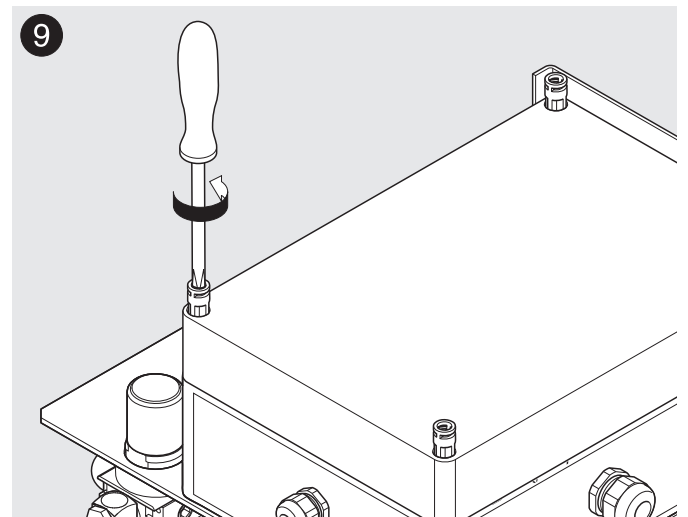
- Never work on components or control unit parts that are still energised. Always pull the mains plug and set the main switch to 0 before starting work
- Always use a voltage tester to ensure that components as well as control unit components are not energised before starting work



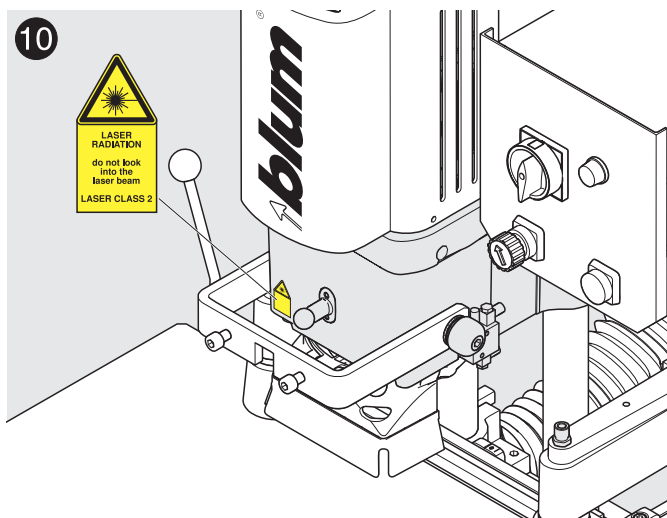
- Connect the prepared quick-fix connections



- Connect the laser diode to the low voltage side of the power supply unit



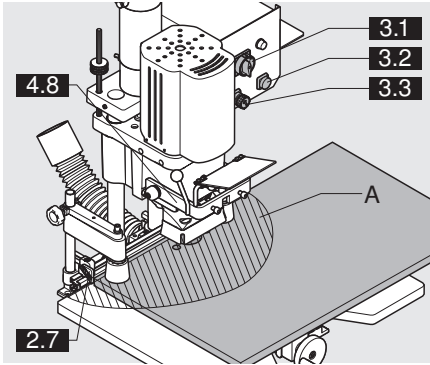
- Replace the cover on the control unit housing
- Turn the screws clockwise using a screwdriver



- Put the label on the machine
- Carry out the steps in chapter E



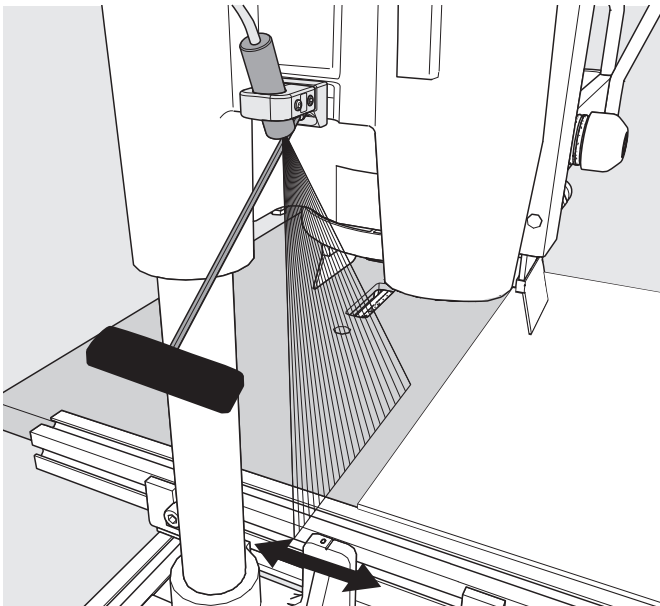
- Never look directly into the laser beam. The laser can cause eye damage
- We recommend that you use laser protection glasses (DIN 207) when adjusting the laser



