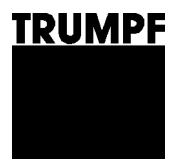


Checking and setting alignment of the laser light cable to the cutting unit (tapeshot)

Edition 2018-08-06



1. Checking and setting alignment of the laser light cable to the cutting unit (tapeshot)

After replacing the cutting unit or laser light cable, the alignment of the laser light cable to the cutting unit needs to be checked and adjusted if necessary.

Safety and description

Detailed descriptions of the product can be found in the associated procedures and in the operator's manual. These contain all of the information regarding the safe handling of the product.

Planning information

Service level	1
Number of service engineers needed	1
Estimated task time (hh:mm) (Without referenced procedures)	

Tab. 1

Modification log

Date (yyyy-mm-dd)	Reason for change	Version
2018-08-06	KL79 added: <ul style="list-style-type: none"> Removing and mounting the cover and holding plate. Use of AF 8 mm torque wrench for 4 Nm torque. 	02
2018-06-28	<ul style="list-style-type: none"> Planning information changed. Fig. 93429 updated. 	01
2018-04-20	Operator's manual created.	00

Tab. 2

Conditions

- The machine is referenced.
- Laser is ready for operation.

Means, Tools, Materials

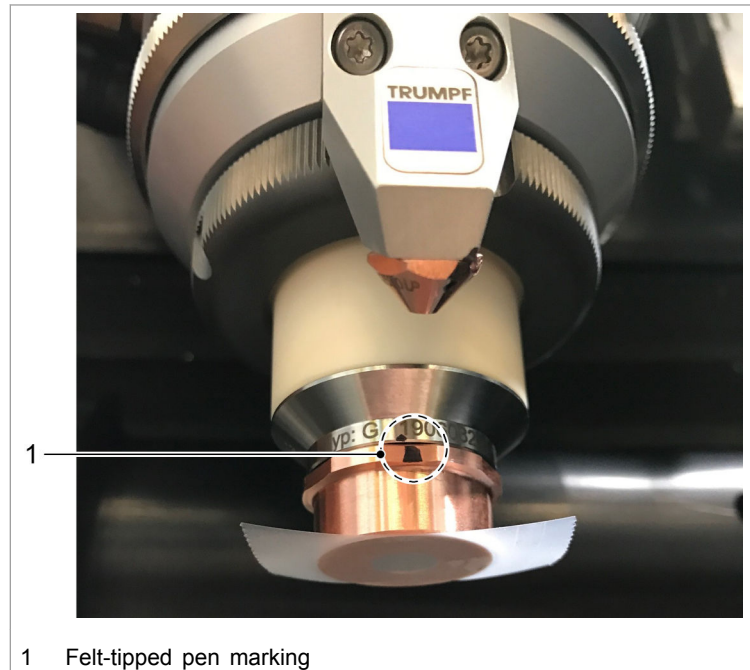
- Adhesive tape.
- Measuring magnifier.
- Felt-tip pen.
- Adjustment aid for cutting head (mat. no. 2277653).
- Small torque tool 4-25 Nm (mat. no. 0137954)
- AF 8 mm fork wrench insert for small torque tool (mat. no. 2350848)

Leveling check

1. Stick adhesive tape on the adjusting device.

Attach adhesive strip to the adjusting device in such a way that it is not tensioned. Make sure there are no fingerprints on the target surface (see "Fig. 93424", pg. 3).

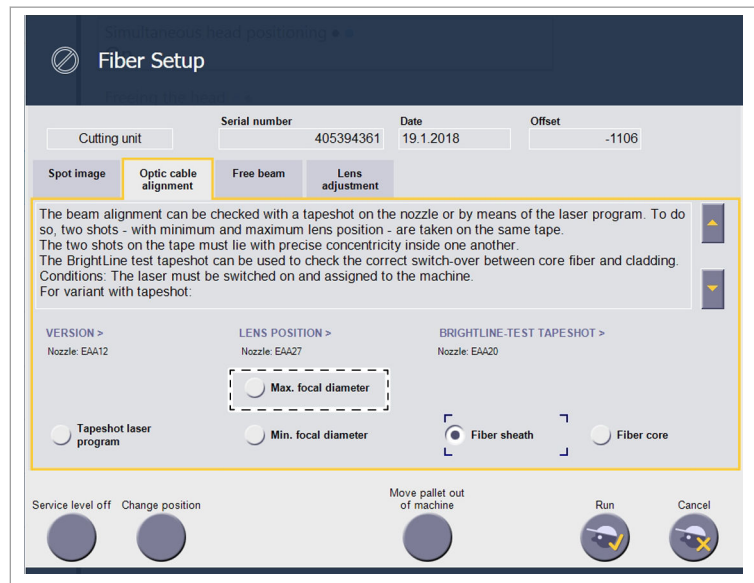
2. Insert adjusting device into the cutting head.
3. With a felt-tipped pen, make a marking in the direction of the lateral air blast nozzle.



