

Operator's manual



TruTool TSC 100 (2A1)

Slat cleaner

Table of contents

1	Safety	3
1.1	General safety information	3
1.2	Specific safety information for slat cleaner	4
2	Description	5
2.1	Intended use	5
2.2	Technical data	7
2.3	Icons	7
2.4	Noise and vibration information	8
3	Setting work	9
3.1	Installing the handle	9
3.2	Installing the transport device.	10
3.3	Selecting tools	10
3.4	Selecting the tool depth	11
3.5	Setting the speed (230 V motor only)	12
4	Operation	13
4.1	Switching on the machine	14
4.2	Switch off the machine.	15
4.3	Operating the remote shutdown	15
4.4	Working with the TruTool TSC 100 (2A1)	16
4.5	Overload protective device on the motor	18
5	Maintenance	19
5.1	Lubricate gearbox	19
5.2	Replacing the tool	20
5.3	Replacing the slide plate	21
5.4	Checking the functional monitoring feature for the seal	21
5.5	Changing the seal	22
5.6	Changing cable connection	23
5.7	Replacing carbon brushes	23
6	Accessories and consumables	24
6.1	Ordering consumables	24

7	Appendix: Declaration of conformity, guarantee, replacement parts lists	26
---	---	----

1. Safety

1.1 General safety information

WARNING

Read all warnings and instructions.

- Failure to follow the warnings and instructions may result in electric shock, fire, and/or serious injuries.
- Keep all warnings and instructions for future reference.

DANGER

Electrical voltage! Risk of fatal injury due to electric shock.

- Remove the plug from the plug socket before undertaking any maintenance work on the machine.
- Check the plug, cable and machine for damage each time before using the machine.
- Keep the machine dry and do not operate it in damp rooms.
- Only use original TRUMPF accessories.

WARNING

Damage to the machine due to improper handling.

- Do not carry the machine by the cable.
- Maintenance may be carried out by trained specialist technicians only.

WARNING

Personal safety

- Wear safety glasses, hearing protection, breathing protection, protective gloves and working shoes when working.
- Connect the plug only when the machine is switched off. Pull the power plug after use.

Note

If the power cable is to be replaced, it should be procured from the manufacturer or an authorized dealer to avoid safety hazards.

1.2 Specific safety information for slat cleaner

DANGER

Electrical voltage! Risk of fatal injury due to electric shock.

- Always lay the power cable away from the back of the device and do not pull it over sharp edges.
- Hold the machine only at the insulated handles (see Fig. 58864) while carrying out work during which the machine could come into contact with hidden power lines or its own cable. Contact with a live conductor can cause metallic machine parts to become live and can lead to an electric shock.

WARNING

Risk of injury to hands.

- Do not reach into the processing line with your hands.
- Use both hands to hold the machine.

WARNING

Risk of injury from falling machine.

- After completing machining, grip the machine by the handle with both hands and place it in a secure position.
- Do not push the machine beyond the slat.

WARNING

Danger of hearing loss due to high noise level during operation.

Noise can lead to permanent hearing loss and to other health risks particularly with exposure over a long period.

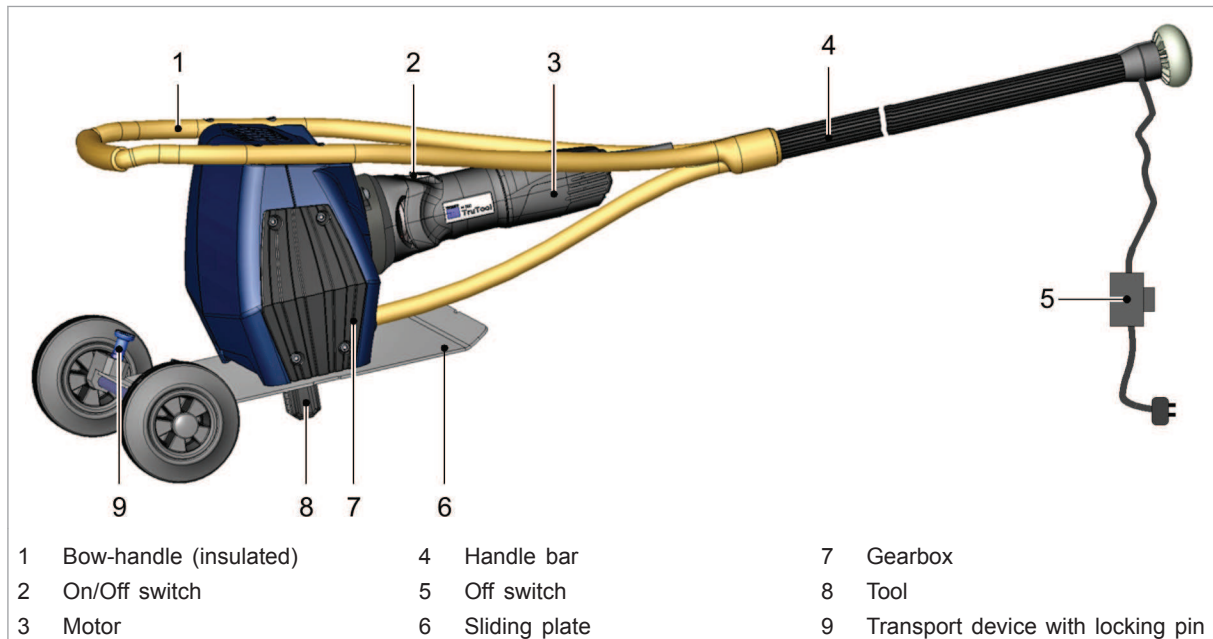
- Wear hearing protection.

