

Operator's manual



TruTool N 700 (1A1)

english

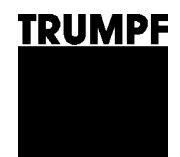


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1. Safety

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

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

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.
-

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).



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.
-



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.
-

2. Description

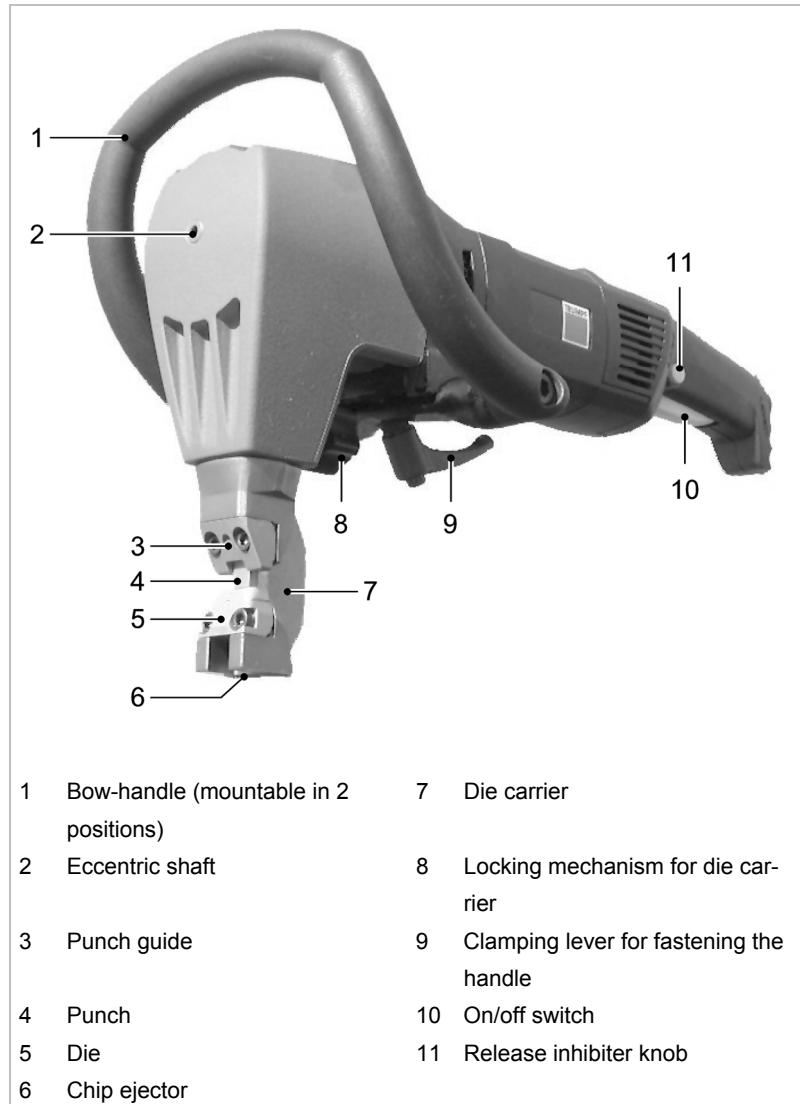


Fig. 38379

2.1 Intended use



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 700 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
Max. material thickness: Steel 400 N/mm ²	7.0 mm	7.0 mm	7.0 mm	0.28 in
Max. material thickness: Steel 600 N/mm ²	5.0 mm	5.0 mm	5.0 mm	0.2 in
Max. material thickness: Steel 800 N/mm ²	3.5 mm	3.5 mm	3.5 mm	0.14 in
Max. material thickness: Aluminum 250 N/mm ²	10 mm	10 mm	10 mm	0.4 in
Working speed	1.3 m/min	1.1 m/min	1.1 m/min	3.6 ft/min
Nominal power consumption	1600 W	1500 W	1500 W	1500 W
Current input	7.4 A	13.5 A	14.4 A	13.5 A
Idle stroke rate	440/min	470/min	440/min	470/min
Weight	8.3 kg	8.3 kg	8.3 kg	15.4 lbs
Cutting track width	11 mm	11 mm	11 mm	0.472 in
Starting hole diameter for die	60 mm	60 mm	60 mm	2.95 in
Sheet profiles 90° inner bending radius	min. 10 mm	min. 10 mm	min. 10 mm	0.4 in
Smallest radius for curved cutouts	135 mm	135 mm	135 mm	5.3 in
Distance to the template	11 mm	11 mm	11 mm	0.433 in
Protective insulation	Class II	Class II	Class II	Class II

Tab. 1

2.3 Noise and vibration information



WARNING

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

Noise emission value may be exceeded.

