WHEELRESTORE

WR-DCM3

Checklist Trouble shooting

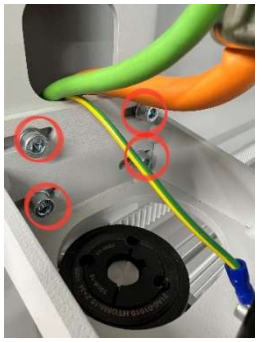
Version 20221003

In case of failures, crashes and-or malfunctioning of the machine we have the following checklist:

Allignment of the Z-axis

- Distance of the axis left-right must be equal
    - In case the distances differ; untighten the screws of the motor bracket, carefully remove the belt from one of the wheels and align the height until they're equal and mount the belt. Tighten the belt according to the specs and tighten the screws of the motor bracket.





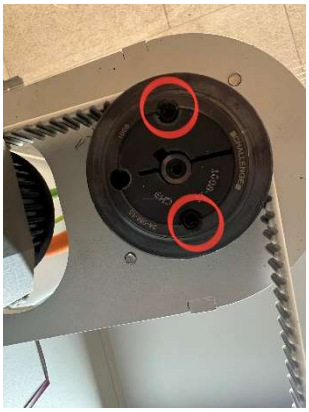
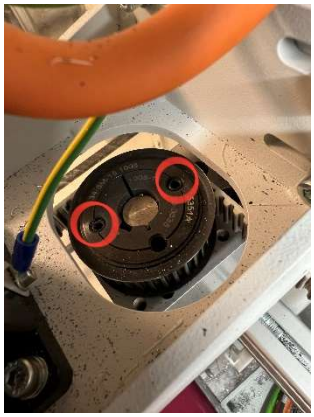
Allignment of the axis to the chassis

- Check if the distance between the Z axis and chassis left and right are equal.
    - In case the distances differ; untighten the bolts, align the axis until they're equal and tighten the bolts.
- Tightening of the following bolts:
    - Brackets (8 pcs per side, 2 bolts each) for the X and Z axis holding the axis to the chassis



Tightening of the teethed wheels

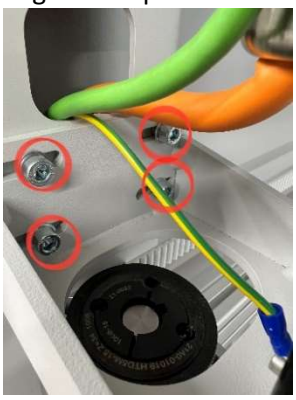
- Bolts holding the Taper Locks on top of the axis need to be tight to avoid them slipping over the axis, causing the z-axis to drop

Axis motor – tension of the top belt

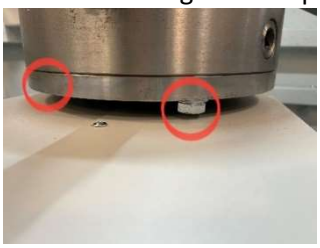
- Bolts (4 pcs. each) of the 2 axis engines (left side) must be tight.
- Bolts (4 pcs) of the engine bracket must be tight.
- Tension of the top white belt must be according to the specs.

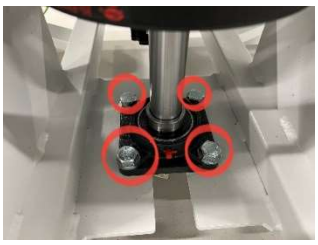





Spindle jaws – spindle axis mounting

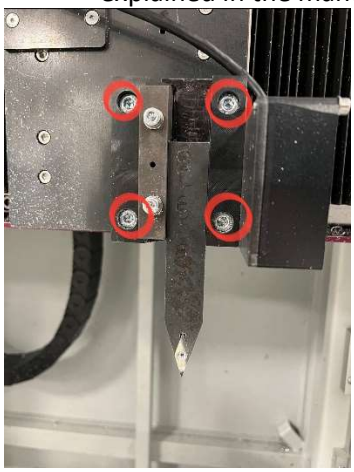
- Bolts (6 pcs) of the jaws to the spindle
- Bolts (3 pcs) of the spindle to the axis
- Bolts (4 pcs each) of the 2 bearings of the spindle axle

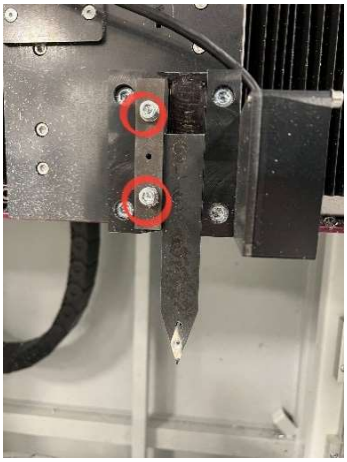





Mounting of the tool holder

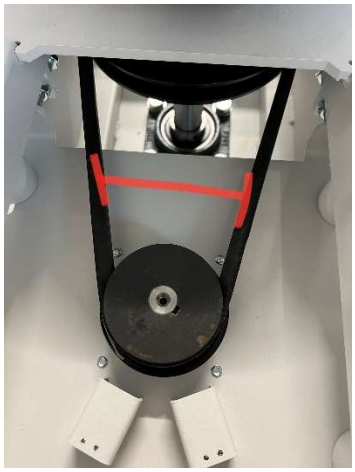
- Bolts of the tool holder to the axis must be tight.
- Bolts of the tool holder must be tight.*
- *NOTE: lowest bolt needs to be tightened first before tightening the upper bolt!
- After the tool holder has been replaced or changed the machine needs to be calibrated as explained in the manual.





