

Operator's manual



TruTool TKF 2000 (1A1), (1C1)

english

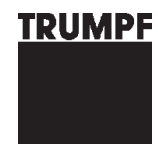


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1. Safety

1.1 General safety information

WARNING



- Read all the safety information and instructions including those in the brochure also supplied.
- Failure to comply with the safety information and instructions can cause electric shock, burns and/or serious injury.
- Retain all the safety information and instructions for future use.

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.
- Connect the fault current (FI) circuit breaker with a maximum breaking current of 30 mA when using the electric tool outside.
- Protect the machine cable in areas where there are sparks.
- Only use original TRUMPF accessories.

WARNING

Damage to the machine due to improper handling.

- Wear safety glasses, hearing protection, protective gloves and work shoes when working at the machine.
- Do not insert the plug unless the machine is switched off. After use, pull out the power plug.
- Do not use the cable to carry the machine.
- Maintenance may be carried out by trained specialist technicians only.

1.2 Specific safety information for beveler

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.
- Do not perform any work that may cause the machine to 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.

**⚠ DANGER****Risk of injury due to weight of machine!**

- This machine is too heavy for one person. It should only be operated using a crane (suspension) or with a second person.
- After machining the workpiece, the full machine weight must be taken up.

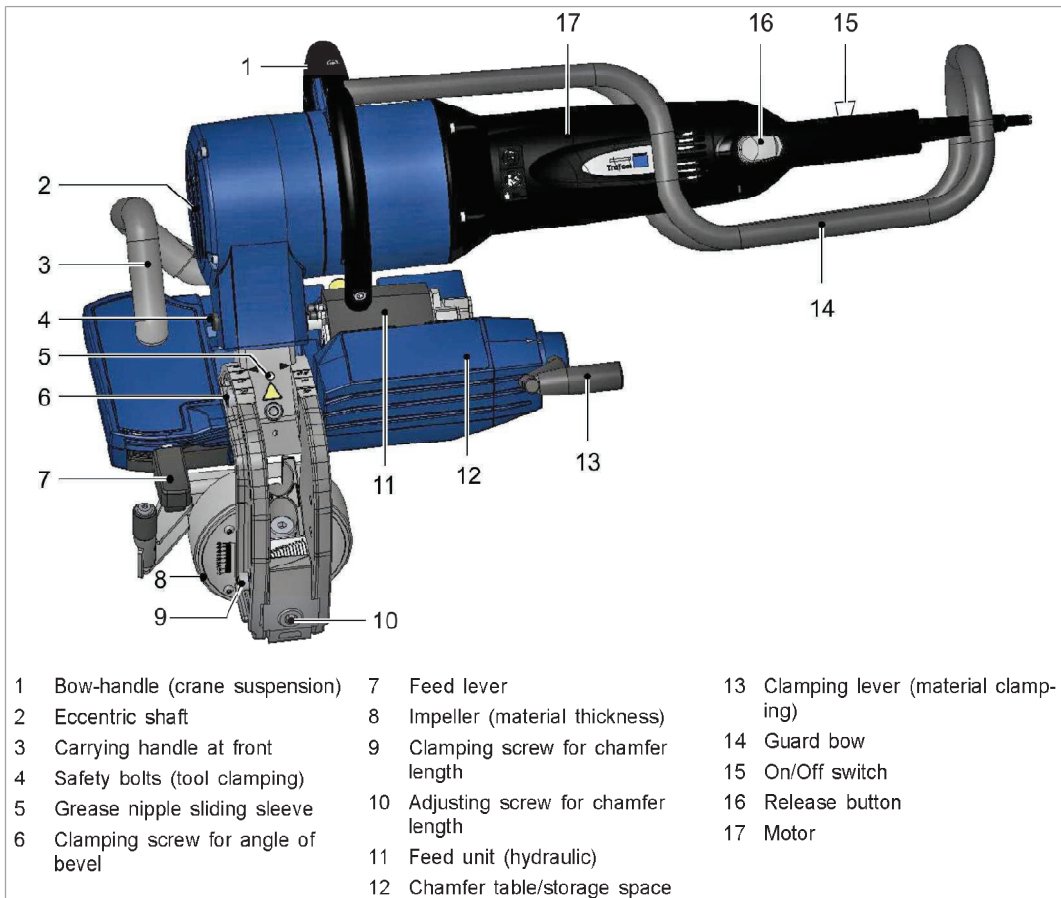
⚠ WARNING**Risk of injury to hands.**

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

⚠ WARNING**Risk of injury from hot and sharp chips!****Chips exit the chip ejector at high speed.**

