


Operator's manual



## TruTool N 1000 (1B1)

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english

**TRUMPF**  




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# 1. Safety

## 1.1 General safety information



- Read the operator's manual and safety information in their entirety before starting up the machine. Closely follow the instructions given.
- Adhere to the safety regulations in accordance with DIN VDE, CEE, AFNOR and to the specific regulations of the country of operation.



**DANGER**

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### 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.



**WARNING**

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### Risk of injury 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.
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## 1.2 Specific safety information

### Note

Make sure that the tool is connected to an electrical circuit that is protected with a slow-blow fuse (min. 15 A).

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**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.
- 



**WARNING**

#### **Risk of injury from falling machinery**

**The entire weight of the machine must be taken up after machining the workpiece.**

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



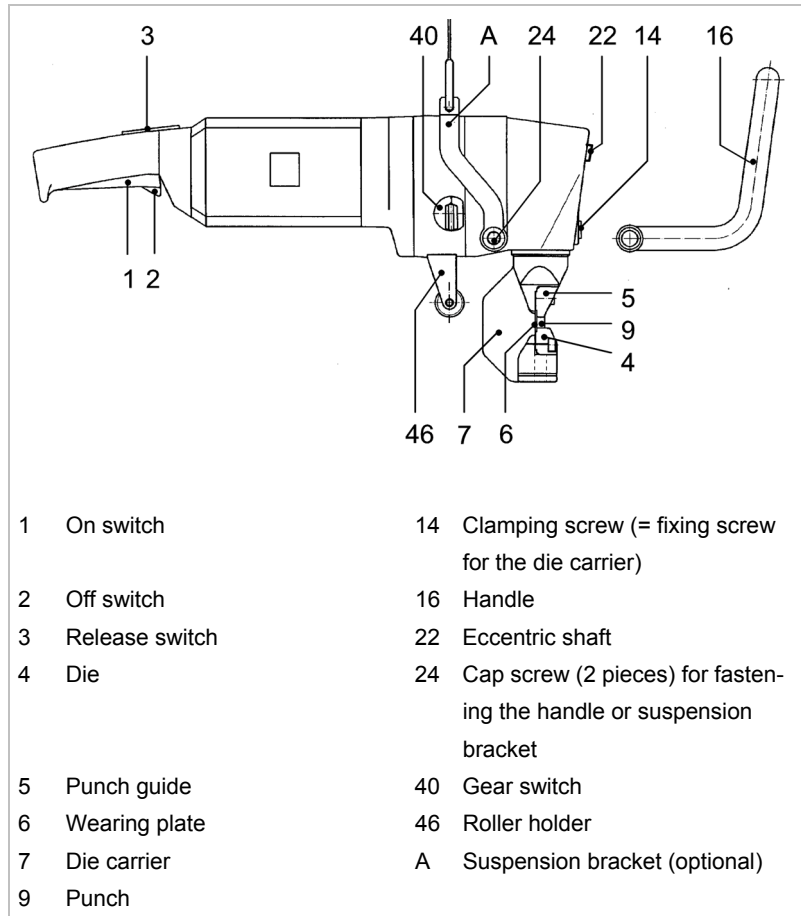
**CAUTION**

#### **Risk of injury due to improper handling**

**The machine will be damaged or destroyed.**

- Do not use the cable to carry the machine.
  - Always lay the electrical cable above and away from the back of the machine and do not pull it over sharp edges.
  - Have servicing and inspections of handheld electric tools carried out by a qualified specialist. Only use original TRUMPF accessories.
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## 2. Description



Nibbler TruTool N 1000

Fig. 54784

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## 2.1 Intended use

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### Risk of injury due to improper handling

- Only use the machine for work and materials as described under "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, non-ferrous 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

	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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/mm <sup>2</sup>	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 profile (90°) for material thickness of 10 mm: Inner bending radius	min. 12 mm	min. 12 mm	min. 12 mm	0.472 in
Starting 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 cutouts	300 mm	300 mm	300 mm	11.8 in
Protective insulation	Class II	Class II	Class II	Class II

