

Operator's manual



TruTool N 1000 (1B1)

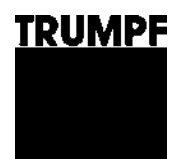


Table of contents

1	Safety	3
1.1	General safety information	3
1.2	Specific safety information for nibbler	3
2	Description	5
2.1	Intended use	5
2.2	Technical data	6
2.3	Symbols	7
2.4	Noise and vibration information	7
3	Setting work	9
3.1	Selecting a die	9
3.2	Select punch	10
3.3	Select gear	11
3.4	Setting the penetration depth	12
4	Operation	14
4.1	Working with TruTool N 1000	15
4.2	Changing the cutting direction	15
4.3	Nibbling with templates	16
4.4	Producing interior cutouts	16
5	Maintenance	17
5.1	Replacing the tool	17
	Changing the punch	18
	Changing the die and punch guide	19
5.2	Regrinding the punch	19
5.3	Changing the wearing plate	21
5.4	Changing the power cable	22
5.5	Replacing carbon brushes	22
6	Accessories and consumables	23
6.1	Ordering consumables	23
7	Appendix: Declaration of conformity, guarantee, replacement parts lists	25

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 working shoes when working.
 - Connect the plug only when the machine is switched off. Pull the power plug after use.
 - Do not carry the machine by the cable.
 - Have maintenance carried out by specialists.
-

1.2 Specific safety information for nibbler

 **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.
-

⚠ WARNING**Risk of injury to hands.**

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

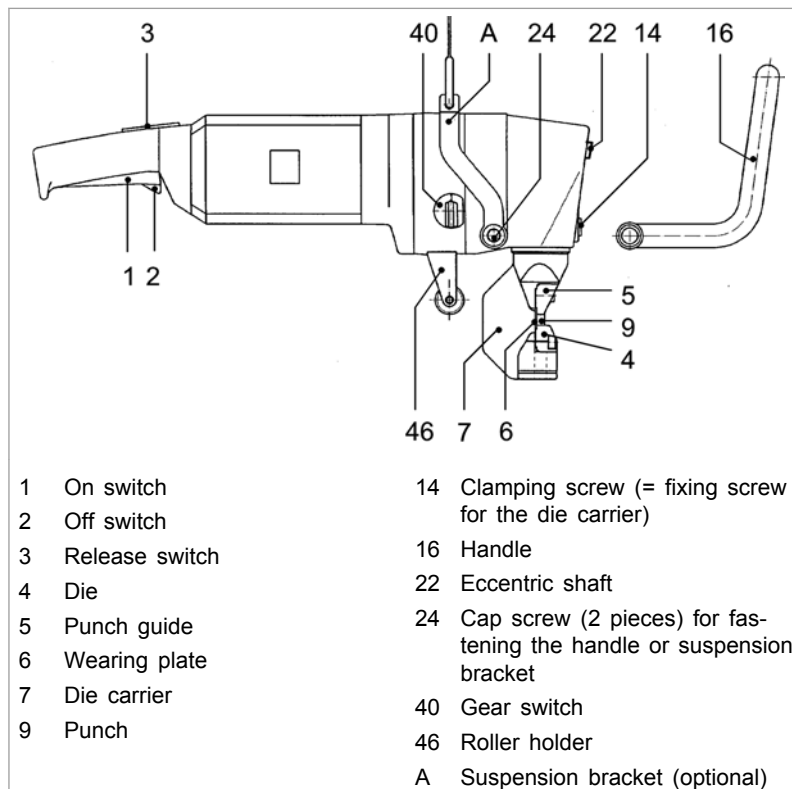
⚠ WARNING**Risk of injury from hot and sharp chips!****Chips exit the chip ejector at high speed.**

- Use a chip bag.

⚠ WARNING**Risk of injury from falling machinery****The entire weight of the machine must be taken up after machining the workpiece.**

- Use the suspension bracket with balancer.
- Use the suspension cable.

2. Description



Nibbler TruTool N 1000

Fig. 54784

2.1 Intended use





The TRUMPF Nibbler TruTool N 1000 is an electrically operated hand-held device for:

- Cutting of plate-shaped workpieces made of a punchable material such as steel, aluminum, nonferrous heavy metal and plastic.
- Cutting of tubes and machining of edged sheet profiles and/or press brake bendings e.g. for tanks, crash barriers, troughs etc.
- Nibbling of straight or curved exterior and interior cutouts.
- Nibbling along scribed lines or templates.

Note

The nibbling process produces cutting edges free of deformations.