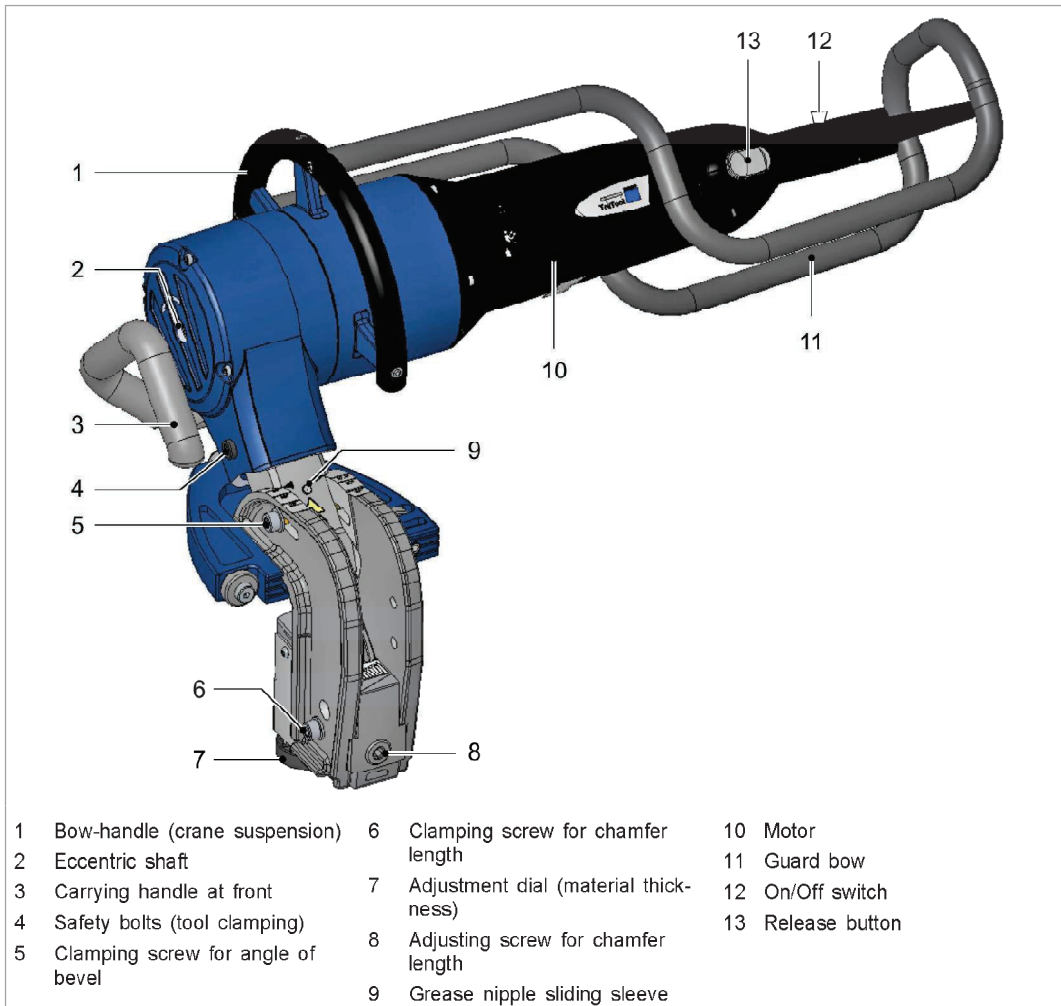
- Use the chip box.

2. Description



Beveler TruTool TKF 2000 (1C1), self-propelling

Fig. 61057



Beveler TruTool TKF 2000 (1A1), not self-propelling



Fig. 61058

2.1 Intended use

The TRUMPF TruTool TKF 2000 beveler is an electrical powered hand-held device designed for the following applications:

- Preparation of all K-, V-, X- and Y-shaped welding grooves usual for gas and electrical fusion welding with various continuously adjustable angles of bevel and continuously adjustable lengths of bevels.
- Forming of uniform, oxide-free, bright metallic welding bevel edges in steel and aluminum.
- Beveling of edges on large, bulky workpieces by using the beveler as a hand-held device.

2.2 Technical data





	TruTool TKF 2000 (1C1), self-propelling	TruTool TKF 2000 (1A1), not self-propelling
Voltage	230 V	230 V
Frequency	50 Hz	50 Hz
Max. length of bevel "L _s " continuously adjustable:		
Mild steel with 400 N/mm ²	20 mm	20 mm
Mild steel with 600 N/mm ²	13 mm	13 mm
Aluminum with 250 N/mm ²	20 mm	20 mm
Material thickness	10-50 mm	10-50 mm
Working speed	max. 1.4 m/min	max. 1.4 m/min
Nominal power consumption	2500 W / 2300 W(CH)	2500 W / 2300 W(CH)
Idle speed	250/min	250/min
Weight	46 kg	32.5 kg
Angle of bevel "β" continuously adjustable	20°-55°	20°-55°
Smallest radius with inner cutouts	500 mm	125 mm
Safety class	II / 	II / 



Tab. 1

2.3 Symbols

Note

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

Symbol	Name	Meaning
	Read operating manual	Read the operator's manual and safety information in their entirety before starting up the machine. Closely follow the instructions given.
	Observe high machine weight.	This machine is too heavy for one person. It should only be operated using a crane (suspension) or with a second person!
	Wear safety glasses.	Chips exit the chip ejector at high speed.
	Risk of injury through crushing of the hand.	Do not reach into the processing line with your hands.

Symbol	Name	Meaning
	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	Inches	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

Vibration emission value may be exceeded.

- Select tools correctly and replace them promptly when they show wear.
- Maintenance may be carried out by trained specialist technicians only.
- Establish additional safety precautions for the protection of the operator against the effects of vibrations (e.g. keeping hands warm, organizing the work sequences, machining with 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.
- Times during which the machine works independently and self-propelled do not have to be calculated.



Designation of measured value	Unit	Value according to EN 60745
Vibration emission value a_h (vector sum of three directions)	m/s ²	8.3
Uncertainty K for vibration emission value	m/s ²	1.6
A-class acoustic pressure level L_{PA} typically	dB (A)	88
A-class acoustic power level L_{WA} typically	dB (A)	99
Uncertainty K for noise emission value	dB	3

Tab. 3

3. Setting work

3.1 Assembly

Note

The machine is delivered dismantled into the drive unit and the tool carrier with a hydraulically-operated feed unit.