Tension of the spindle belt

- Tension of the drive belt of the spindle must be tight



Spindle allignment

- Check if the spindle is aligned using a measuring clock. Check both the disk under the spindle as well as the spindle itself.

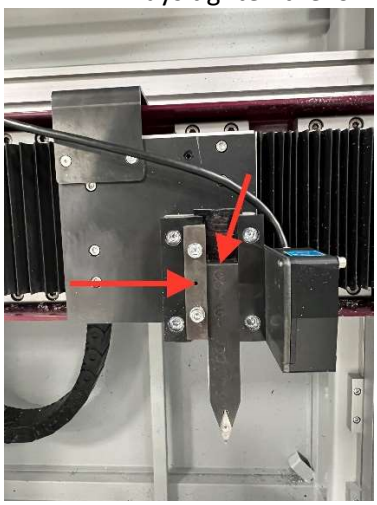

Axis cleaning

- Remove the left and right black plastic covers of the axis by unbolting the screws (3 pcs each side). Remove aluminum chips from the spindles and axis using a vacuum cleaner and/or a brush. Make sure the sliders are free from chips as well. Lubricate in case the grease was removed with the recommended grease.
- Aluminum chips removed between the teethed wheels and the axis (top left and right)
- Grease on the threads which move the axis (see manual)



Location tool holder

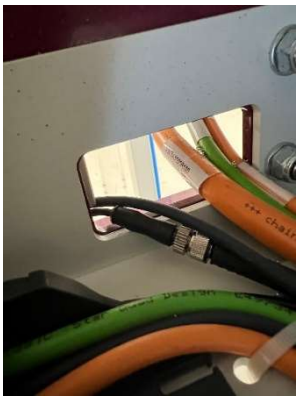
- The top of the tool holder may never be lower than the center hole (between the screws)
- Always tighten the lowest screw prior to the top screw



Problems limit switch – sensors

- In case there are problems with the limit switches follow the wiring and check the connectors by disconnecting and reconnecting them
- Check if the lights on the sensors are on
- Check the connectors at the back of the axis



Problems with the laser

- Check the connections between the laser and the connector. Disconnect them and reconnect them to see if the problem is solved.

Problem with the power

- Remove the top back plate from the machine by removing the 4 bolts. On the left there are 4 safety switches which should be “on”.

Connection problems

- At the back of the machine check all the connectors

Cleaning

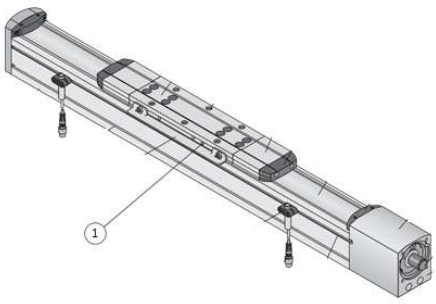
- The product must be inspected and cleaned at regular intervals.
- Do not use compressed air for cleaning. But instead use a brush or vacuum cleaner.
- Remove large particles and dirt from the surface at regular intervals.
- Use only neutral cleaning agents for cleaning.
- Use only damp, soft and lint-free cleaning cloths to wipe the surface.

Cover strip

The cover strip is Teflon-coated. The friction causes abrasion on the cover strip.

- Remove abrasion products at regular intervals.

Lubricating the linear guide and the drive elements



The ball screw axis is lubricated with grease from an internal reservoir. The reservoir is factory-prefilled. The carriage features 3 grease nipples at each side for relubrication.

- The outer grease nipples are used to lubricate the linear guide.
- The inner grease nipples are used to fill the drive element (ball screw drive).

Linear guide

Size	Lubricant [1)]	Relubrication volume	Strokes
PAS42	Microlube GL 261	0.25 cm^3 (0.02 in^3)	1/2

1) Alternative grease K1N-30 as per DIN 51825

Ball screw drive

Size	Lubricant [1)]	Relubrication volume	Strokes
PAS42	Microlube GL 261	1.5 cm^3 (0.09 in^3)	3

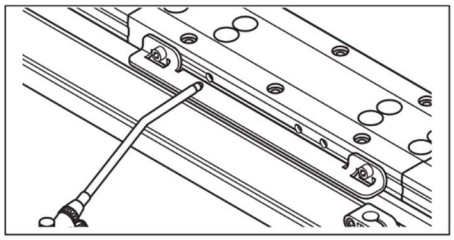
1) Alternative grease K1N-30 as per DIN 51825

Notes on greasing

When applying the lubricant, you must not exceed a maximum flow rate. Therefore, the minimum injection time of 3 seconds per grease gun stroke must be adhered to.

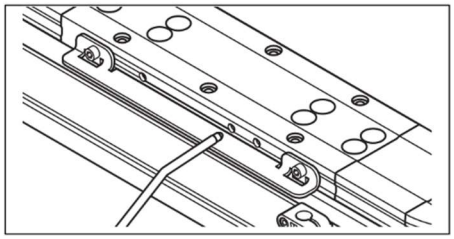
The carriage must be moved between strokes of the grease gun to allow the grease to distribute evenly in the lubricant reservoirs.

Procedure



Lubricating the linear guide

- Position the nozzle at a right angle. Press the nozzle against the grease nipple.
- Inject the correct type and volume of grease into the two outer grease nipples at one side of the carriage.



Lubricating the drive elements

- Position the nozzle at a right angle. Press the nozzle against the grease nipple.
- Inject the correct type and volume of grease into the center grease nipple at one side of the carriage.