2.2 Technical data




TruTool N 1000	Other countries			USA
Voltage	230 V	120 V	110 V	120 V
Frequency	50/60 Hz	50/60 Hz	50 Hz	50/60 Hz
Permissible material thickness: steel up to 400 N/mm²	10 mm (1st gear)	10 mm (1st gear)	10 mm (1st gear)	0.394 in (1st gear)
	8 mm (2nd gear)	8 mm (2nd gear)	8 mm (2nd gear)	0.315 in (2nd gear)
Permissible material thickness: steel up to 600 N/mm²	7 mm (1st gear)	7 mm (1st gear)	7 mm (1st gear)	0.276 in (1st gear)
	5 mm (2nd gear)	5 mm (2nd gear)	5 mm (2nd gear)	0.2 in (2nd gear)
Permissible material thickness: steel up to 800 N/mm²	5 mm (1st gear)	5 mm (1st gear)	5 mm (1st gear)	0.2 in (1st gear)
	4 mm (2nd gear)	4 mm (2nd gear)	4 mm (2nd gear)	0.157 in (2nd gear)
Permissible material thickness: aluminum up to 250 N/mm²	12 mm (1st gear)	12 mm (1st gear)	12 mm (1st gear)	0.472 in (1st gear)
	10 mm (2nd gear)	10 mm (2nd gear)	10 mm (2nd gear)	0.394 in (2nd gear)
Working speed	1 m/min (1st gear)	1 m/min (1st gear)	1 m/min (1st gear)	3.3 ft/min (1st gear)
	approx. 1.6 m/min (2nd gear)	approx. 1.6 m/min (2nd gear)	approx. 1.6 m/min (2nd gear)	5.2 ft/min (2nd gear)
Nominal power consumption	2000 W	2000 W	2000 W	-
Nominal current	-	-	-	15 A
Idle stroke rate	360/min (1st gear)	360/min (1st gear)	360/min (1st gear)	360/min (1st gear)
	approx. 560/min (2nd gear)	approx. 560/min (2nd gear)	approx. 560/min (2nd gear)	approx. 560/min (2nd gear)
Weight	14.7 kg	14.7 kg	14.7 kg	32.7 lbs
Sheet profiles (90°) at 10 mm material thickness:	min. 12 mm	min. 12 mm	min. 12 mm	0.472 in
Inside bending radius				
Start hole for die	min. 75 mm	min. 75 mm	min. 75 mm	2.95 in
Cutting track width	12 mm	12 mm	12 mm	0.472 in
Smallest radius for curved cut-outs	300 mm	300 mm	300 mm	11.8 in
Protective insulation	II / 	II / 	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.
	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

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).


CAUTION

Vigorous upward and downward movements (hammering) due to unsuitable die.

Excessive tool wear and increasing loads on the machine.

- Use dies with the greatest height possible (keep distance X, shown in the drawing below, as small as possible).

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	12.8
Uncertainty K for vibration emission value	m/s^2	3.6
A-class acoustic pressure level L_{PA} typically	dB (A)	87
A-class acoustic power level L_{WA} typically	dB (A)	98
Uncertainty K for noise emission value	dB	3

Tab. 3

3. Setting work

3.1 Selecting a die

⚠ CAUTION

Vigorous upward and downward movements (hammering) due to unsuitable die.

Excessive tool wear and increasing loads on the machine.

- Use dies with the greatest height possible (keep distance X, shown in the drawing below, as small as possible).