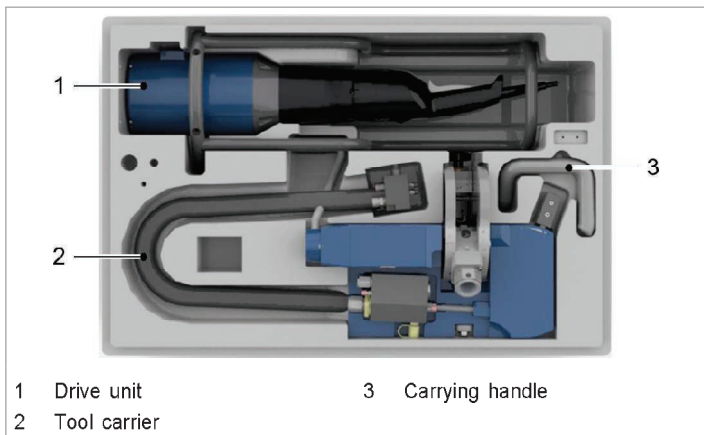


Fig. 60511

Mounting the carrying handle

1. Screw the carrying handle (3) on tight at the front of the gear head using two hexagon-head screws.

Set the cutting tool



Fig. 61076

2. Screw the cutting tool into the ram.
3. Using the adjusting gauge, set the cutting tool to the setting dimension 99 mm.
4. Align the cutting tool, observing the bevel grind while doing so.

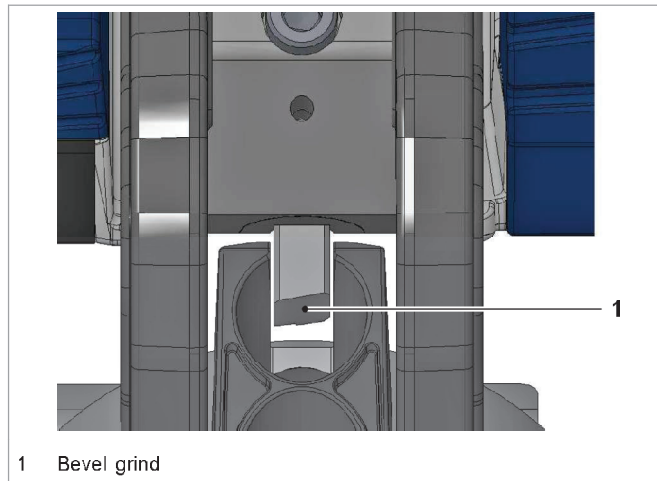


Fig. 61182

Mount the drive unit onto the feed unit

Note

Installation of the machine is only possible at an angle adjustment of 20°-50°.

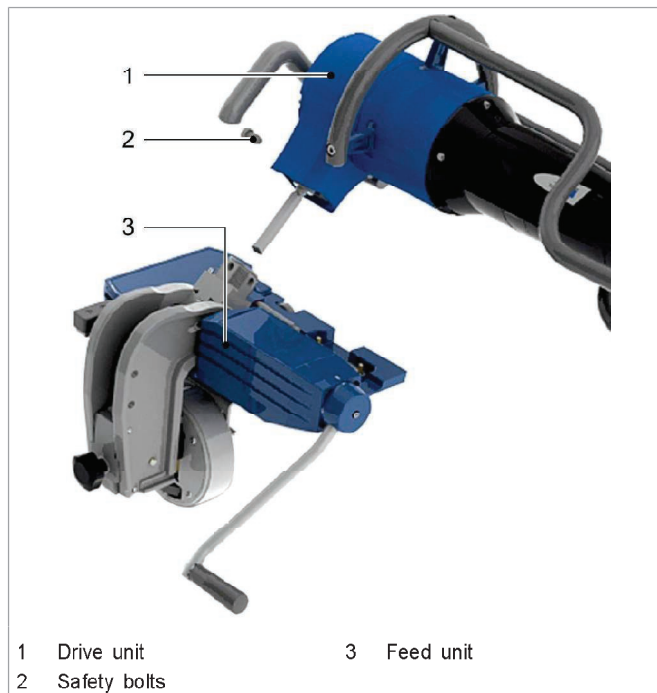


Fig. 61077

5. Unscrew the safety bolt (2) prior to retracting.
6. Retract the drive unit (inc. cutting tool) (1) under 45° into the feed unit (3).
7. Tighten the safety bolt (2) on the gear head.

Mount the master cylinder
onto the drive unit

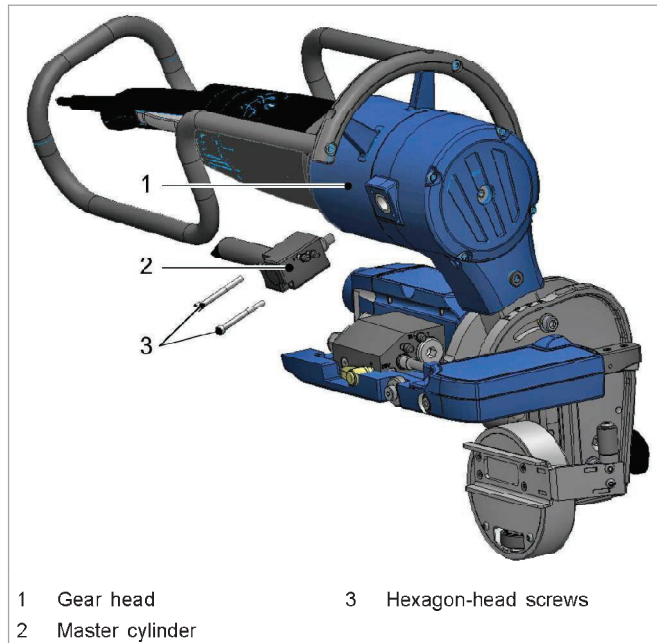




Fig. 60830

8. Remove the cover plate with an Allen key.
9. Screw the master cylinder (2) tightly onto the gear head using two hexagon-head screws (3).