WARNING

Health risks especially damage to muscles and joints due to strong vibrations during operation.

- Carry out machining at normal feed power.

2. Description



Slat cleaner TSC 100

Fig. 58864

2.1 Intended use

⚠ DANGER

Electrical voltage. Risk of fatal injury due to electric shock.

- Insert the mains plug into the socket shortly before machining.
- Pull the power plug out of the plug socket after machining.

⚠ WARNING

Damage to the machine due to improper handling.

- Only use the machine for work and materials as described under "Intended use."

The TRUMPF slat cleaner TruTool TSC 100 (2A1) is an electrically powered hand-held device designed for the following applications:



- Removing the slag from the slats of laser flatbed machines.
- Cleaning of installed slats in an upright position.
- Cleaning of slats made from steel, stainless steel and copper.

 **CAUTION**

Continual use of the TruTool TSC 100 can result in excessive wear and this can lead to failure of the slat cleaner.

- During operation use only one slat cleaner for a maximum of two laser flatbed machines that are to be cleaned.
-

2.2 Technical data




	Other countries			USA
	Values			
Voltage	230 V 220 V (China)	120 V	110 V	120 V
Frequency	50/60 Hz			50/60 Hz
Max. slag application, total width	25 mm			
Slat thickness				
With cleaning tool no. 3 (standard)	3 - 3.9 mm			0.12 - 0.15 in
With cleaning tool no. 2 (option)	2 - 2.9 mm			0.08 - 0.12 in
Working Speed	4 - 8 m/min			13 - 26 ft/min
Nominal power consumption	1400 W	1200 W	1140 W	1200 W
Idle speed	1680/min	1280/min	1280/min	1280/min
Weight	18.4 kg			40.6 lbs
Safety classification:	II / 			II / 

Tab. 1

2.3 Icons

Note

The following symbols are important for reading and understanding the operator's manual. The correct interpretation of the symbols will help you operate the machine better and safer.

Icon	Name	Description
	Read operator's manual	Read the operator's manual and safety information in their entirety before starting up the machine. Closely follow the instructions given.
	Safety class II	Indicates a doubly insulated tool.
	Alternating current	Type or property of current
V	Volt	Voltage
A	Ampere	Current, current input
Hz	Hertz	Frequency (oscillations per second)
W	Watt	Power, power input
mm	Millimeters	Dimensions e.g.: material thickness, chamfer length
in	Inch	Dimensions e.g.: material thickness, chamfer length
n_0	Idle speed	Revolution speed without load
.../min	Revolutions/strokes per minute	Revolution speed, stroke rate per minute

Tab. 2

2.4 Noise and vibration information

WARNING

Noise emission value may be exceeded.

- Wear hearing protection.

WARNING

The vibration emission value can be exceeded!

- Select the right tools and exchange them in time in the event of wear.
- Have maintenance carried out by trained specialized technicians.
- Define additional safety measures for protecting the operator from the effect of vibrations (e. g. keep hands warm, organization of working procedures, machining at normal feed force).
- Depending on the operating conditions and state of the electric tool, the actual load might be higher or lower than the specified measured value.

WARNING

Health risks especially damage to muscles and joints due to strong vibrations during operation.

- Carry out machining at normal feed power.

Notes

- The specified vibration emission value was measured in accordance with a standardized testing procedure and can be used to compare one electric tool with another.
- The specified vibration emission value can also be applied for a provisional estimate of the vibration load.
- Times during which either the machine is switched off or running but not actually in use can considerably reduce the vibration load during the entire working period.