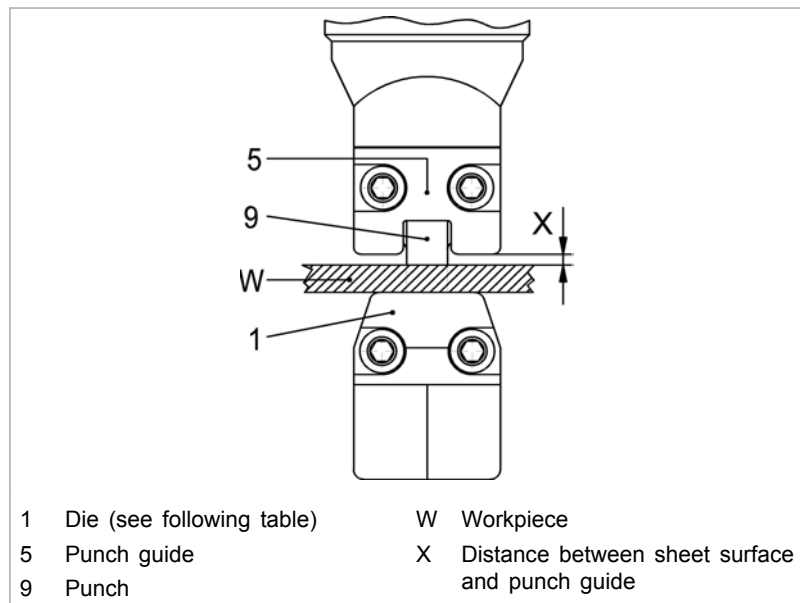
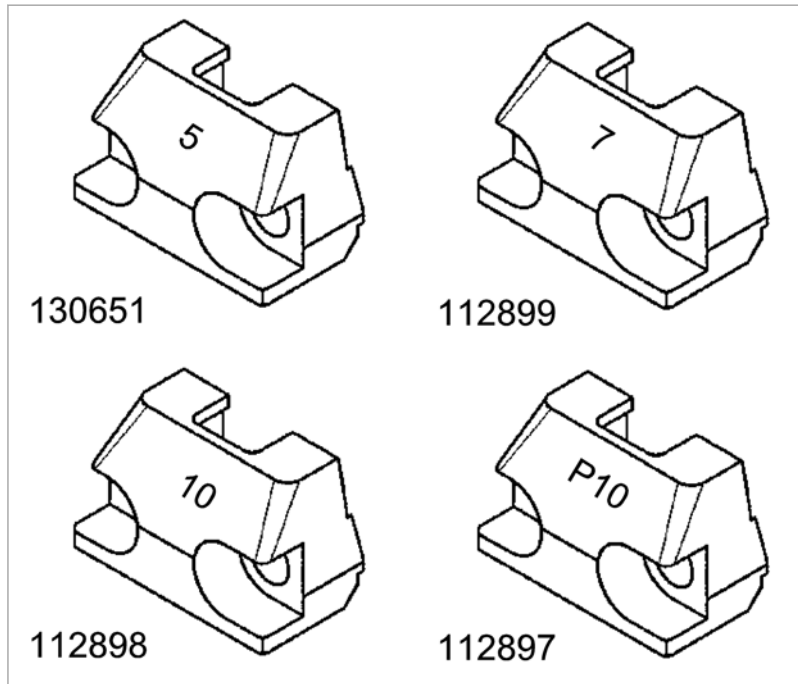


Fig. 16802

Depending on the thickness, tensile strength and type of the workpiece, one of the following types of die can be selected for the machining process:



Types of die and their respective order numbers

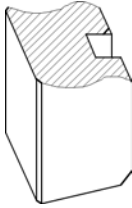
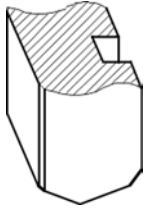
Fig. 18270

	Type of die 5	Type of die 7	Type of die 10	Type of die P10
Material thickness in mm for a flat single rolled sheet				
Aluminum 250 N/mm ²	-5	>5-7	>7-10	>10-12
Mild steel 400 N/mm ²	-5	>5-7	>7-10	-
Stainless steel 600 N/mm ²	-5	>5-7	-	-
Stainless steel 800 N/mm ²	-5	-	-	-
Material thickness in mm when machining "profiles", e.g. workpieces with press brake bending up to 90°				
-	-3	>3-5	>5-7	>7-10

Tab. 4

3.2 Select punch

There are 2 different punches available for machining sheets of various tensile strength:

Components	Standard punch	Punch for high-tensile steels
		
Area of application	Suitable for machining materials up to 400 N/mm ² e. g. aluminum, mild steel.	Suitable for machining materials over 400 N/mm ² e. g. stainless steel.
Order number	112900	120344
Aluminum 250 N/mm ²	X	-
Mild steel 400 N/mm ²	X	-
Stainless steel 600 N/mm ²	-	X
Stainless steel 800 N/mm ²	-	X

Tab. 5

3.3 Select gear

Note

Depending on the material thickness, tensile strength and type of workpiece, a different gear must be selected for machining. Instead of in 2nd gear, 1st gear can always be worked with, but never vice versa.

! CAUTION

Damage to property due to turning the gear switch during operation.

Damage to the gearbox can be a consequence.