3.2 Selecting cutting tool

Cutting tool	HighQuality	LongLife
Order no.	1649992	1591279
Application	Stepper tool for improved chamfer quality (only in the direction of the automatic feed) Can be used once per regrinding step	Can be used up to 4 times per regrinding step
Regrinding diagram		
Angle	10° / 15°	0°
Regrinding reserve	10 mm	10 mm

Cutting tools for the TruTool TKF 2000 beveler (1A1), (1C1)

Tab. 4

Mount cutting tool (see "Changing the cutting tool", pg. 27)

3.3 Adjusting the angle of bevel

Notes

- The angle of bevel "β" is continuously adjustable between 20° and 55°.
- In order to make setting easier, clamp the machine to the sheet.

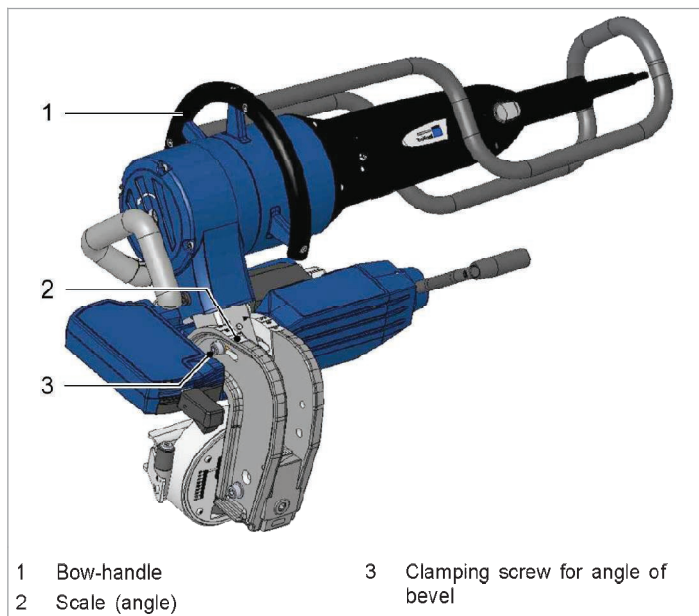


Fig. 61059

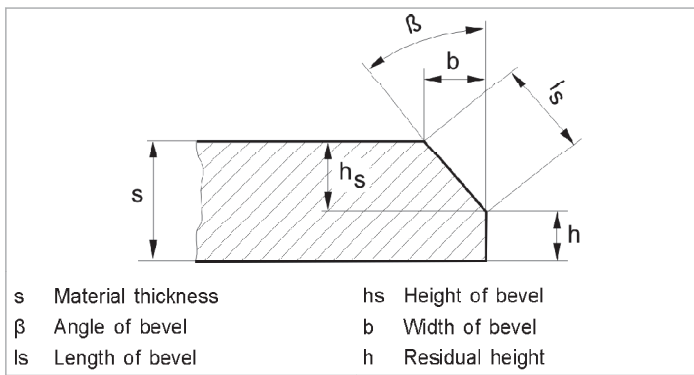
1. Undo the clamping screw for the angle of bevel (3).
2. Set the desired angle in accordance with the scale (2).
3. Retighten the clamping screw for the angle of bevel (3).

3.4 Setting the chamfer length

β/b	16	15	14	13	12	11	10	9	8	7	6	5	mm
	19.5	18.3	17.1	15.9	14.6	13.4	12.2	11.0	9.8	8.5	7.3	6.1	ls
55°	11.2	10.5	9.8	9.1	8.4	7.7	7.0	6.3	5.6	4.9	4.2	3.5	hs
	-	-	19.8	18.4	17.0	15.6	14.1	12.7	11.3	9.9	8.5	7.1	ls
45°	-	-	14.0	13.0	12.0	11.0	10.0	9.0	8.0	7.0	6.0	5.0	hs
	-	-	-	-	19.7	18.1	16.4	14.8	13.1	11.5	9.9	8.2	ls
37.5°	-	-	-	-	15.6	14.3	13.0	11.7	10.4	9.1	7.8	6.5	hs
	-	-	-	-	-	-	20.0	18.0	16.0	14.0	12.0	10.0	ls
30°	-	-	-	-	-	-	17.3	15.6	13.8	12.1	10.4	8.7	hs
	-	-	-	-	-	-	-	-	-	20.5	17.5	14.6	ls
20°	-	-	-	-	-	-	-	-	-	19.2	16.5	13.7	hs