ATTENTION:

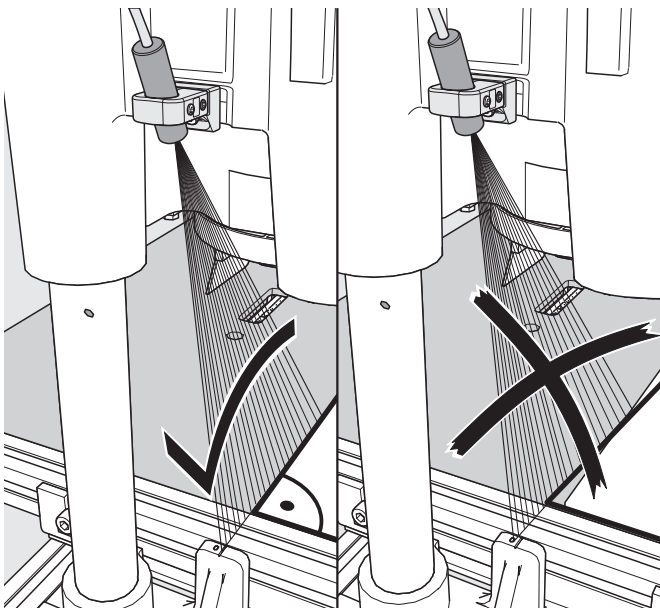
All items except for the work piece should be removed from the work area of the assembly machine. Keep your hands out of work area (A)

- Main switch (3.1) to pos. 1
- Laser line must be visible



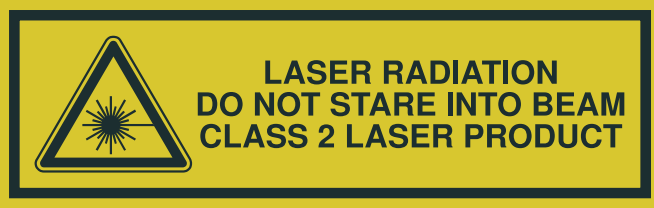
E.1 - Adjusting laser to zero position

- Slightly loosen sub-assembly screw using a wrench (counter-clockwise)
- Set laser line to the zero position
- Tighten screws using wrench (clockwise)



E.2 - Check the laser angle

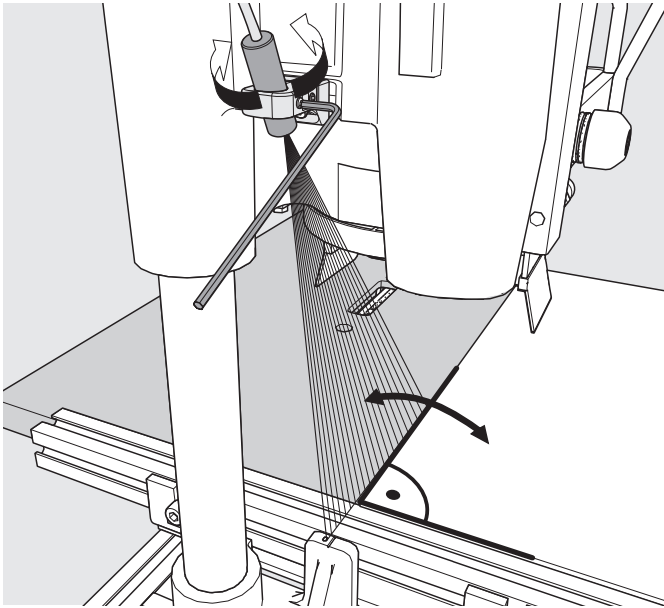
- If laser angle is correct, all work steps are done. The machine with the laser module is ready for work.
- If laser angle is wrong, carry out the steps in chapter F



- Never look directly into the laser beam. The laser can cause eye damage
- We recommend that you use laser protection glasses (DIN 207) when adjusting the laser