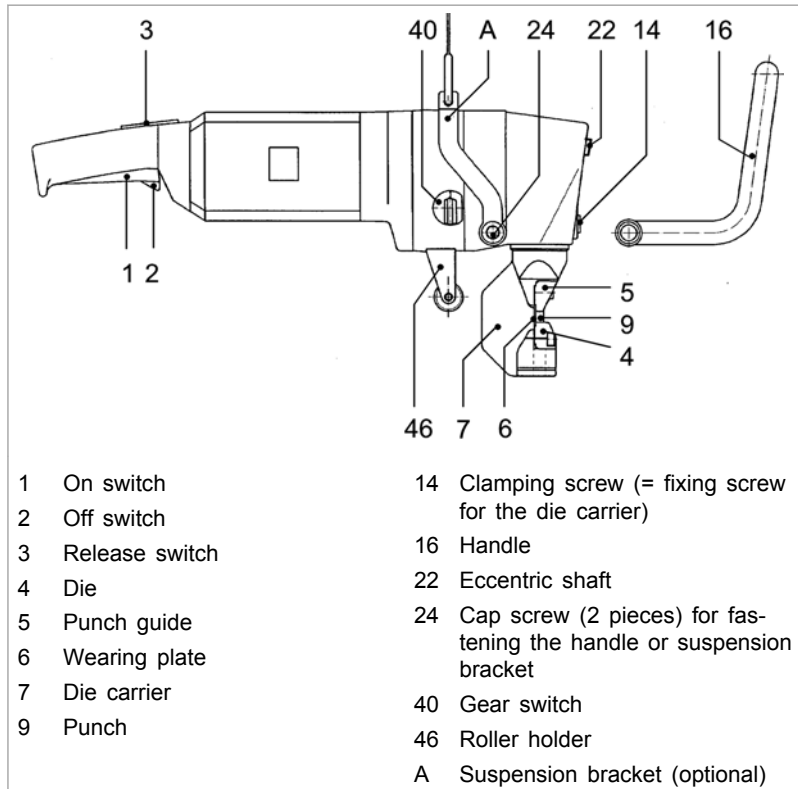
- Use the gear switch only when the motor is running down or at rest.

! CAUTION

Damage to property due to too high a stroke rate

Damage to the motor due to an overload can be a consequence.

- Observe the specifications in the technical data ([see "Technical data", pg. 6](#)).



Nibbler TruTool N 1000

Fig. 54784

1. Put the machine into a stable position.
2. Switch on the machine briefly:
 - Press the release switch (3).
 - Press the On switch (1) and Off switch (2) at the same time.
3. While the motor is running down, turn the gear switch (40) to the desired position.

3.4 Setting the penetration depth

Notes

- A greater penetration depth causes less vibrations, but a greater effort is required when pushing the machine forward and the service life of the punch is reduced.
- The penetration depth of the punch into the die should be 1 to 3 mm.