Chamfer table

Fig. 61071



Length of bevel and angle of bevel

Fig. 9664

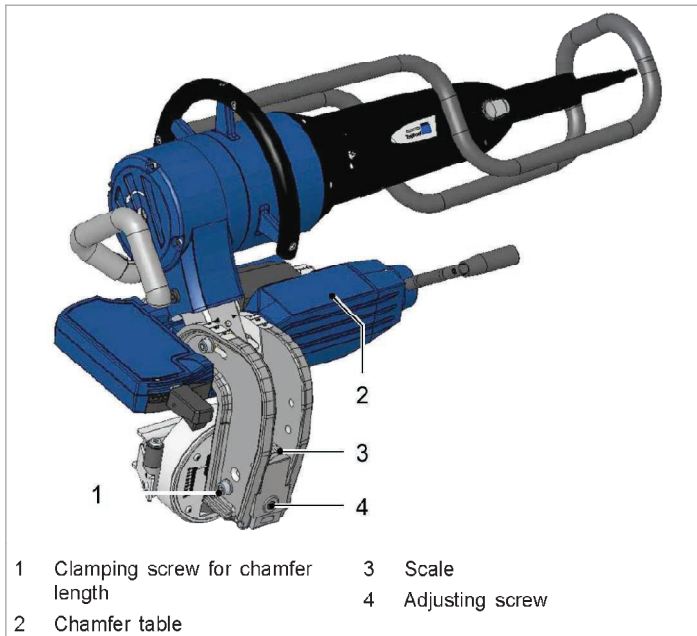


Fig. 61062

Note

The length of bevel l_b can be set between 5-20 mm. Incorrect setting of the machine may cause collisions.

1. Undo the clamping screw for the chamfer length (1).
2. Read off the required length of bevel from the chamfer table (see "Fig. 61071", pg. 15).
3. Turn the adjusting screw for the chamfer length (4) until the required value is shown on the scale (3).
4. Retighten the clamping screw for chamfer length (1).

3.5 Setting material thickness**Notes**

- The material thickness is adjustable from 10-50 mm.
- Guide the machine to the sheet to make setting easier.

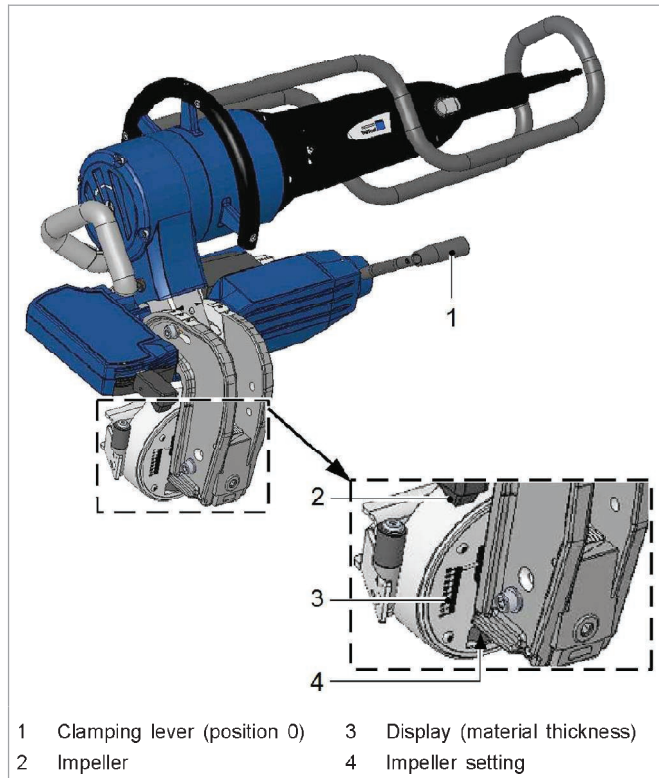


Fig. 61061

1. Set the clamping lever (1) to position 0 (center position, see Fig. 61061).
2. Unlock the impeller setting (4) (pull downwards)
3. Turn the adjustment dial until the impeller (2) is up against the sheet.
4. Secure the adjustment dial again (press upwards).

3.6 Clamping the TruTool TKF 2000 (1C1)

Note

Always carry out setting work in position 0.

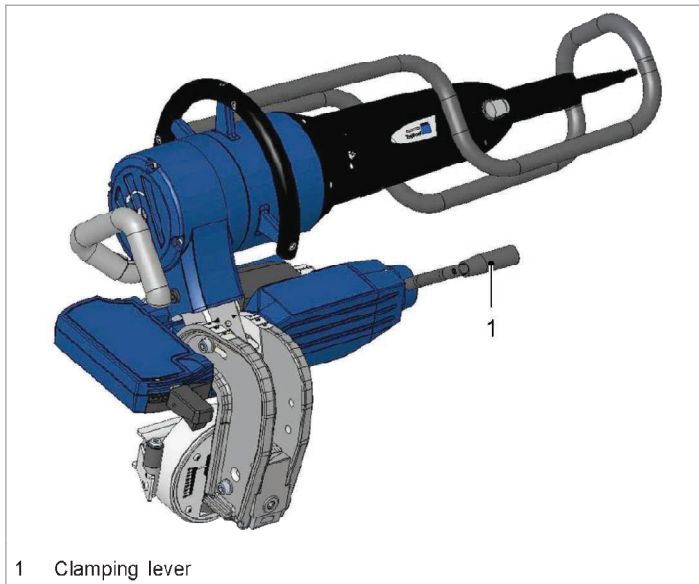


Fig. 61064

Open (Retract/extend)	Item 0 (Setup) (see "Fig. 61064", pg. 18)	Clamps (Process)

Clamping lever positions

Tab. 5

- Pull the clamping lever (1) downwards (clamping position).