Designation of measured value	Unit	Value according to EN 60745
Vibration emission value a_h (vector sum of three directions)	m/s ²	4.7
Uncertainty K for vibration emission value	m/s ²	1.5
A-class acoustic pressure level L_{pA} typically	dB (A)	91
A-class acoustic power level L_{WA} typically	dB (A)	102
Uncertainty K for noise emission value	dB	3

Tab. 3

3. Setting work

3.1 Installing the handle

The handle is supplied as an assembly set. It has to be assembled first before it can be installed on the carrier slat cleaner.

Put together two handle bars (1) with extensions (3) and handles (4) have a length of 1330 mm for the entire handle. This can be extended with a further handle bar (1) and extension (3), e.g. for work on TruLaser 7040.

Assembling the handle

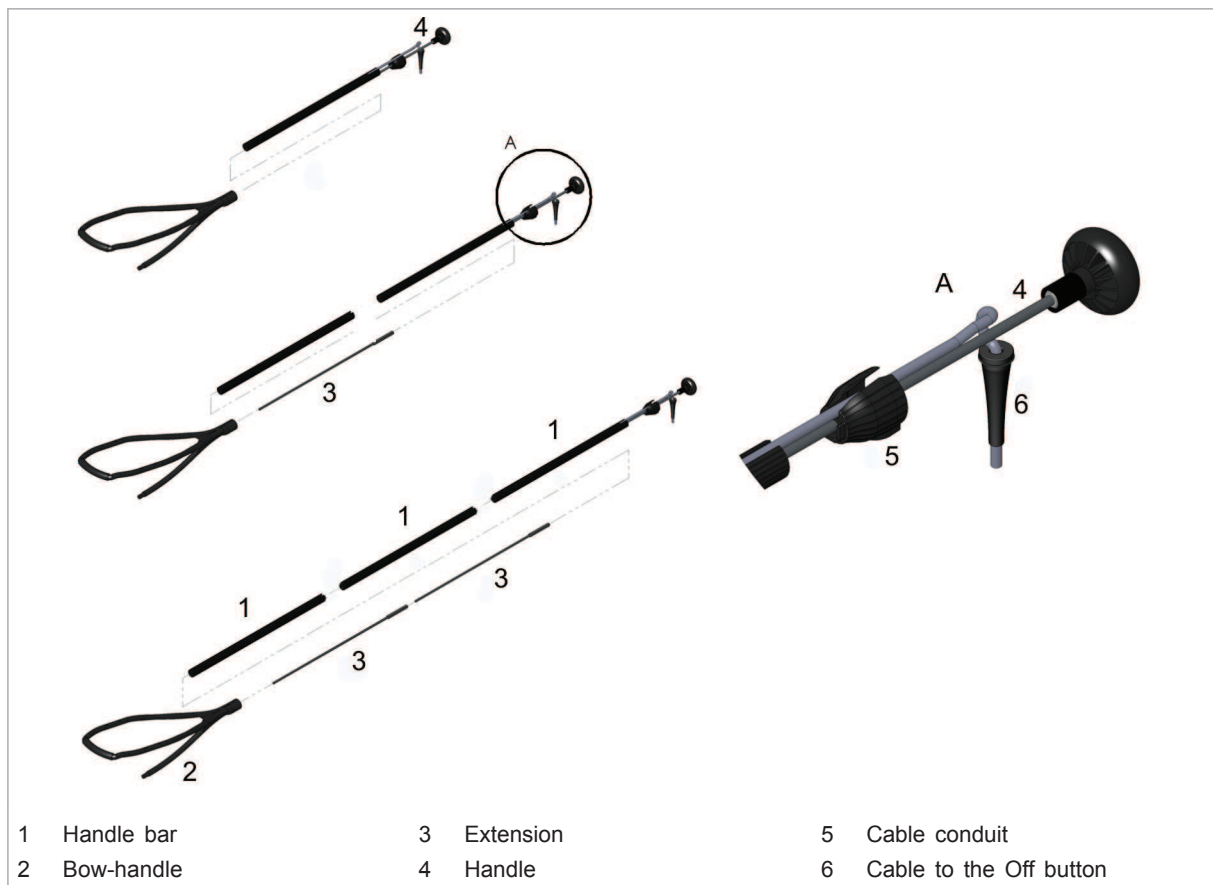


Fig. 58867

1. Screw extension (3) all the way in and if necessary turn it back to the last "90° position".
2. Attach handle bar (1). The slot for the cable conduit is at the "top".
3. Repeat the procedure until the handle bar has the desired length.