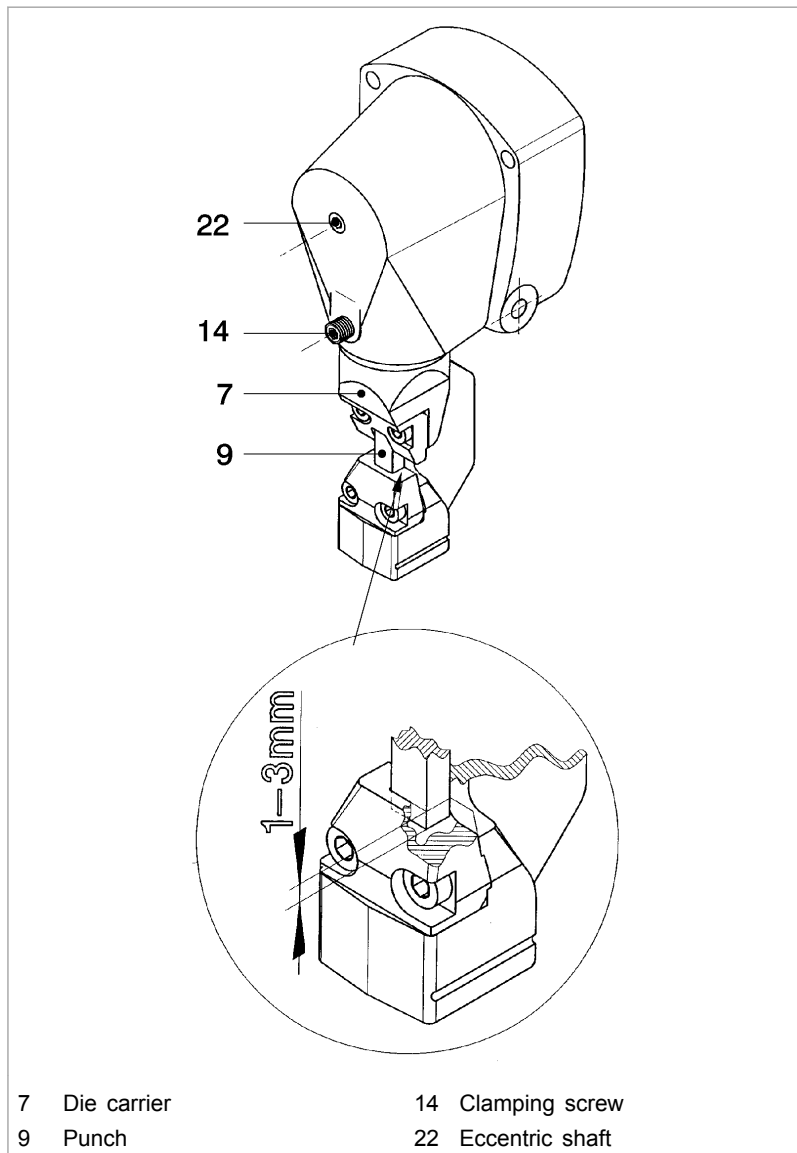


Fig. 9763

1. Rotate the eccentric shaft (22) until the punch (9) has reached its maximum penetration depth.
2. Open the locking mechanism.

Note

One rotation of 360° corresponds to a height adjustment of 1.75 mm.

3. Rotate the die carrier (7) by 360° as often as needed until the punch penetration depth of 1-3 mm has been achieved.
4. Close the locking mechanism.

4. Operation

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.

CAUTION

Damage to property due to turning the gear switch during operation.

Damage to the gearbox can be a consequence.

- Use the gear switch only when the motor is running down or at rest.

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

Material	Oil
Steel	Punching and nibbling oil for steel (0.5 l, order no. 0103387)
Aluminum	Punching and nibbling oil for aluminum (1 l, order no. 0125874)

Tab. 6

4.1 Working with TruTool N 1000

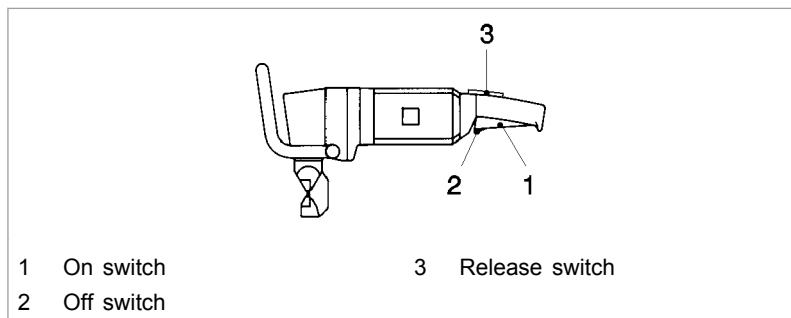


Fig. 9306

- Positioning the machine** 1. Put the machine in position in front of the tool.
- Switching on** 2. **Either**
- To switch the machine to continuous operation:
 - Keep the release switch (3) pressed.
 - Press the On switch (1).

The switch remains engaged. The motor is running.

or

 - To switch the machine to instantaneous connection:
 - Press the release switch (3).
 - Press the On switch (1) and Off switch (2) at the same time.

The motor is running.
- Processing the material** 3. Once the full speed has been reached: move the machine toward the workpiece.
4. Process the desired cutting line.
5. If the cutting track ends in the sheet: retract the running machine a few millimeters in the direction of the already free-cut cutting track.
- Switching off** 6. Press the off switch (2).

4.2 Changing the cutting direction

In situations where space is limited, the tool can be mounted in such a way as to have a different cutting direction (see "Fig. 54784", pg. 5)

- For cutting profiles: mount the tool at an angle of 90° either to the left or to the right.
 - For nibbling to the rear: mount the tool at an angle of 180°.
1. Undo the clamping screw (14).

2. Rotate the die carrier (7) in the desired direction.
3. Retighten the clamping screw (14) by hand.
4. Check the penetration depth of the punch.

4.3 Nibbling with templates

The following requirements must be met when nibbling with templates:

- The template must be at least 5 mm thick.
- There must be a clearance of 15.5 mm between the contour of the template and the contour to be nibbled out.
- The nibbler must be guided in such a way that the exterior cutout of the punch guide (5) always remains up against the template.
- Observe a minimum bending radius of 400 mm.

4.4 Producing interior cutouts

- Produce start bore with at least a 65 mm diameter.