Tab. 1



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## 2.3 Noise and vibration information



**WARNING**

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**Vibration emission value may be exceeded.**

- Select tools correctly and replace them promptly when they show wear.
  - Have maintenance and repair work performed by trained specialist technicians.
  - Establish additional safety precautions for the protection of the operator against the effects of vibrations (e.g. keeping hands warm and organizing the work sequences).
- 



**WARNING**

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**Noise emission value may be exceeded.**

- Wear hearing protection.
- 



**CAUTION**

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**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 device is switched off or running but not actually in use can considerably reduce the vibration load during the entire working period.



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Designation of measured value	Unit	Value in accordance with 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. 2

### 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).

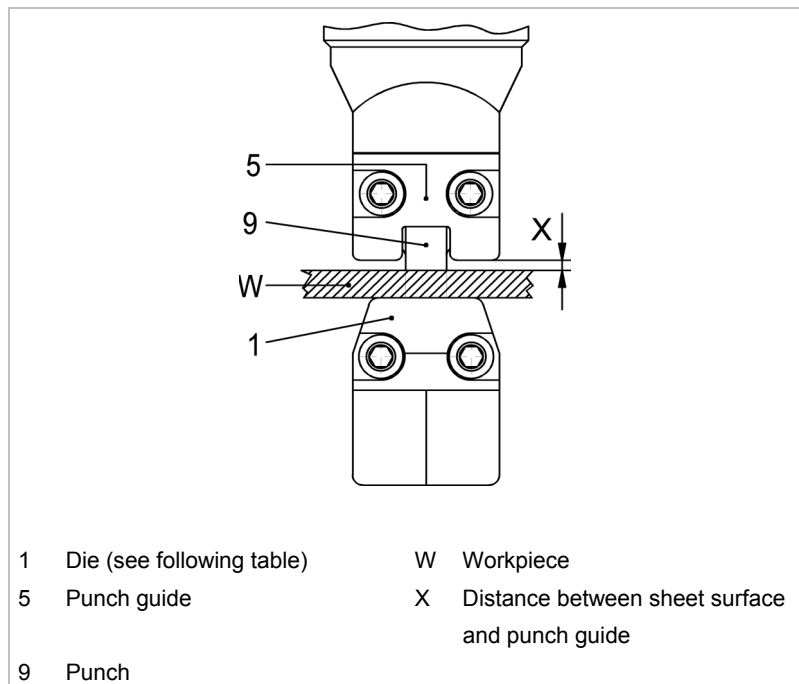
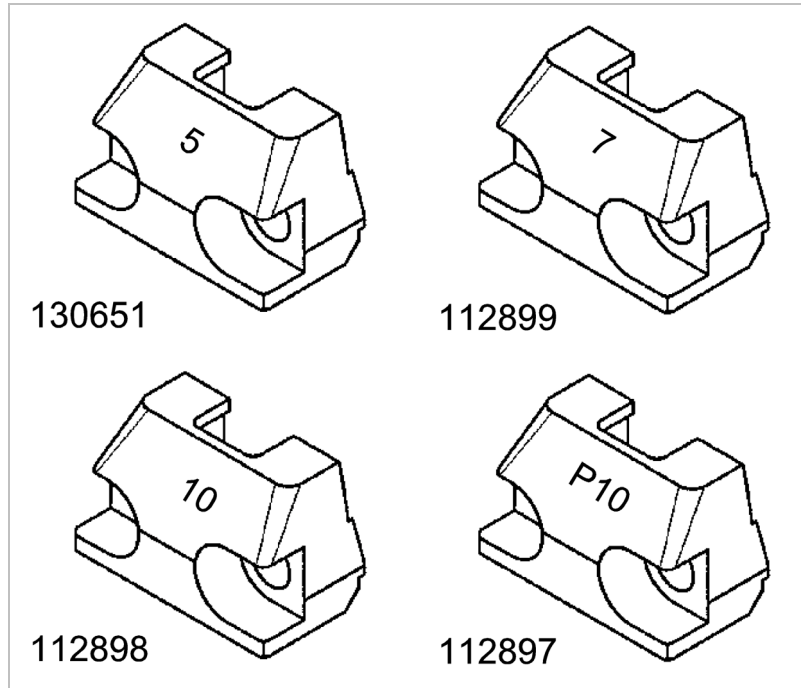