3.7 Offset the feed on TruTool TKF 2000 (1C1)

Notes

- Always carry out setting work in position 0 (= no feed).
- The working speed can be changed in small steps of max. 1.4 m/min.
- The best cut quality depending on the material) lies at approx. 2/3 of the maximum feed rate (equals approx. 0.8 m/min).

CAUTION

Risk of injury from drive deceleration!

On switching off the motor, the drive will run down.

- The feed can be stopped immediately using the feed lever.

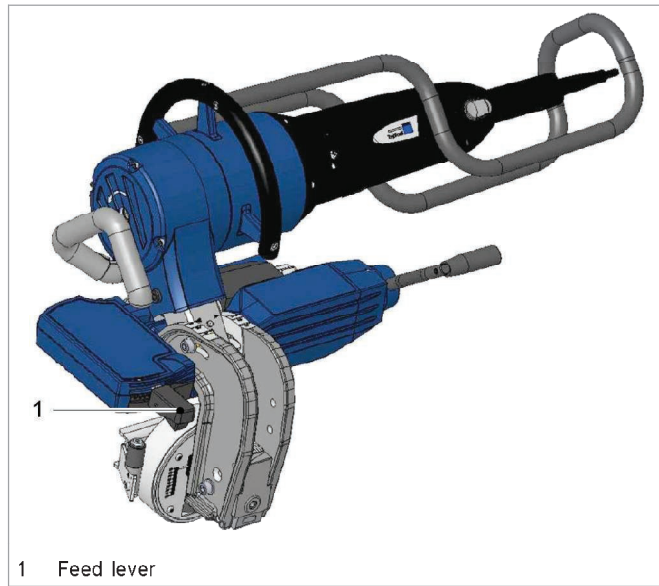


Fig. 61063

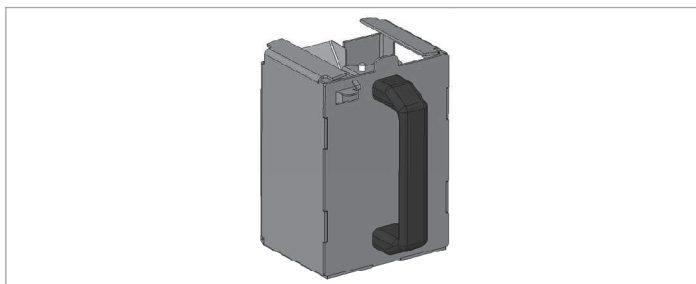
1. Enable the feed lever (1) (press the switch).
2. Set the feed lever to the required working speed.
3. Release the feed lever. Check whether it is engaged.

3.8 Accessories

Chip box TruTool TKF 2000

In order to collect the chips, a chip box can be mounted. This will hold approx. 5-6 m.

The chip box is secured against dropping out.



Chip box TruTool TKF 2000

Fig. 61068

- Assembly**
1. Insert the chip box from the rear into the side recesses until it engages.



- Remove**
2. Push the spring steel plate upwards and pull out the chip box.

Workstation TruTool TKF 2000 (1A1)

In order to machine small parts and/or rod material, the machine can be mounted onto the workstation using the adaptor block.



Adapter block for workstation

Fig. 61070

1. Screw the adapter block onto the workstation.
2. Screw the machine sides tightly to the workstation.

Machine stand TruTool TKF 2000

The TruTool TKF 2000 (1A1), (1C1) can be installed in the pedestal to store the machine safely.

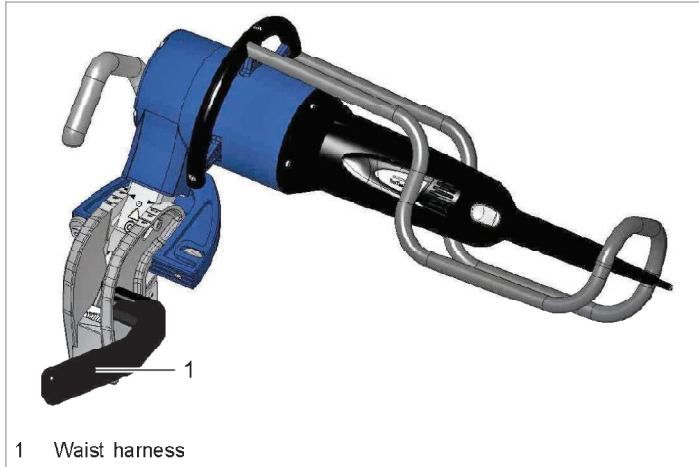


Pedestal

Fig. 61179

Lap bar TruTool TKF 2000 (1A1)

For improved guidance on long and straight edges, the lap bar included in delivery can be used.



1 Waist harness

Fig. 61158

4. Operation

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.
- Do not perform any work that may cause the machine to 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.

DANGER

Risk of injury due to weight of machine!

- This machine is too heavy for one person. It should only be operated using a crane (suspension) or with a second person.
- After machining the workpiece, the full machine weight must be taken up.

WARNING

Damage to the machine due to improper handling.

- Make sure the machine is always in a stable position when operating it.
- Never touch the tool while the machine is running.
- Always operate the machine away from your body.
- Do not operate the machine above your head.

CAUTION

Damage to property due to excessively high line voltage

Motor damage

- Check the line voltage. The power supply voltage must correspond to the information on the nameplate of the machine.
- When using an extension cord that is longer than 5 m, the cord must have a line diameter of at least 2.5 mm².

Monitoring during operation

During operation, at an interval of approx. 20 m, the grease nipple on the supporting body should be lubricated with one or two squirts of grease. Doing so prolongs the service life of the cutting tool.