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 every hour for wear or in the event of poor cutting behavior or poor work result. Sharp cutting tool produces good cutting performance and protects the machine.
- Change the cutting tool in a timely manner.

Maintenance point	Procedure and interval	Recommended lubricant	Lubricant order number
Punch, die and wear parts	Check every hour	-	-
Punch	Regrind/replace as needed.	-	-
Ventilation slots/grids	Clean as needed	-	-
Die	Change as needed	-	-
Wearing plate	Change as needed	-	-
Punches and die holders	For tool change	Lubricating grease "S1"	0121486
Gearbox and gear head	Every 300 operating hours, have a trained specialist relubricate or replace the lubricating grease.	Lubricating grease "G1"	0139440

Maintenance positions and maintenance intervals

Tab. 7

5.1 Replacing the tool

Note

When the punch or die is blunt, or the punch cannot be reground, the tools must be replaced.

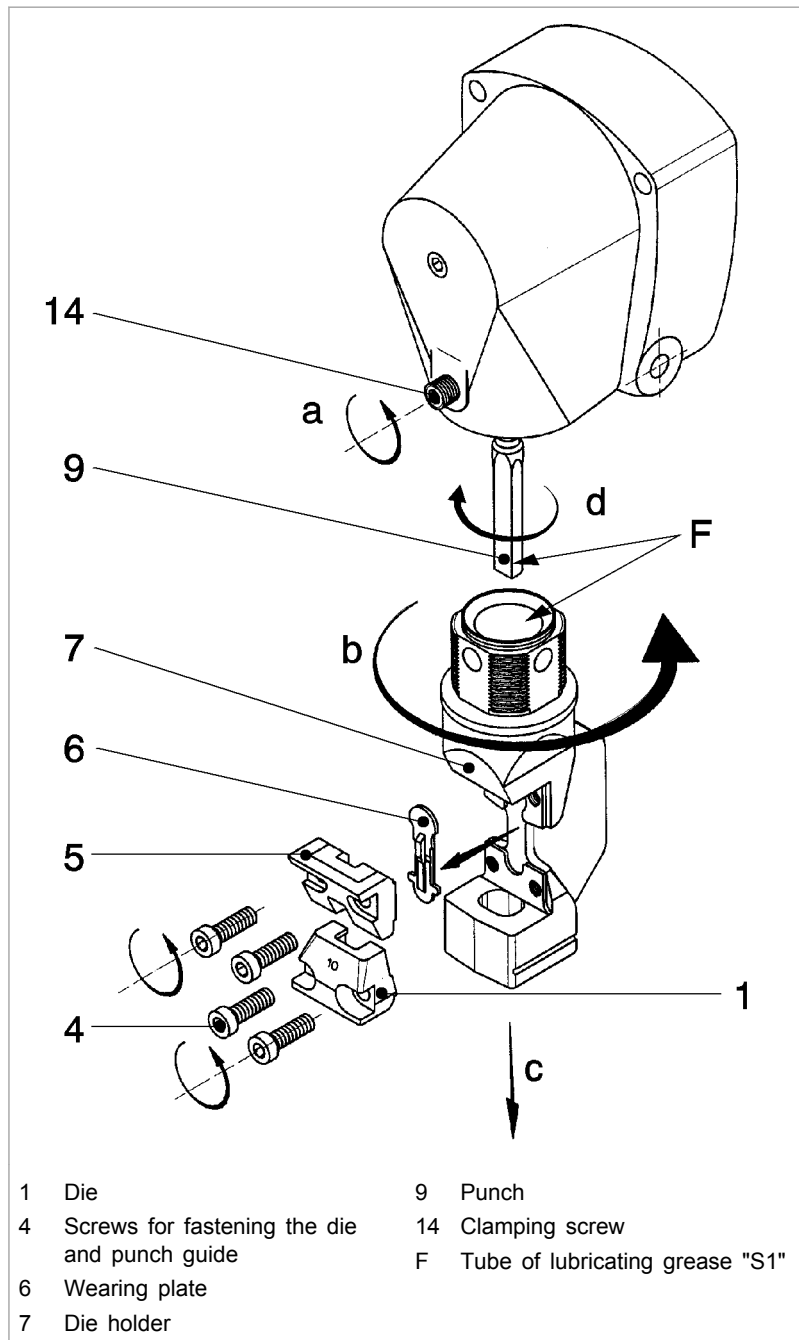


Fig. 9764

Changing the punch

1. Loosen the clamping screw (14).
2. Rotate the die holder (7) by 45°.
3. Pull the die holder (7) downward and out.
4. Screw out the punch (9).