Note

When installing the "short" variant, use the handle (4) instead of the extension (3).

4. Insert the cable in the cable duct of the handle bar. While doing so, ensure there is sufficient cable length.

It may be difficult to insert the cable.

- Use hand soap.
5. Attach the cable conduit (5).
 6. Insert the cable sleeve in the cable conduit.
 7. Pull the cable (6) into the cable conduit (5).
 8. Screw on the handle (4) and tighten it.

3.2 Installing the transport device.

The slat cleaner is supplied with a transport device (an axle with 2 wheels) to simplify transportation. The cleaner can be easily moved to the machine on this (see Section Description, Fig. 58864).

1. Pull both the locking pins on the transport device and rotate them by 90° to secure them in an open state.
2. Place the transport device in front on the slide plate of the slat cleaner (locking pins point to the housing).
3. Rotate locking pins by 90° and lock them in.

3.3 Selecting tools

Depending on the thickness of the slats, certain tools must be selected:

Slat thickness	Tool (2 piece set)
2 - 2.9 mm (0.078 - 0.114 in)	Order no. 1644868
3 - 3.9 mm (0.118 - 0.154 in)	Order no. 1644867

Tab. 4

Note

Cleaning the slats requires a lot of force if the wrong tool is selected. Therefore, take care not to use the tool for 2 mm thick slats for cleaning 3 mm thick slats, for example. The cleaning power is lower in this case.

3.4 Selecting the tool depth

The cleaning depth can be changed via an intermediate plate.

If the difference in height between the cross slat and the slat is more than 60 mm, the spacer plate (3) can be removed. This will increase the cleaning depth.

Note

If the spacer plate is removed, the supplied shorter screws (screw set 1801085) should be used.