Fig. 16802

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

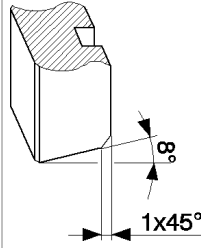
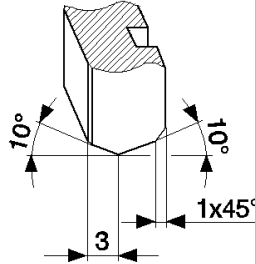
Fig. 18270

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

Tab. 3

### 3.2 Selecting a punch

2 different punches are available for machining sheets of different tensile strengths:

Components	Standard punch	Punch for high-tensile steels
		
Application range	Suitable for machining materials up to 400 N/mm <sup>2</sup> e.g. aluminum, mild steel.	Suitable for machining materials greater than 400 N/mm <sup>2</sup> e.g. stainless steel.
Order no.	112900	120344
Aluminum 250 N/mm <sup>2</sup>	x	-
Mild steel 400 N/mm <sup>2</sup>	x	-
Stainless steel 600 N/mm <sup>2</sup>	-	x
Stainless steel 800 N/mm <sup>2</sup>	-	x

Tab. 4

### 3.3 Selecting a gear

**Note**

Depending on the material thickness, tensile strength and type of the workpiece, a different gear has to be selected for the machining process. Machining can always be carried out in 1st gear in place of 2nd gear, but never the other way around.