Lubricating oil

In order to improve the cutting result and increase the service life of the cutting tool, coat the cutting track with oil before machining the workpiece.



Material	Oil
Steel	Punching and nibbling oil (0.5 l, Order No. 0103387)
Aluminium	Punching and nibbling oil for aluminum (1 l, Order No. 0125874)

Tab. 6

4.1 Switching the TruTool TKF 2000 on and off

Condition

- All setting work has been carried out.

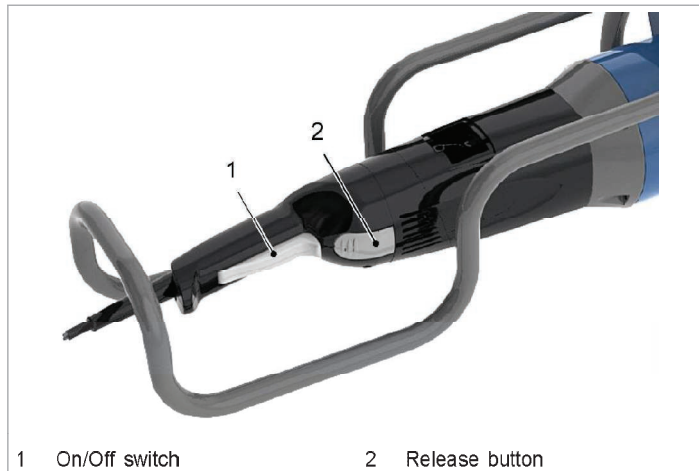


Fig. 61078

- Switching on the machine**
1. Insert the mains plug.

Note

In order to fix the switch in On position, first release the switch and then the release button.

2. Press the release button (2) and the On/Off switch (1) on the motor.

- Switching off the machine**
3. Press the On/off switch (1) on the motor and release it again.

Note

The machine is equipped with a restart inhibit. After a power cut, the machine must be switched off prior to work.

4. Pull out the mains plug.

4.2 Working with the TruTool TKF 2000

Conditions

- All setting work has been carried out.
- Clamping position open.
- Feed to position 0 (no feed).

WARNING

Risk of injury from hot and sharp chips!

Chips exit the chip ejector at high speed.

- Use the chip box.

Run in

1. Switch on the machine.
2. Guide the machine against the workpiece edge:
3. Clamp the machine tightly using the clamping lever.

Bevelling

4. Guide the machine slightly if required, holding the machine by the handles.
5. Slowly increase the feed until the required working speed has been achieved
6. On achieving the required machining length, set the feed to 0 and switch off the machine.
7. Set the clamping lever to open position and remove the machine.

4.3 Carrying the TruTool TKF 2000

DANGER

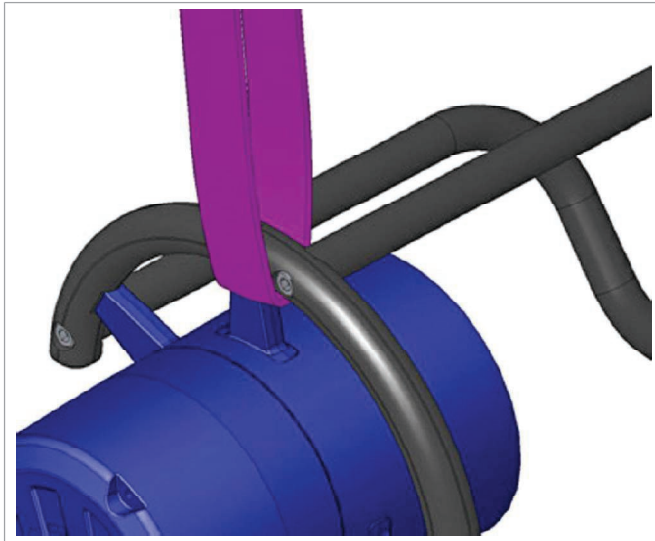
Risk of injury due to weight of machine!

- This machine is too heavy for one person. It should only be operated using a crane (suspension) or with a second person.
- After machining the workpiece, the full machine weight must be taken up.

Options for carrying the machine:

- Two people may carry the machine.
- Suspend the machine using the bow-handle on a crane.

Fasten the belt or chain to the crane



Suspension using the bow-handle

Fig. 61159

- Insert the belt or chain between the connection on the machine housing and the bow-handle and secure it to the crane.

The belt or chain must rest against the handle.

The machine is aligned (machine center of gravity) and secured.

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.

⚠ CAUTION

Damage to property caused by blunt tools.

Machine overload.

- Check the cutting edge of the cutting tool for wear every hour. Sharp cutting tools provide good cutting performance and are easier on the machine. Replace the cutting tool promptly.

Maintenance point	Interval	Procedure	Recommended lubricants
Cutting tool	Regrind/replace as needed. Lubricate upon tool change.	-	Lubricating grease "S1"
Sliding sleeve	Lubricate every 20 m. Change as needed.	Re-lubricate with a grease gun.	Lubricating grease "S1"
Plunger	Fill the lubricant pocket every time you change the cutting tool.	-	Lubricating grease "S1"
Impeller	When commissioning the machine and/or when it has not been used for long periods.	Lubricating the inside of the impeller.	Universal oil or WD40
Driving roller	Change and/or clean as needed.	Feed max. 0.8 m/min.	WD40
Pressure die	Change as needed.	Max. 1 mm wear.	-
Motor	Approx. every 300 operating hours.	Change the carbon brushes.	-
Gearbox and gear head	After 300 operating hours, arrange for a trained specialist to relubricate or to replace the lubricating grease.	-	Lubricating grease "G1"
Hydraulic unit	Have this inspected by a trained specialist every 300 operating hours.	-	-

Maintenance positions and intervals

Tab. 7

5.1 Changing the cutting tool

Note

The cutting tool can be reground.