- Wear hearing protection.
-



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 device 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 in accordance with EN 60745
Vibration emission value a_h (vector sum of three directions)	m/s^2	12
Uncertainty K for vibration emission value	m/s^2	2.7
A-class acoustic pressure level L_{PA} typically	dB (A)	89
A-class acoustic power level L_{WA} typically	dB (A)	100
Uncertainty K for noise emission value	dB	3

Tab. 2

3. Setting work

3.1 Selecting a die



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).

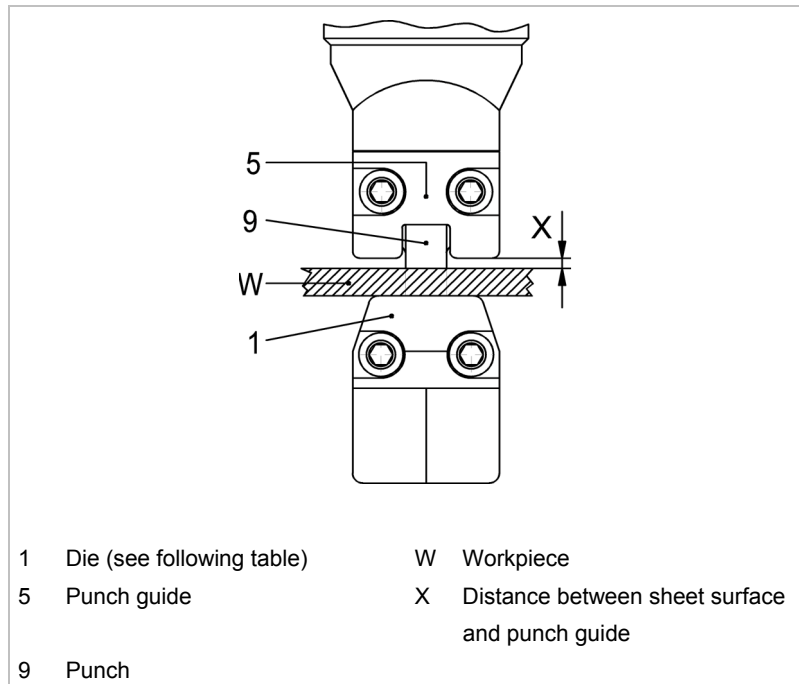
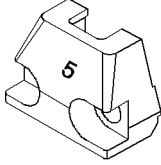
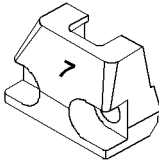
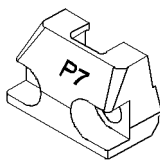


Fig. 16802

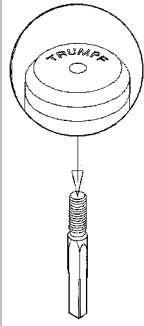
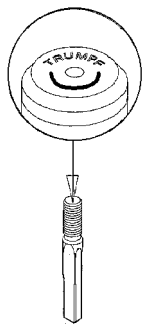
Depending on the thickness, tensile strength and type of the workpiece, one of the following types of die can be selected for the machining process:

Material	Type of die 5	Type of die 7	Type of die P7
-			
	Mat. no. 0098723	Mat. no. 0098722	Mat. no. 0098721
Material thickness in mm for flat workpieces			
Aluminum 250 N/mm ²	-5	>5-7	>7-10
Mild steel 400 N/mm ²	-5	>5-7	-
Stainless steel 600 N/mm ²	-5	-	-
Stainless steel 800 N/mm ²	-2.5	-	-
Material thickness in mm for profiles with press brake bending up to 90°			
Aluminum 250 N/mm ²	-3	>3-5	>5-7
Mild steel 400 N/mm ²	-3	>3-5	>5-7
Stainless steel 600 N/mm ²	-3	>3-5	-
Stainless steel 800 N/mm ²	-2.5	-	-

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
		
Order no.	104589	104590
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. 4

3.3 Setting the penetration depth

Note

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.