**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.

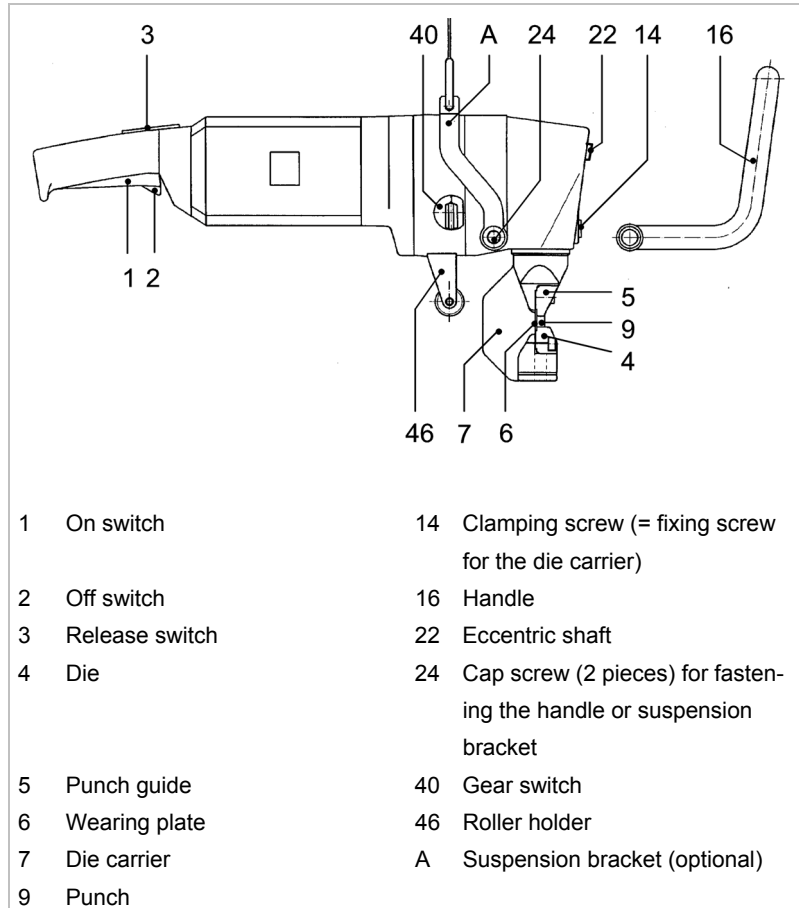


**CAUTION**

**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. 8).



Nibbler TruTool N 1000

Fig. 54784

1. Bring the machine to a standstill.
2. Switch the machine on briefly:
  - Press the release switch (3).
  - Simultaneously press the on switch (1) and off switch (2).
3. As 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.

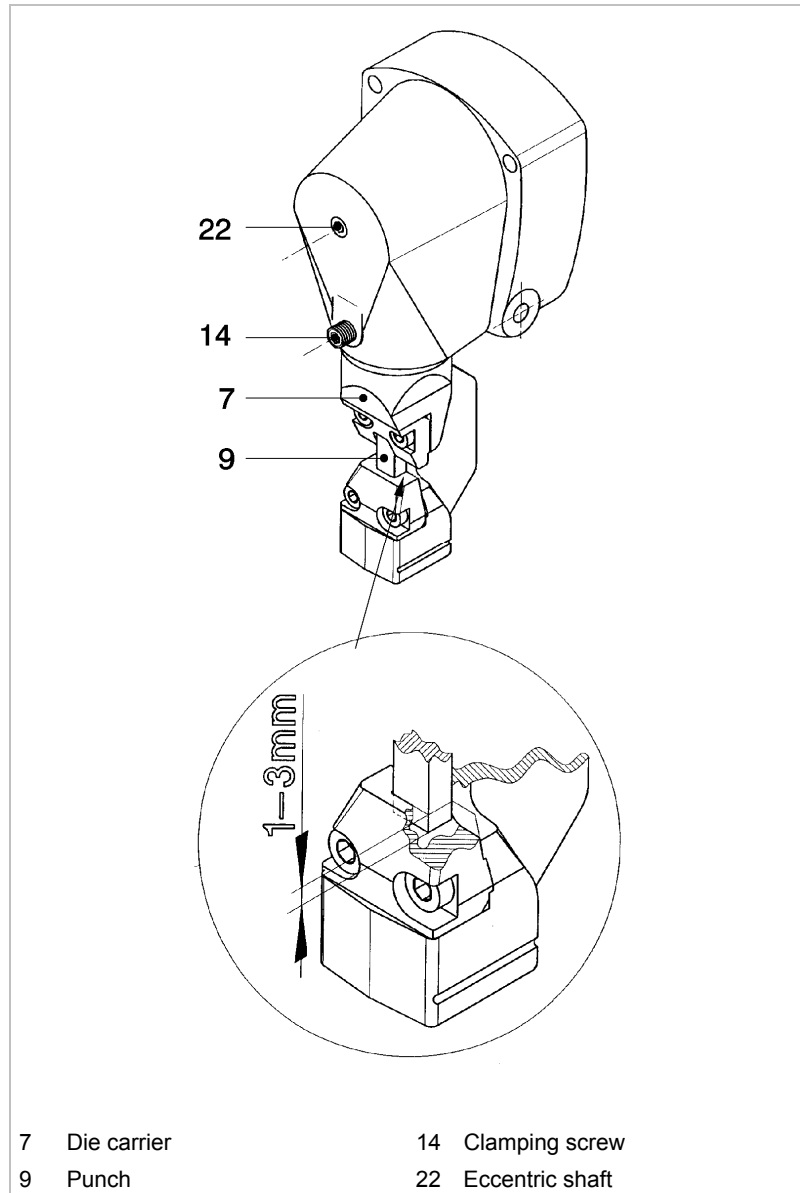


Fig. 9763

- 
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

### 4.1 Working with the TruTool N 1000



**WARNING**

#### Risk of injury 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 mm<sup>2</sup>.



**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.

The cutting result is improved and the service life of the punch increased if the cutting track is coated with oil before machining the workpiece.