Note

To grease, use lubricating grease "S1" (order number 121486).

5. Apply a thin film of grease on the square part of the punch and die holder bore.
6. Screw in the punch and align to 45°.
7. Check the penetration depth of the punch with the setting gauge (order number 1411767).
8. Close the locking mechanism.

Changing the die and punch guide

1. Unscrew and remove the screws (4).
2. Clean the support areas on the die carrier (7).
3. Clean the replacement parts if necessary.

Note

To grease, use lubricating grease "S1" (order number 121486).

4. Lubricate the guide surfaces of the punch guide.

Note

Use original screws only.

5. Tighten the screws (4) (torque 40 Nm).

5.2 Regrinding the punch**Notes**

- Dies cannot be reground.
- Use only original spare parts from TRUMPF.
- The punch can be reground in total 5 to 10 mm, depending on with which die it is used. Shorter punches must be replaced (risk of collision).

Type of die	Minimum length X	Regrinding reserve for punch
P10	92 mm	5 mm
10	89.5 mm	7.5 mm
7	87 mm	10 mm

Type of die	Minimum length X	Regrinding reserve for punch
5	85 mm	12 mm

Tab. 8

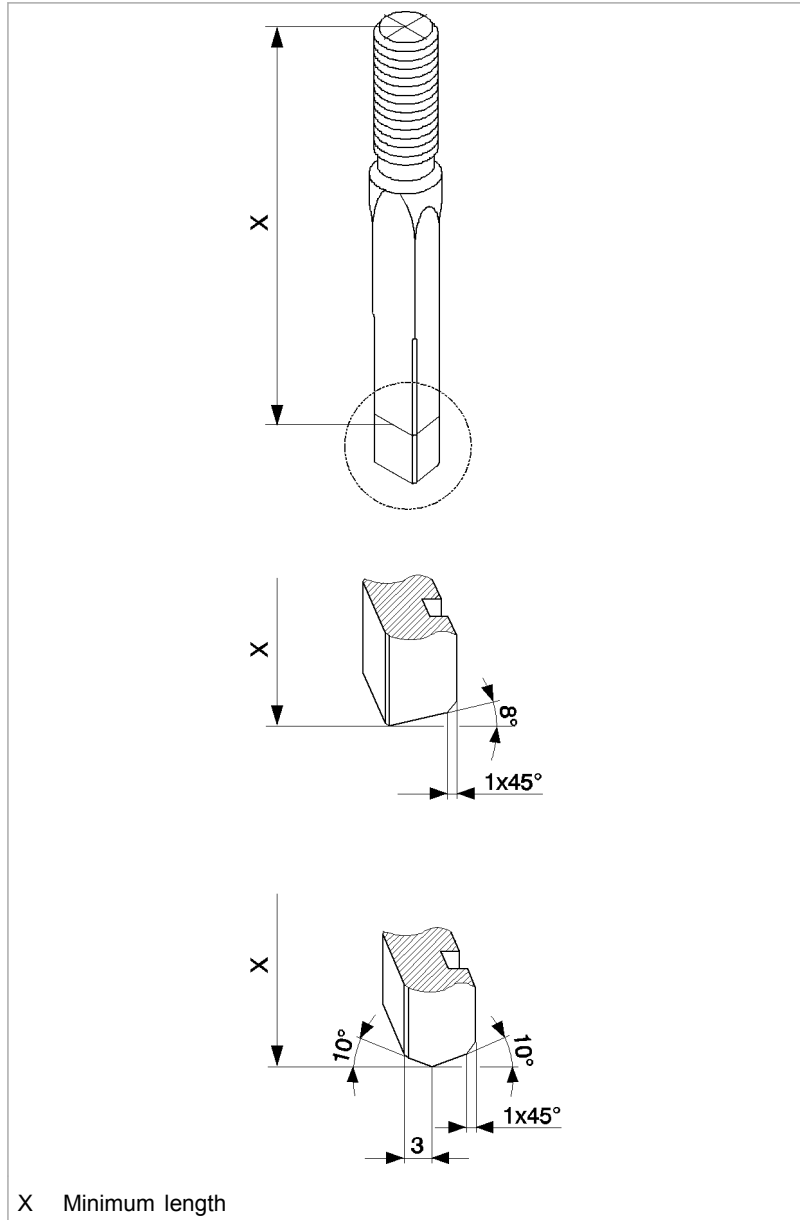


Fig. 9017

1. Regrind the grinding surface according to the sketch, paying attention to good cooling.
2. Dress the cutting edge lightly with a fine oil stone.