Adjusting device with adhesive tape

Fig. 93424

4. Select *Setup*, "Manual functions".
5. At "Laser processing" press *Cutting head*.
6. Press *Cutting unit*.
7. Press *Service level* and enter the password.
8. Select "Fiber optic cable alignment".



Laser light cable alignment

Fig. 93429

9. Select "Tapershot laser program" and "Max. focal diameter".
10. Press *Execute*.

Note

Do not remove the adhesive tape and nozzle!

11. Stick another piece of adhesive tape onto the adjustment device.

Attach adhesive strip in such a way that it is not tensioned. Take care to ensure that there are no fingerprints on the target surface.

12. Select "Tapershot laser program" and "Min. focal diameter".
13. Press *Execute*.
14. Remove nozzle.
15. Use a magnifying glass to check both scorchings.

The small scorching must be centered on the large scorching. The eccentricity must not exceed 3/100 mm.

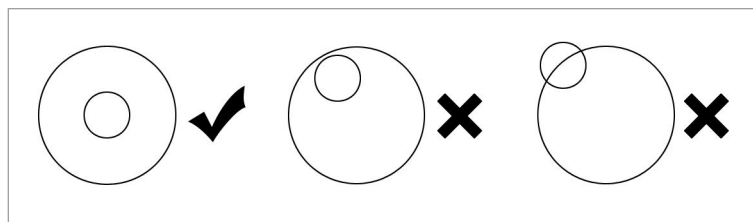


Fig. 66779

16. If required, adjust the laser light cable.

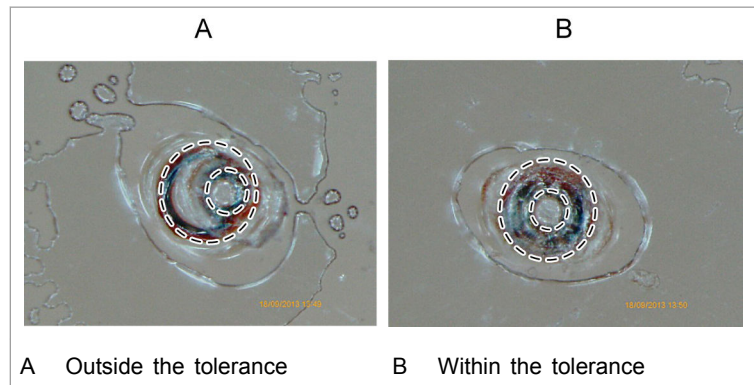


Fig. 70633

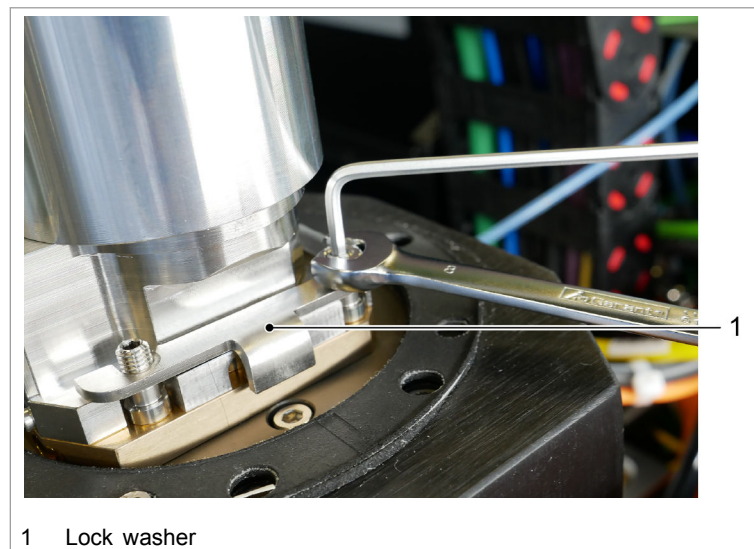
Align the laser light cable to the cutting unit

17. Cutting units KL54 and KL79:

- Check the seal to make sure it is intact.
- Remove the cover from the LLK plug.

18. KL79: Remove the lock washer:

- Fix the stay bolts with an Allen key.
- Remove all 4 nuts.
- Pull out the lock washer.