Material	Oil
Steel	Punching and nibbling oil, order no. 103387
Aluminum	Wisura oil, order no. 125874

Recommendations for oil

Tab. 5

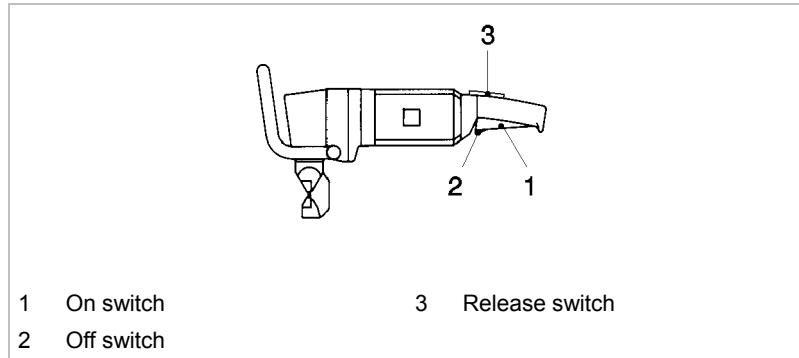


Fig. 9306

**Switching on** 1. **Either**

- To switch the machine to continuous operation:
  - Hold down the release switch (3).
  - 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).
  - Simultaneously press the on switch (1) and off switch (2).
 The motor is running.

**Machining the material**

2. When full speed has been reached: move the machine towards the workpiece.
3. Machine the desired cutting line.
4. In the event that the cutting track ends in the sheet: pull the machine (still running) a few millimeters back towards where the cutting track has already been cut open

**Switching off**

5. 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. 14)

- 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 Making interior cutouts

- Make a start hole at least 65 mm in diameter.

## 5. Maintenance



**DANGER**

### Risk of fatal injury due to electric shock

- Pull the plug out of the socket whenever tools have to be replaced or prior to maintenance work on the machine.



**WARNING**

### Risk of injury due to incorrect repair work

#### Machine does not work properly.

- Have maintenance and repair work performed by trained specialist technicians.



**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	Procedure and interval	Recommended lubricants	Lubricant order no.
Punch, die and wearing parts	Check hourly	-	-
Punch	Regrind/replace as needed	-	-
Ventilation slots/grid	Clean as needed	-	-
Die	Change as needed	-	-
Wearing plate	Change as needed	-	-
Punch and die carrier	With each tool change	Lubricating grease "S1"	-
Gearbox and gear head	Have a qualified technician relubricate or replace the lubricating grease every 300 operating hours.	Lubricating grease "G1"	139440