This can be reground if required up to the marking (max. 10 mm).

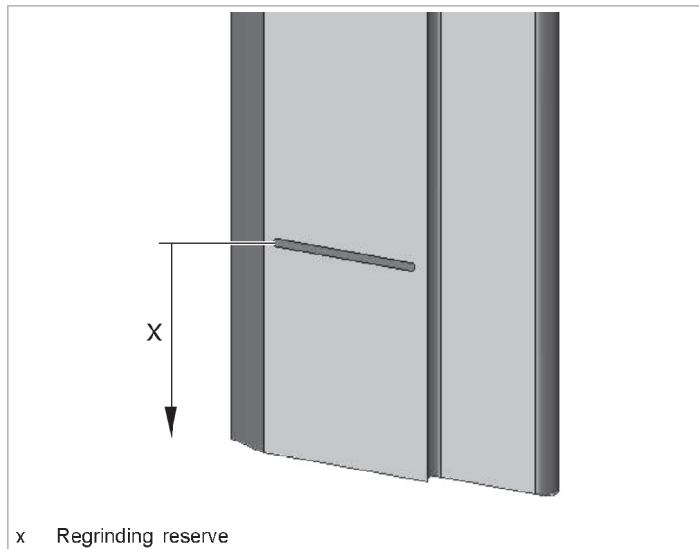


Fig. 61181

1. Undo the safety bolts.
2. Pull out the drive unit (inc. cutting tool) under 45°.
3. Screw out the cutting tool.
4. Lubricate the new cutting tool and screw it into the ram.
5. Using the adjusting gauge, set the cutting tool to the setting dimension 99 mm.
6. Align the cutting tool, observing the bevel grind while doing so.
7. Retract the drive unit (inc. cutting tool) under 45° into the feed unit.
8. Tighten the safety bolt on the gear head.

5.2 Regrinding cutting tool

Cutting tools are ground at an angle on the grinding face. Observe the corresponding regrinding diagram (see "Tab. 4", pg. 13).

Notes

- Maintain the minimum length of the cutting tools (see "Tab. 4", pg. 13).
 - Do not use shorter cutting tools.
 - Dress the cutting edge with an oil stone after regrinding.
- If both cutting edges are blunt, regrind the cutting tool on the grinding face.

5.3 Change the sliding sleeve



Fig. 61180

1. Pull out the drive unit (inc. cutting tool) (1) under 45°.
2. Undo the screw (3) on the sliding sleeve.
3. Pull out the sliding sleeve (2) and replace it.
4. Retighten the screw (3) on the sliding sleeve.
5. Assemble the drive unit (inc. cutting tool) under 45°.

-
6. Tighten the safety bolt (tool clamping).

5.4 Changing the power cable

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.

5.5 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.

- Change the carbon brushes.

6. Accessories and consumables

-	Scope of delivery	Consumables	Accessories	Order no.
Cutting tool HighQuality	x	x	-	1649992
Cutting tool LongLife	-	x	x	1591279
Adjusting gauge	x	-	-	1650350
Sliding sleeve	x	x	-	1685242
Lap bar (only for TruTool TKF 2000 (1A1))	x	-	-	1692836
Punching and nibbling oil for steel (0.5 l)	-	x	x	0103387
Akamin cutting oil (1 l)	-	x	x	0125874
Lubricating grease "S1" (250 g)	x	x	-	0385478
Filled grease gun "S1"	x	-	x	0385477
Packaging, complete	x	-	-	1652220
Chip box	-	-	x	1606265
Pedestal	-	-	x	1688964
Adapter block for workstation	-	-	x	1653115
Workstation	-	-	x	1343474
Workstation with pedestal	-	-	x	0005079
Allen wrench SW 8	x	-	-	1651068
Operator's manual, TruTool TKF 2000 (1A1), (1C1)	x	-	-	1652179
Safety information, other countries	x	-	-	0125699
Safety information, USA	x	-	-	1239438
Commissioning sheet	x	-	-	1692523

Tab. 8

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. Help in the case of problems

Problem	Cause	Correction
The machine does not remain on the sheet.	Cutting tool is blunt.	Replace cutting tool.
	Incorrectly set material thickness (too loose).	Rotate the impeller upwards by hand via the adjustment dial up to the sheet metal stop (clamping lever: position 0).
Machine does not move.	Material clamped too firmly.	Rotate the impeller downwards by hand via the adjustment dial up to the sheet metal stop (clamping lever: position 0).
	Jams caused by burr on the sheet, slag or scale.	Clean the part of the sheet affected.
	Cutting tool mounted too far out.	Set the cutting tool correctly.
	Oil loss in hydraulic system.	Have hydraulic system refilled (Service).
	Master cylinder is tilted.	Undo the hexagon screws on the master cylinder and retighten them (see "Assembly", pg. 11).
The machine is not lying flat on the sheet during setting work.	The cutting tool is not at the upper dead point.	Rotate the shaft axis until the cutting tool is at the upper dead point.

Tab. 9

8. Appendix: Guarantee, declaration of conformity, replacement parts lists