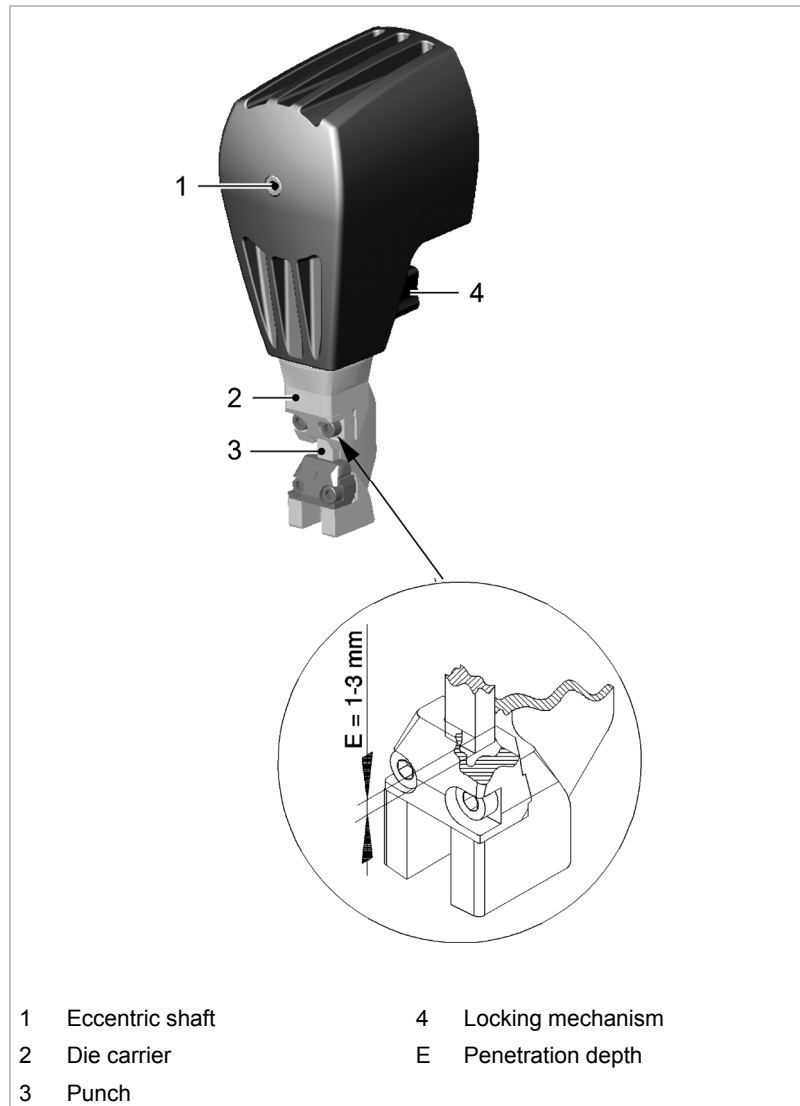


Fig. 38378

1. Rotate the eccentric shaft (1) until the punch (3) has reached its maximum penetration depth.
2. Open the locking mechanism (4).

Note

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

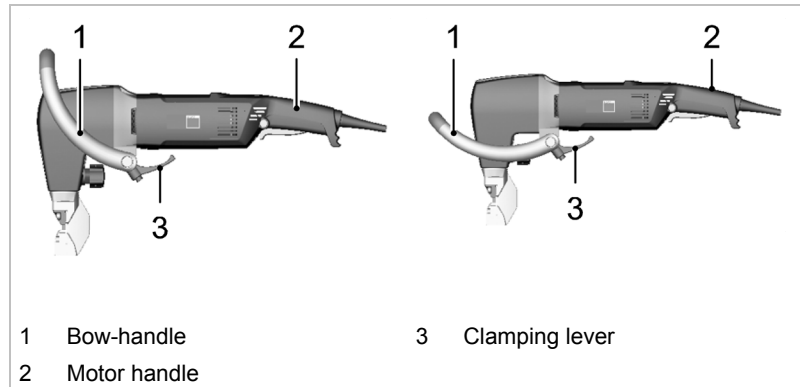
3. Rotate the die carrier (2) by 360° as often as needed until the punch penetration depth of 1-3 mm has been achieved.
4. Close the locking mechanism (4).

3.4 Selecting and attaching a handle

The suitable handle can be chosen depending on the application.