Maintenance positions and maintenance intervals

Tab. 6

### 5.1 Replacing the tool

#### Note

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

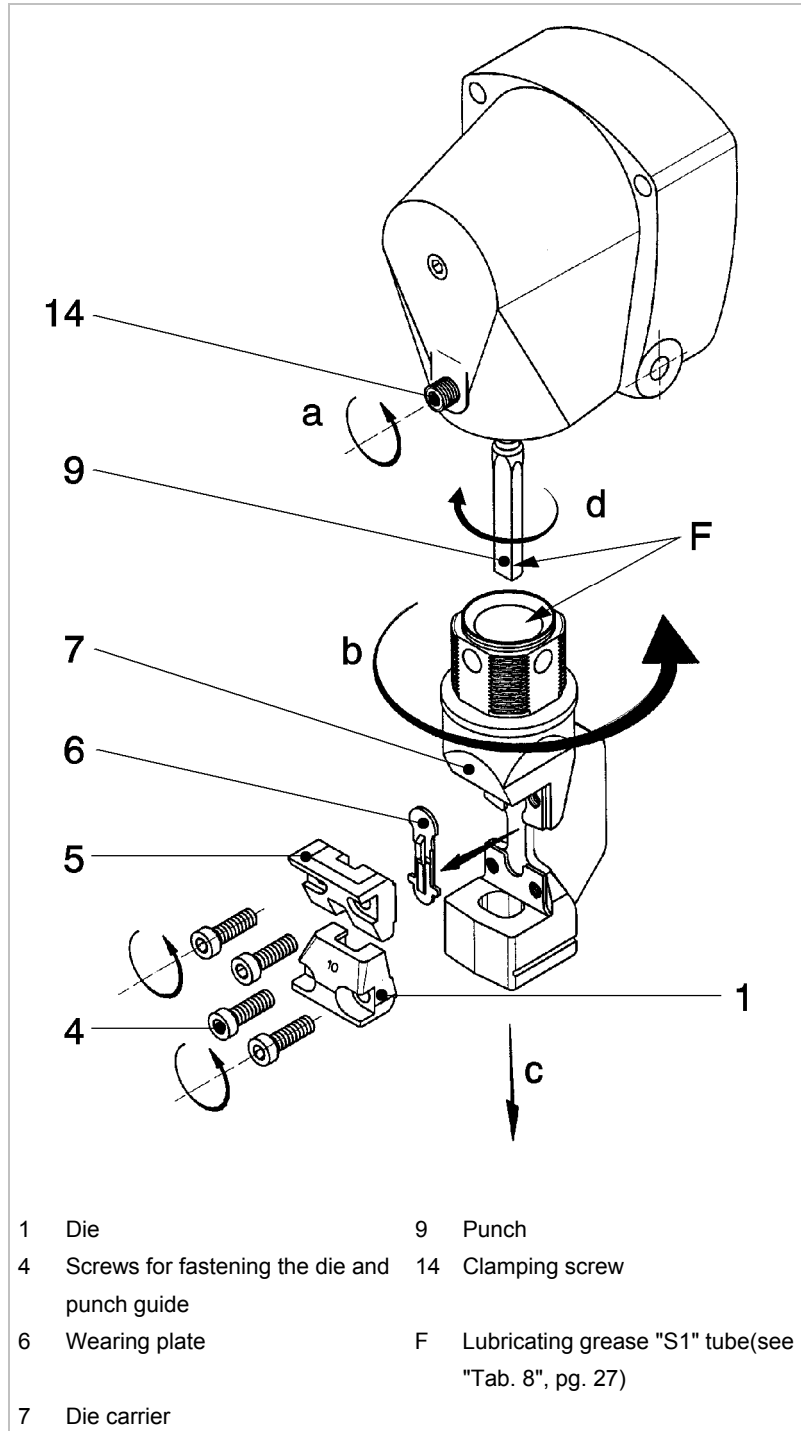


Fig. 9764

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## Changing the punch

1. Undo the clamping screw (14).
2. Rotate the die carrier (7) by 45°.
3. Pull die carrier (7) out towards the bottom.
4. Screw out the punch (9).

**Note**

Use lubricating grease "S1" for lubrication (TRUMPF order no. 121486).

5. Lightly lubricate the square part of the punch and the die carrier bore hole.
6. Align the punch to 45°.
7. Check the penetration depth of the punch.
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**

Use lubricating grease "S1" for lubrication (TRUMPF order no. 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 original replacement parts only.
- The punch can be reground by a total of 5 to 10 mm, depending on which die it is used with. 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
5	85 mm	12 mm