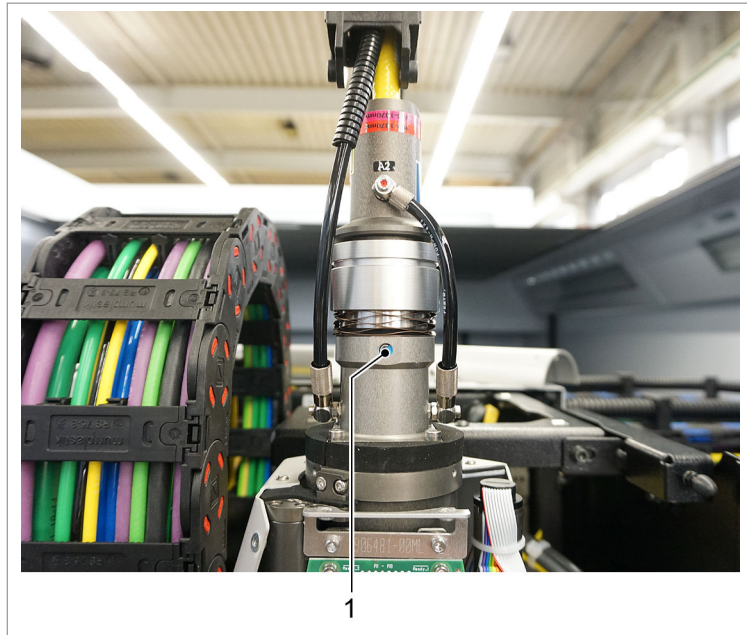


Loosening nuts, securing stay bolts

Fig. 95346

19. KL54 and KL59: Change the input coupling using the 4 adjusting screws.

- If there is an offset in X or Y direction, first unscrew the screw on the opposite side and then screw in the adjusting screw.
- Reinsert the screw on the opposite side (torque 1.5 Nm).
- Do not offset by more than a third of a rotation per correction.

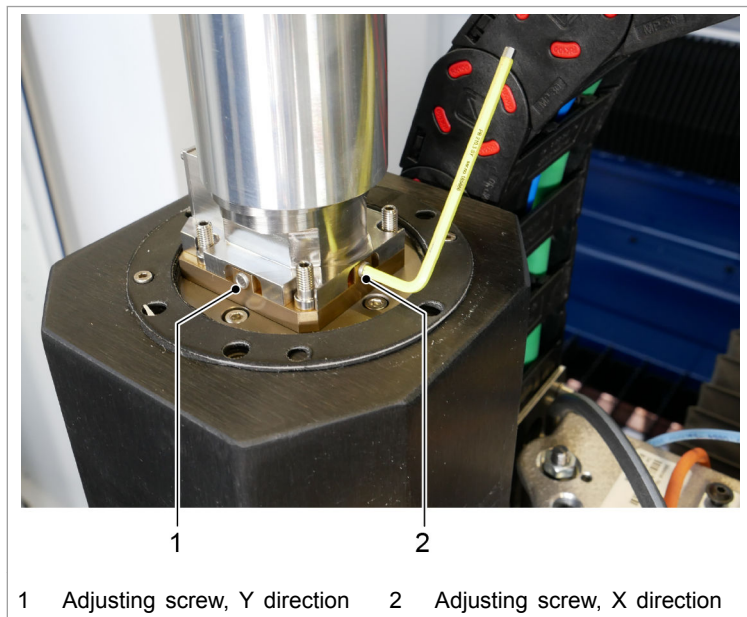


4 adjusting screws on the LLK-D plug on cutting units KL54 and KL59

Fig. 74637

20. KL79: Change the input coupling using the 2 adjusting screws.

Backlash of the two adjusting screws is approx. 1/2 turn.



1 Adjusting screw, Y direction 2 Adjusting screw, X direction

2 adjusting screws on LLK-T plug on cutting unit KL79

Fig. 95347

Notes

- On cutting units KL54 and KL79, the position of the large hole is shifted (maximum focal diameter).

- On cutting unit KL59, the position of the small hole is shifted (minimum focal diameter).
21. Check the alignment of the LLK relative to the cutting unit again.
22. KL79:
- Mount the holding plate.
 - Tighten the nuts for the stay bolts to 4 Nm with the small torque wrench (AF 8 mm).

NOTICE**Pinched water hoses!**

- When mounting the cover, pay attention to the mounting position.

23. KL54 and KL79:
- Mount the cover of the LLK plug.
24. Check the alignment of the LLK relative to the cutting unit again.
25. Deactivate "Service level".
26. Glue the seal onto the seam (KL54: rear, KL79: right side).



TRUMPF seal on the cover of the LKK-T plug

Fig. 95273