Two types of handle are available:

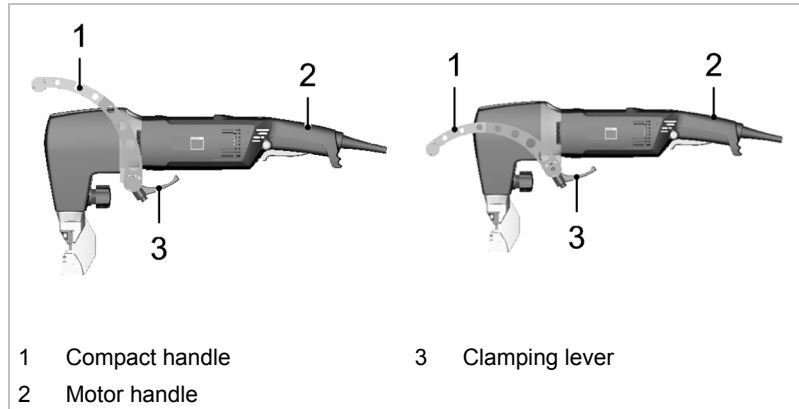
- Bow-handle
- Compact handle



Bow-handle TruTool N 700

Fig. 54785

The bow-handle provides optimum handle positioning at all working heights. In combination with the motor handle, the weight of the machine is distributed over both handles.



Compact handle TruTool N 700

Fig. 54786

The compact handle is developed for application in situations where space is limited (e.g. profile machining). Moreover it is made out of steel and is heat resistant.

Attaching the handle

1. Attach the handle to the machine without a tool, using the clamping lever (3) for assistance.

Swiveling the handle

Note

Each handle can be clamped in 2 positions using indexing.

2. Rotate the clamping lever (3) approx. 2 full turns.
3. Swivel the handle.
4. Fix the clamping lever (3) in place.

3.5 Rotating the motor handle



CAUTION

Damage to property due to dust being drawn into the ventilation slots

- Rotate the motor handle so that no dust can be drawn in at the air suction point.

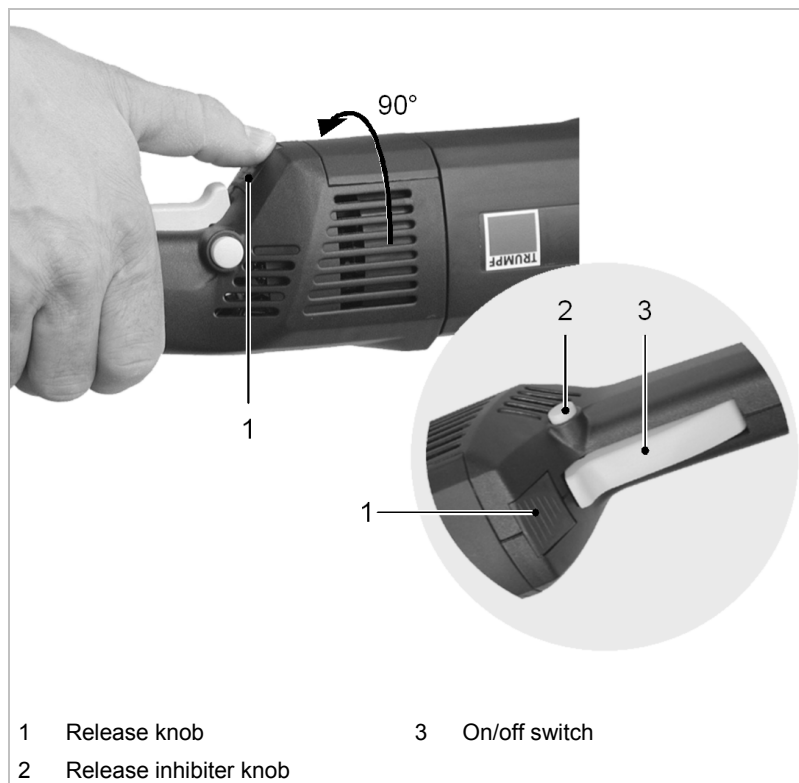


Fig. 38394

For applications where the machine is used at a 90° tilt, it is beneficial to rotate the handle accordingly.

1. Press down the release knob (1).
2. Rotate the handle ($\pm 90^\circ$).
3. Release the release knob (1).
4. Click the handle into place by turning it slightly.

4. Operation

4.1 Working with the TruTool N 700



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.



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.