Tab. 7

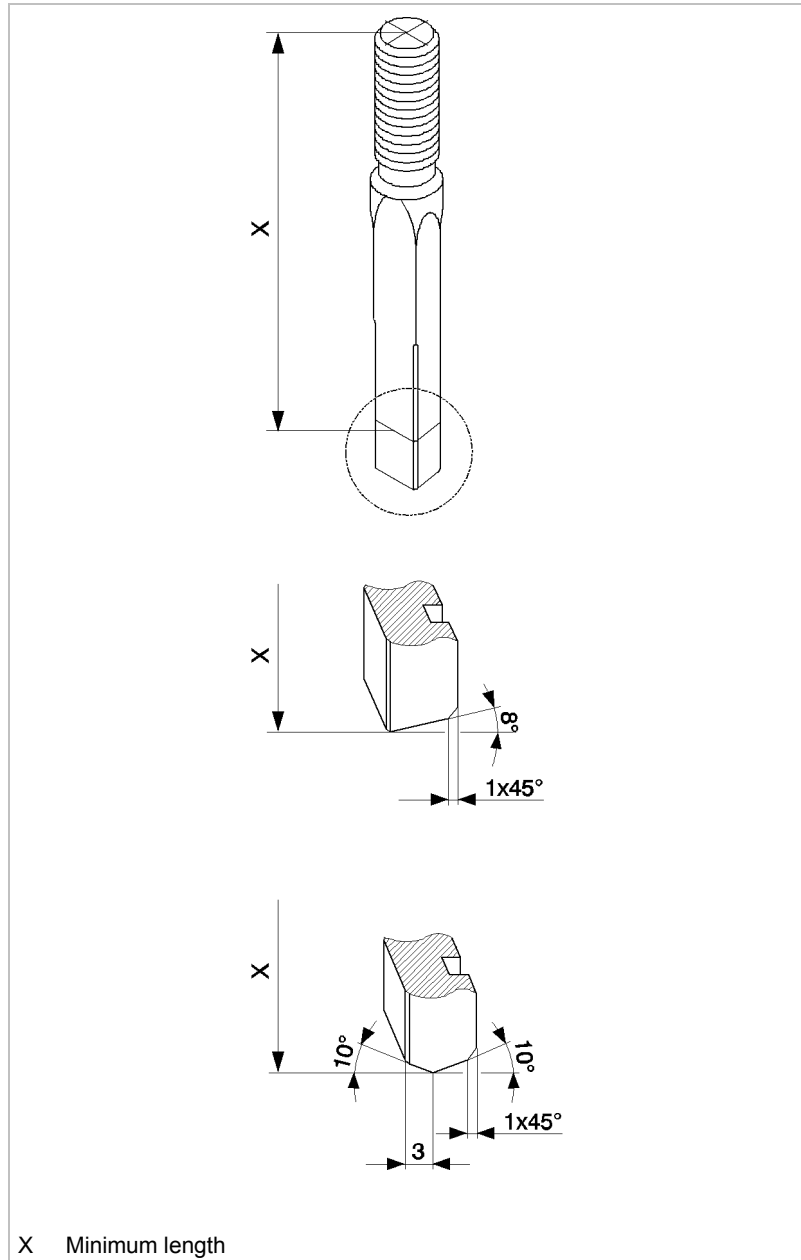


Fig. 9017

1. Regrind the grinding surface in accordance with the diagram, making sure that it is well-cooled during the process.
2. Lightly apply fine-grained oil stone to the cutting edge.