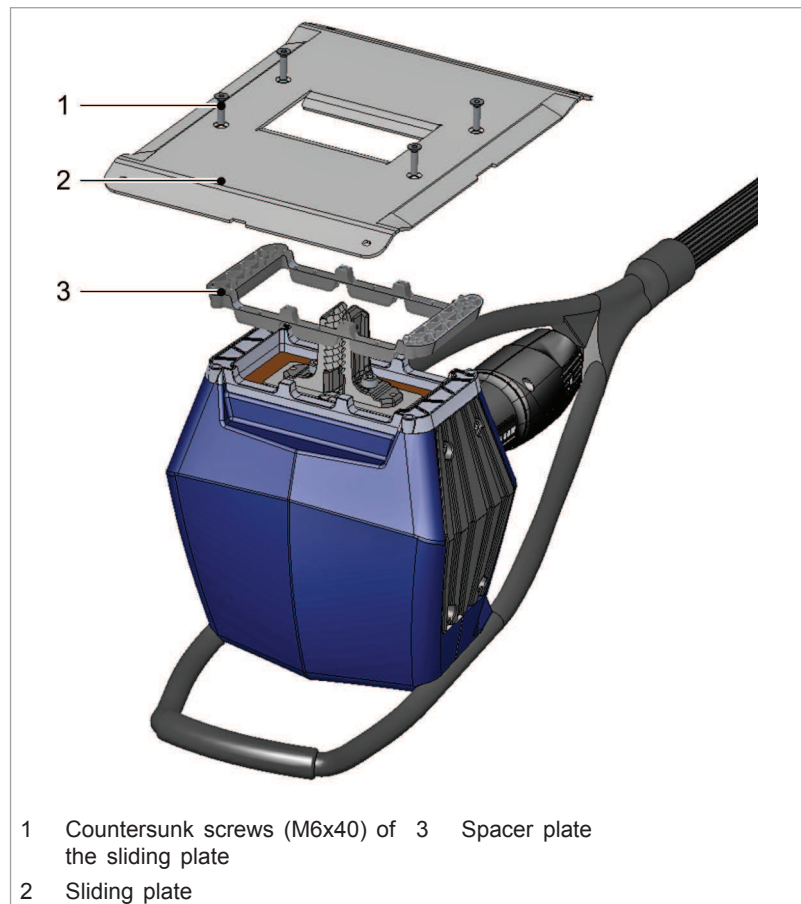


Fig. 62052

3.5 Setting the speed (230 V motor only)

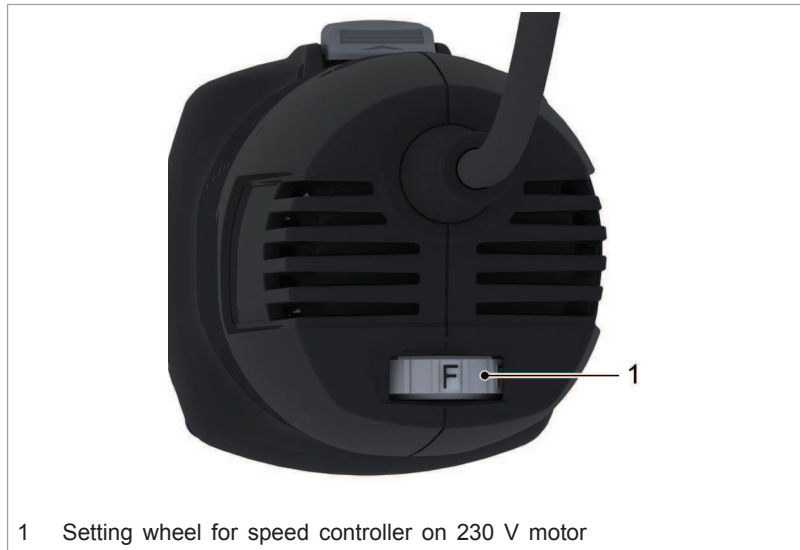


Fig. 80902

- Always set setting wheel for speed controller on motor to F stage.

4. Operation

⚠ DANGER**Electrical voltage. Risk of fatal injury due to electric shock.**

- Do not bring the cable near the tool.
 - Check the cable for damage, also along the handle bar.
-

⚠ WARNING**Damage to the machine due to improper handling.**

- Make sure the machine is always in a stable position when operating it.
 - Keep hands away from the machining line of the machine.
 - Do not reach in between tool parts with your hands.
-

⚠ CAUTION**Damage to property due to excessively high line voltage!****Motor damage.**

- Check the power supply voltage. The power supply voltage must correspond to the information on the nameplate of the machine.
-

⚠ CAUTION**Material damage due to worn seals!****Transmission damage.**

- Check the sliding disks each time before using the tool and replace them in the event of damage. Switch the machine off and replace the seal if the outer seal functional monitoring indicator flashes continuously (see ["Changing the seal", pg. 22](#)).
-

Note

The TruTool TSC 100 (2A1) must not be inserted in an overhead or horizontal position.

Tip

Frequent cleaning with low slag application goes easy on the machine and reduces the force to be applied by the operator.

4.1 Switching on the machine

NOTICE

Danger of a running machine!

- If the machine is pushed beyond the slats or if danger arises, use the switch on the cable.



Fig. 59084

1. Place the machine on the carrier slats.
2. Remove the transport device.
3. Insert the mains plug.
4. Attach the Off switch inserted in the cable with a clip to the belt.
5. Check if the button is lit up in green. If not, press the button.
6. Check the functional monitoring feature for the seal (see ["Checking the functional monitoring feature for the seal"](#), pg. 21).



Fig. 59085

7. Push the On/Off switch forwards until it engages.

4.2 Switch off the machine.

- Press the rear part of the On/Off switch.
The motor is stopped.

4.3 Operating the remote shutdown

Note

If the machine becomes jammed on the carrier slats and the Off switch cannot be accessed, alternatively the Off switch on the cable can be operated.



Off switch on the cable

Fig. 62053

- Press the green button.
- The machine is switched off.

4.4 Working with the TruTool TSC 100 (2A1)

Note

Cleaning can also be carried out at the same time as laser processing.

⚠ WARNING

Risk of injury from falling machine.

- After completing machining, grip the machine by the handle with both hands and place it in a secure position.
- Do not push the machine beyond the slat.

NOTICE

Collision of the raised carrier slats with the cutting head and/or sheet!

- Check whether the carrier slats have been re-applied correctly (they are sometimes raised during cleaning) after cleaning.

⚠ CAUTION

Damage to the machine due to a faulty seal!

- Switch the machine off and replace the seal if the outer seal functional monitoring indicator flashes continuously.

- Cleaning the slat** 1. Place the machine on a carrier slat.

Tip

Simple retention slats for securing the carrier slats are installed on the pallet frame. The available threads can be used for fastening.

2. Switch on the machine.
3. Move the machine from one side of the slat to the other side.
- Crossing cross-slats** 4. Cleaning carrier slats with low or high cross-slats
- Clean the entire slat length in the event of low cross-slats.

or

- Clean the pallet segment by segment in the event of high cross-slats. I. e. clean the entire front third first etc.

Placing the machine on the next slat



Fig. 59086

5. Raise the machine by the handle until the tool is above the slats.
6. Swing the cleaner to the next slat, pull it over and lower it so that the slat is between the tool.