5.3 Changing the wearing plate

The wearing plate protects the die carrier against excessive wear.

Note

Excessive wearing can overload the machine and lead to a worsening of the cutting quality.

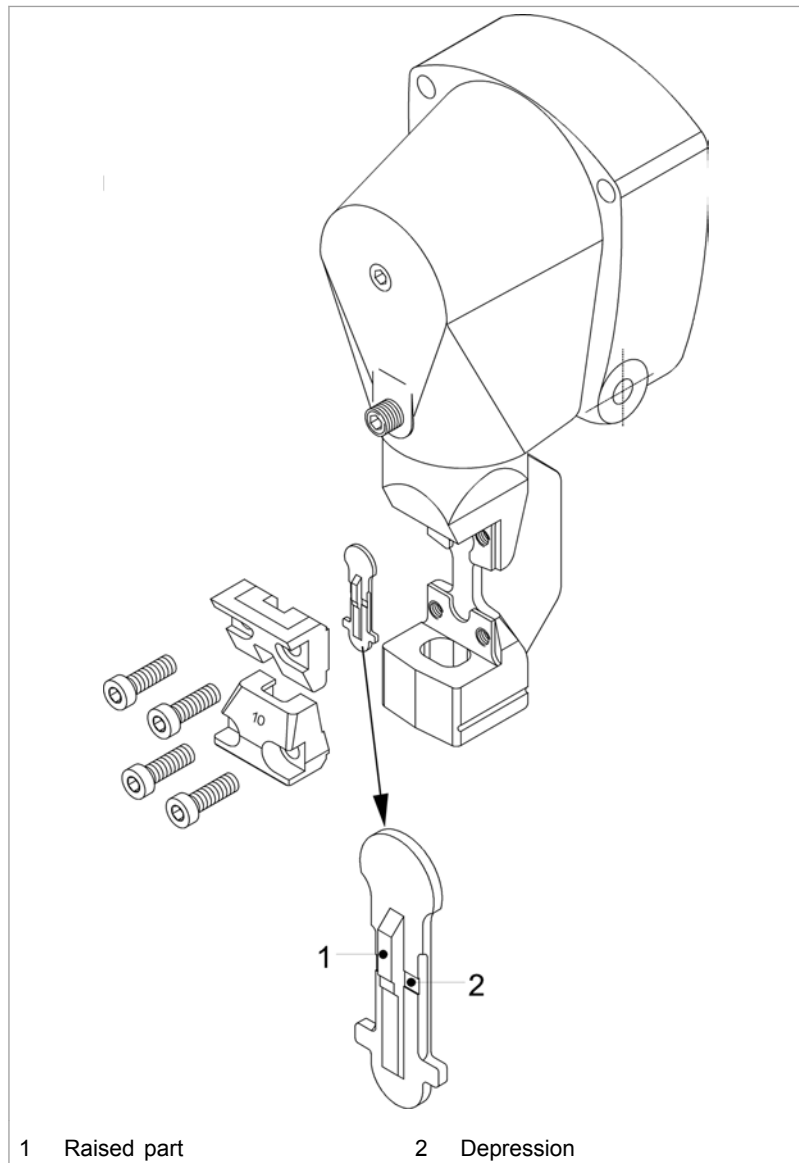


Fig. 9762

The wearing plate must be replaced when:

- The raised part (1) is worn down.
- The depression (2) is no longer visible.

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

Name	Order number	Scope of delivery
Standard punch	0112900	X
Punch for high-strength sheets	0120344	-
Die for up to 5 mm (type 5)	0130651	-
Die for 5-7 mm (type 7)	0112899	-
Die for 7-10 mm (type 10)	0112898	X
Die for profile sheet of 7-10 mm (type P10)	0112897	-
Wearing plate	0112922	X
Punching and nibbling oil for steel (0.5 l)	0103387	X
Punching and nibbling oil for aluminum (1 l)	0125874	-
Lubricating grease "S1", tube	0121486	X

Consumables

Tab. 9

Name	Order number	Scope of delivery
Handle	0103555	X
Allen key DIN 911-12	0067920	X
Allen key	0118860	X
2 cap screws (M14x45) for fastening the handle (DIN 912)	0105083	X
Adjusting gauge	1411767	X
Operator's manual	0120218	X
Safety information, other countries	0125699	x
Safety information (red document), USA	1239438	X
Chip bag	0115215	-
Case	0121585	-
Suspension bracket	0105001	-

Accessories

Tab. 10

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**