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

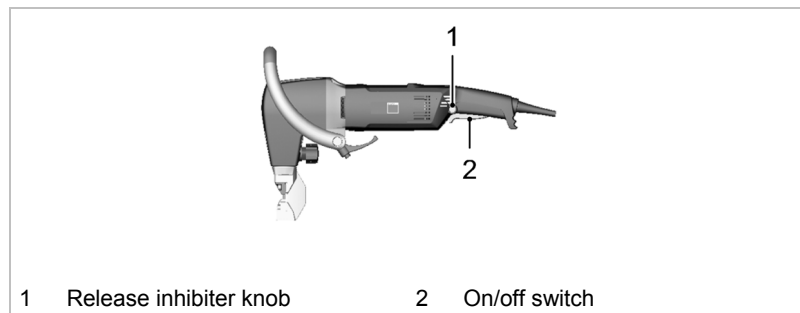


Fig. 38380



- Switching on**
1. **Either**
 - To switch the machine to continuous operation:
 - Hold down the release inhibitor knob (1) and press the on/off switch (2).
 - Release the on/off switch (2).The switch remains engaged. The motor is running.
 - or**
 - To switch the machine to instantaneous connection:
 - Hold down the release inhibitor knob (1) and press the on/off switch (2).
 - Release the release inhibitor knob (1).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 and release the on/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

- 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. Open the locking mechanism (8).
2. Rotate the die carrier (7) in the desired direction.
3. Close the locking mechanism (8).
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 11 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 135 mm.

4.4 Making interior cutouts

- Make a start hole at least 60 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 "G1"	-
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.

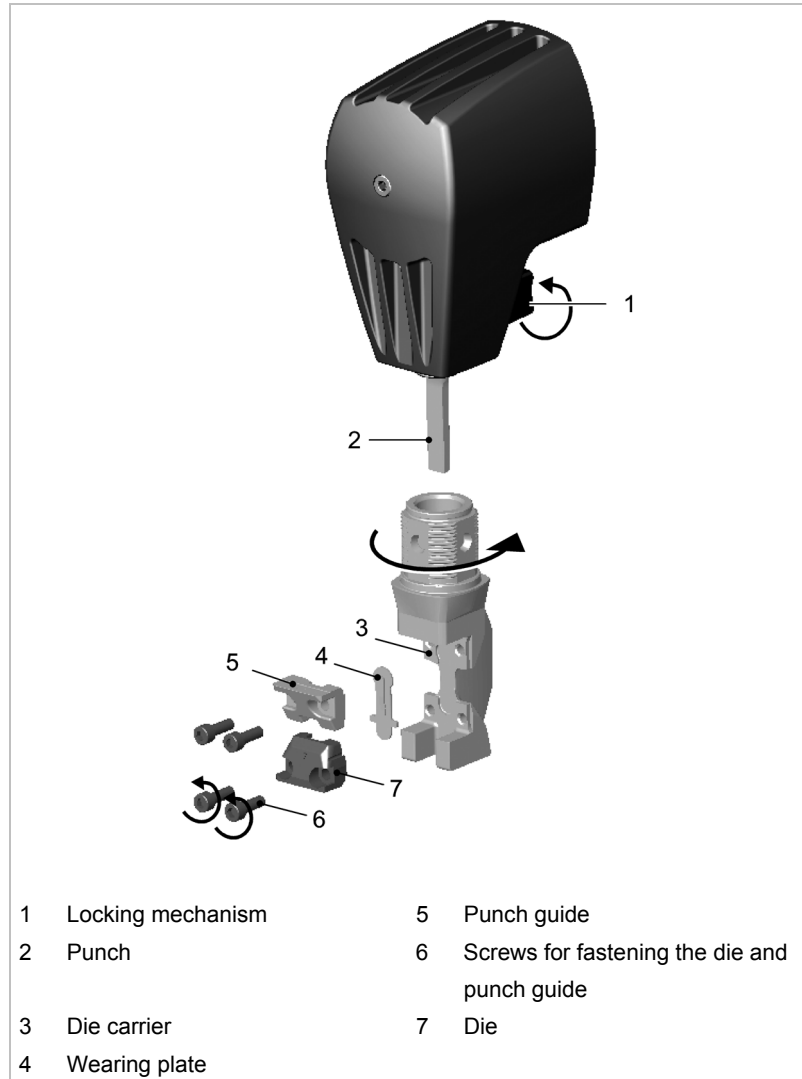


Fig. 38381

Changing the punch

1. Undo the locking mechanism (1).
2. Rotate the die carrier (3) by 45°.
3. Pull die carrier (3) out towards the bottom.
4. Screw out the punch (2).