4.5 Overload protective device on the motor

Notes

- The appliance may switch off prematurely when affected by electromagnetic interference. The appliance will resume operation when the faults have been cleared.
 - If the motor temperature is too high, the motor will switch off.
1. Allow the machine to run in idle until it has cooled down.
 2. Operate the machine normally after it has cooled down.
 3. Place the machine on the slats and continue working.

5. Maintenance

⚠ DANGER

Electrical voltage! Risk of fatal injury due to electric shock.

- Remove the plug from the plug socket before undertaking any maintenance work on the machine.

⚠ WARNING

Risk of injury due to incorrect repair work

Machine does not work properly.

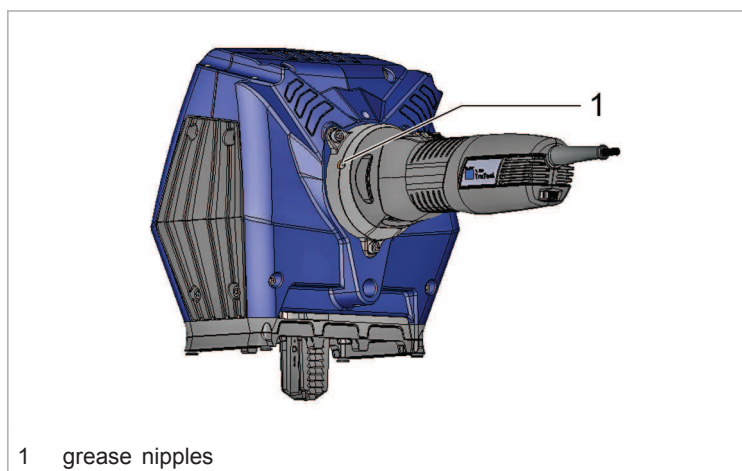
- Maintenance may be carried out by trained specialist technicians only.
- Only use original TRUMPF accessories.

Maintenance point	Procedure and interval
Tool	Change as needed.
Tool	If necessary, check the tool gaps for contamination and clean them if necessary.
Sliding disks, outer seal	Check the sliding disks each time before using the tool and replace them in the event of damage. Switch the machine off and replace the seal if the outer seal functional monitoring indicator flashes continuously.
Sliding disks, outer seal, seal	Check the sliding disks and the seal after 10 hours or each time after changing the tool and replace them in the event of damage.
Lubricate gearbox	After 10 hours, lubricate the gearbox at the grease nipple with a stroke from the grease gun.

Maintenance positions and maintenance intervals

Tab. 5

5.1 Lubricate gearbox



Lubricate gearbox

Fig. 94172

- Lubricate the gearbox at the grease nipple with a stroke from the grease gun.

5.2 Replacing the tool

Notes

- Tools cannot be reground.
- Decreasing cleaning performance indicates worn cleaning tools.
- Regularly check seals (see ["Checking the functional monitoring feature for the seal"](#), pg. 21). Switch the machine off and replace the seal if the outer seal functional monitoring indicator flashes continuously (see ["Changing the seal"](#), pg. 22).

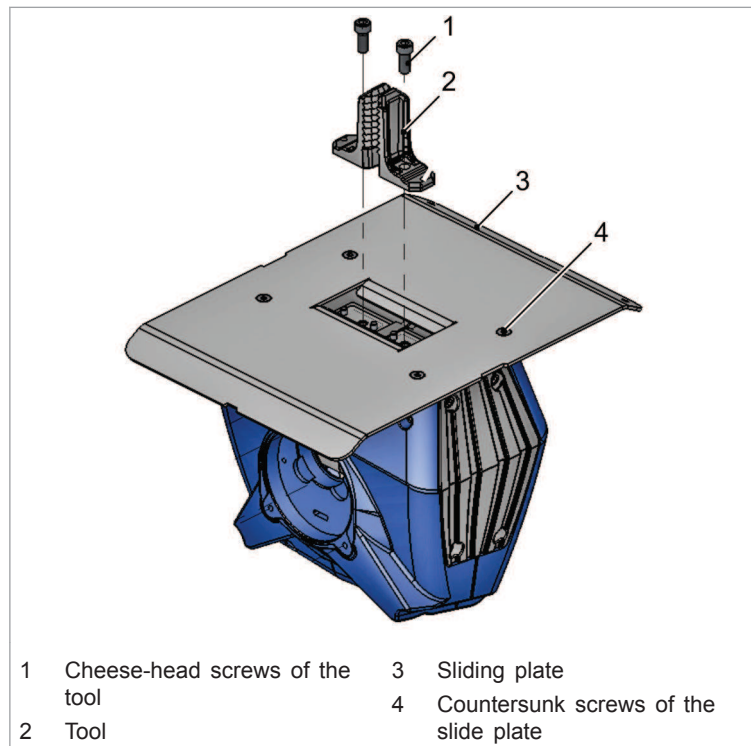


Fig. 58871

1. Remove both cheese-head screws (with hexagonal socket, 1).
2. Remove tool (2).
3. Insert new tool.
4. Tighten cheese-head screws.