F.1 - Adjusting the laser angle

Only carry out the following steps when the laser angle is not correct

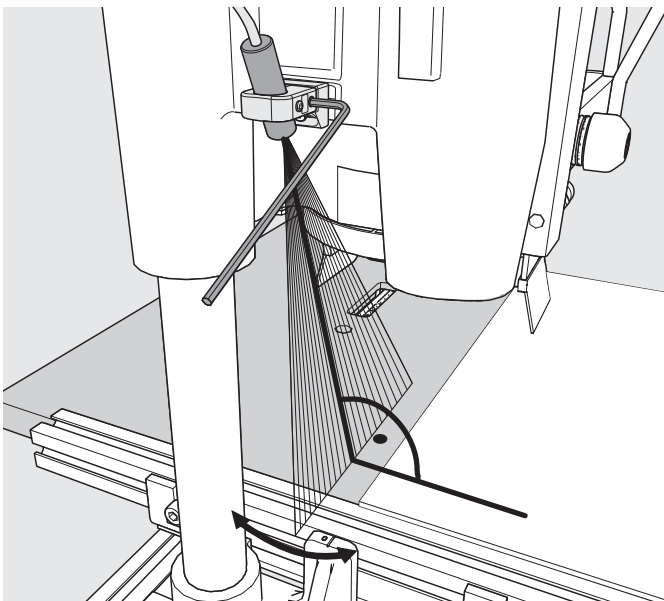


- Loosen set screw using allen key (counter-clockwise)
- Turn laser diode until the correct angle is reached on the work piece or ruler. Use a work piece for the alignment. Affix the work piece to the work center using clamps
- Re-tighten set screw using allen key (clockwise)

F.2 - Laser beam is not perpendicular

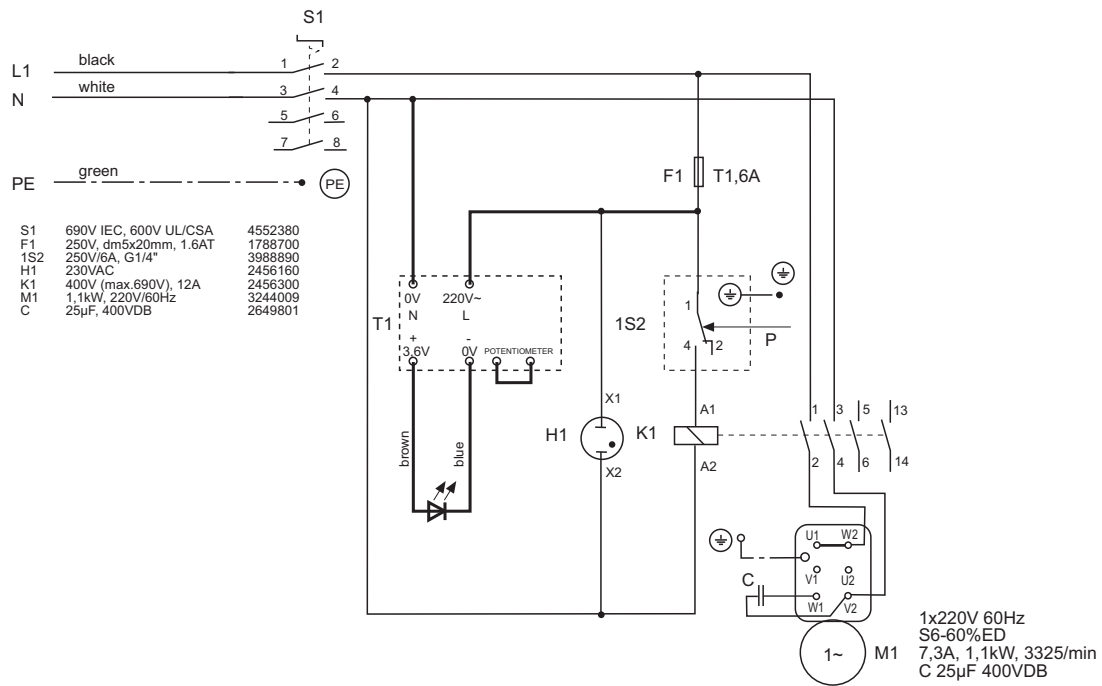
Only carry out the following steps when the laser is not perpendicular

The laser beam is not perpendicular when it has moved from the zero position due to the stroke movement



- Loosen set screw using allen key (counter-clockwise)
- Move laser diode until the laser beam is perpendicular
- Re-tighten set screw using allen key (clockwise)

G.1 - Electrical diagram



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