Note

Use lubricating grease "G1" for lubrication (TRUMPF order no. 139440).

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 (1).

Changing the die and punch guide

1. Unscrew and remove the screws (6).
2. Clean the support areas on the die carrier (3).
3. Clean the replacement parts if necessary.

Note

Use lubricating grease "G1" for lubrication (TRUMPF order no. 139440).

4. Lubricate the guide surfaces of the punch guide.

Note

Use original screws only.

5. Tighten the screws (6) (torque 20 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 approx. 10 mm. Observe a minimum length of 89 cm: shorter punches must be replaced (risk of collision).

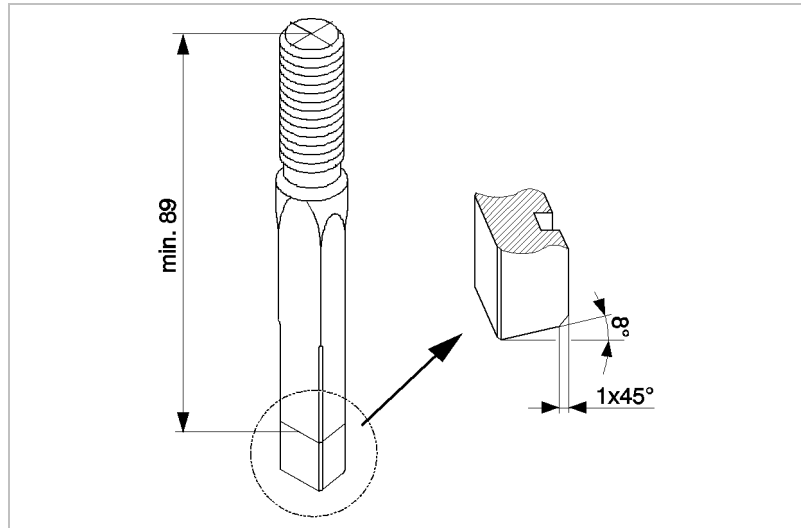


Fig. 9432

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.

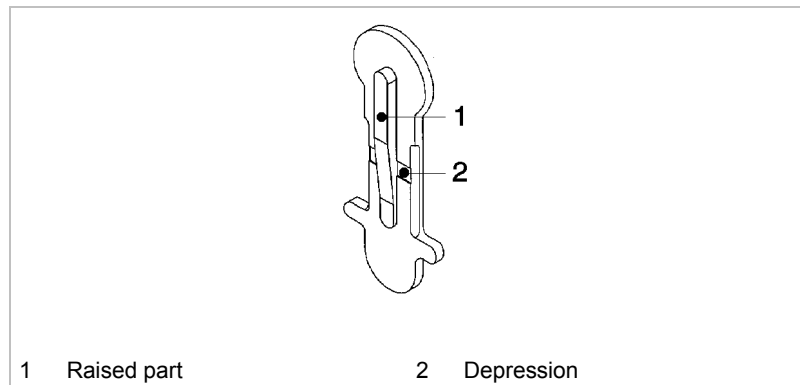


Fig. 9468

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.
Punch (standard)	x	x	-	0104589
Punch for high-tensile sheets	-	x	x	0104590
Die 5	-	x	x	0098723
Die 7	x	x	-	0098722
Die P7	-	x	x	0098721
Wearing plate	x	x	-	0119173
Bow-handle, complete	x	-	-	1279590
Compact handle, complete	x	-	-	1279618
Case	x	-	-	1279611
Punching and nibbling oil for steel (0.5 l)	x	x	-	0103387
Punching and nibbling oil for aluminum (1 l)	-	-	x	0125874
Allen key DIN 911-5	x	-	-	0067857
Lubricating grease "G1" tube (25 g)	x	-	-	0344969
Lubricating grease "G1" can (900 g)	-	-	x	0139440
Operator's manual	x	-	-	1277783
Safety information (red document), other countries	x	-	-	0125699
Safety information (red document), USA	x	-	-	1239438
Chip bag	-	-	x	0109275

Tab. 7

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.

4. Send the order to the TRUMPF representative office.

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