5.3 Replacing the slide plate

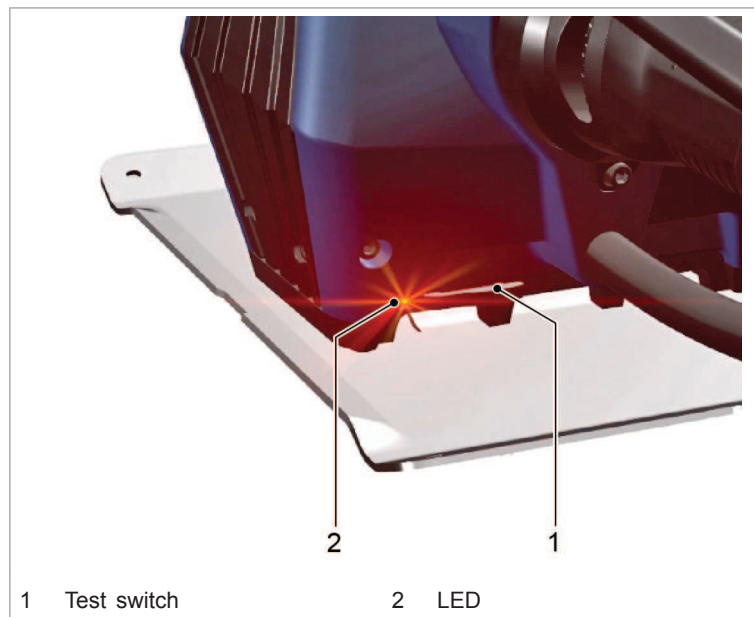
Note

In the case of irregular wear, the slide plate must be replaced.

1. Undo the 4 countersunk screws (with hexagonal socket, 4).
2. Replace the slide plate.
3. Screw in and tighten screws.

5.4 Checking the functional monitoring feature for the seal

The seal is equipped with a functional monitoring feature. Check the seal and the functional monitoring feature each time before use.



Seal functional monitoring feature

Fig. 78432

- Briefly press the test switch (1).

The functional monitoring feature is operational if the LED (2) flashes three times. If not, this means that the seal is faulty and that it has to be replaced.