### 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.

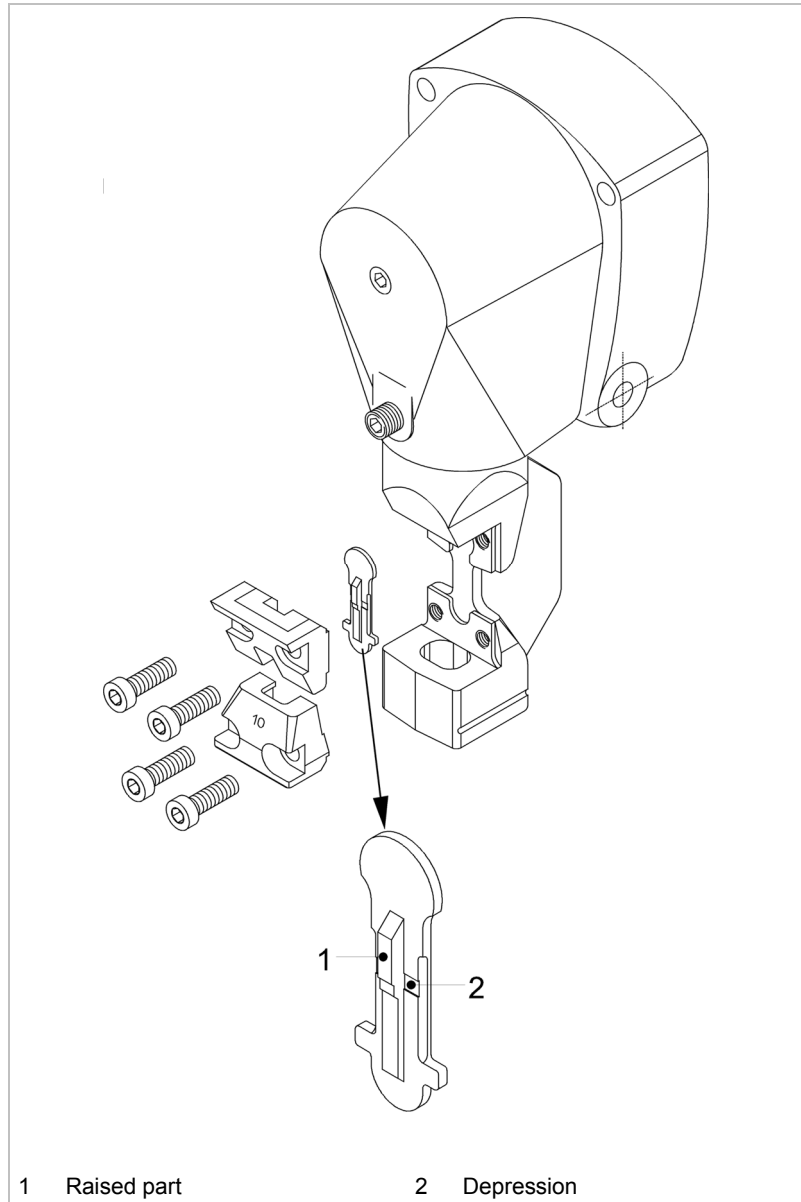


Fig. 9762



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The wearing plate must be replaced when:

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

## 5.4 Replacing carbon brushes

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

### Notes

- Use original replacement parts only.
  - Observe the information on the rating plate.
- Have the carbon brushes checked and replaced as required by a qualified technician.

## 6. Original accessories, wearing parts and optional items

-	Supplied original accessories	Wearing part	Optional	Order no.
Standard punch	x	x	-	0112900
Punch for high-tensile sheets	-	x	x	0120344
Die for up to 5 mm (type 5)	-	x	x	0130651
Die for 5-7 mm (type 7)	-	x	x	0112899
Die for 7-10 mm (type 10)	x	x	-	0112898
Die for 7-10 mm profile sheet (type P10)	-	x	x	0112897
Wearing plate	x	x	-	0112922
Handle	x	-	-	0103555
Allen key DIN 911-12	x	-	-	0067920
Allen key	x	-	-	0118860
2 cap screws M14x45 for fastening the handle DIN 912	x	-	-	0105083
Lubricating grease "S1" tube	x	-	-	0121486
Punching and nibbling oil for steel (0.5 l)	x	x	-	0103387
Punching and nibbling oil for aluminum (1 l)	-	-	x	0125874
Operator's manual	x	-	-	0120218
Safety information (red document), other countries	x	-	-	0125699
Safety information (red document), USA	x	-	-	1239438
Chip bag	-	-	x	0115215
Case	-	-	x	0121585
Suspension bracket	-	-	x	0105001

Tab. 8

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## 6.1 Ordering wearing parts and optional items

**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](http://www.trumpf-powertools.com).

4. Send the order to the TRUMPF representative office.

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## 7. Appendix: Guarantee, declaration of conformity, replacement parts lists