5.5 Changing the seal

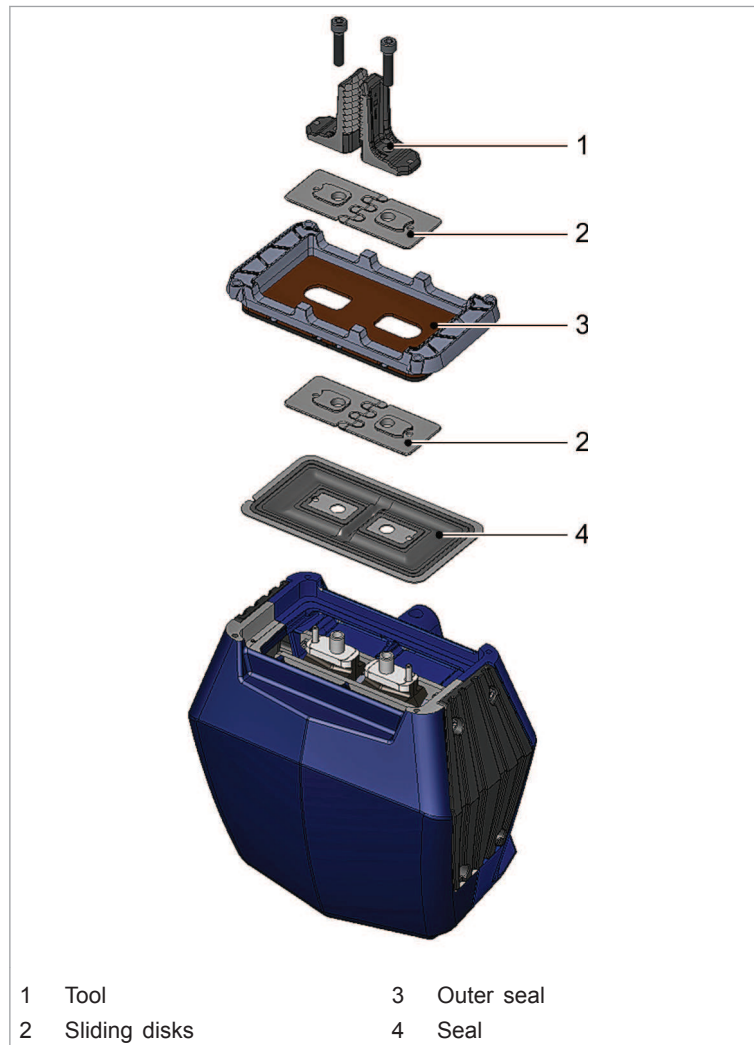


Fig. 62420

1. Remove the tool and slide plate.
 2. Remove the outer seal (3) together with sliding disks (2).
 3. Remove the (inner) sliding disks.
 4. Check the seal (4) for cracks and replace, if necessary.
 5. Re-attach the sliding disks (2).
 6. Check the outer seal (3) for wear and replace, if necessary.
- Do not dispose the old seal in domestic waste, instead dispose of it as electrical waste.
7. Re-attach the sliding disks (2).
 8. Mount the tool and the slide plate.

5.6 Changing cable connection

If the power cable is to be replaced, it should be procured from the manufacturer or an authorized dealer to avoid safety hazards.

Note

For TRUMPF service addresses, see www.trumpf-power-tools.com.

5.7 Replacing carbon brushes

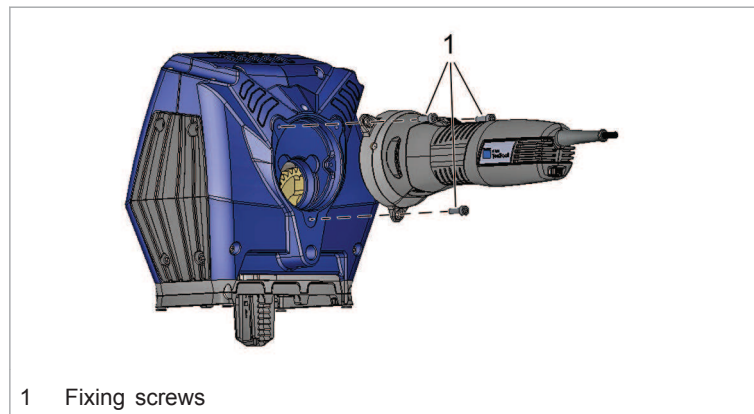
The motor comes to a standstill whenever the carbon brushes are worn out.

Note

For TRUMPF service addresses, see www.trumpf-power-tools.com.

1. Change the carbon brushes.

After exchanging the carbon brushes, the machine must be operated without load for 10 minutes.



Removing the gear head

Fig. 94173

2. Unscrew fastening screws (1) and remove the motor from the gear head.
3. Operate the motor for 10 minutes.
4. Connect the motor with the gear head and fasten the fastening screws (1) again.

6. Accessories and consumables

	Scope of delivery	Consumables	Accessories	Order number
Standard tool no. 2 (two-piece set)	-	x	x	1644868
Standard tool no. 3 (2-piece set)	x	x	-	1644867
Sliding disks cpl. (4 sliding disks, 1 outer seal, 1 seal)	x	x	-	1681498
Outer seal	x	x	-	2046587
Seal	x	x	-	1633583
Spacer plate	x	-	-	1734714
Handle cpl.	x	-	-	1819918
Screw M6x25 (four-piece set)	x	-	x	1801085
Transport device	x	-	-	1634956
Allen key-4	x	-	-	0369003
Allen key-6	x	-	-	0118860
Operator's manual TSC 100 (1A1)	x	-	-	1644860
Operator's manual TSC 100 (2A1)				1893430
Grease gun lubricating grease "G1", 70 g	x	-	-	1369906
Lubricating grease "G1" can 900 g	-	x	-	0139440
Safety information (red document)	x	-	-	0125699

Tab. 6

6.1 Ordering consumables

Note

The following data must be specified in order to ensure that parts are delivered correctly and without delay.

1. Specify the order number.
2. Enter further order data:
 - Voltage data
 - Quantity
 - Machine type
3. Specify the complete shipping information:
 - Correct address.
 - Desired delivery type (e.g. air mail, courier, express mail, ordinary freight, parcel post).

Note

For TRUMPF service addresses, see www.trumpf-powertools.com.

-
4. Send the order to the TRUMPF representative office.

**7. Appendix: Declaration of conformity,
guarantee, replacement parts lists**