

# Operator's manual



## TruTool N 350 (1A1)

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english



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## Warranty

## Replacement parts list

## Addresses

# 1. Safety

- USA/CAN** ➤ Read the Operator's Manual and the general safety rules (Material number 1239438, red document) in their entirety before starting up the machine. Follow precisely the directions contained therein.

- Rest of the world** ➤ Read the Operator's Manual and the safety instructions (Material number 125699, red document) in their entirety before starting up the machine. Follow precisely the directions contained therein.
- The safety regulations according to DIN VDE, CEE, AFNOR and other regulations which are valid in individual countries should be adhered to.



**Danger**

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### Lethal danger due to electric shock!

- Remove the plug from the plug socket before undertaking any maintenance work on the machine.
  - Check the plug, the cable and the machine for damage each time before the appliance is used.
  - Keep the machine dry and do not operate in damp rooms.
  - When using the electric tool outside, connect the fault current (FI) protective switch with a maximum breaking current of 30 mA.
- 



**Warning**

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### Danger of injury possible due to improper handling!

- When working with the machine, wear safety glasses, hearing protection, protective gloves and work shoes.
  - Do not plug in the plug unless the machine has been switched off. Pull out the mains plug after use.
- 



**Warning**

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### Risk of injury to the hands!

- Do not place your hand into the processing line.
  - Use both hands to hold the machine.
-



**Caution**

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**Damage to property possible due to improper handling!**

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

- Do not use the power cord to carry the machine.
  - Always guide the electric cord away from the back of the machine and do not pull it across sharp edges.
  - Arrange for start-ups and checks on manual electric tools to be carried out by a trained specialist. Only used the original accessories provided by TRUMPF.
- 



**Warning**

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**Risk of injury from high-temperature and sharp chips!**

**High-temperature and sharp chips are expelled from the chip ejector at high speed.**

- The use of the chip bag is recommended.
- 



**Warning**

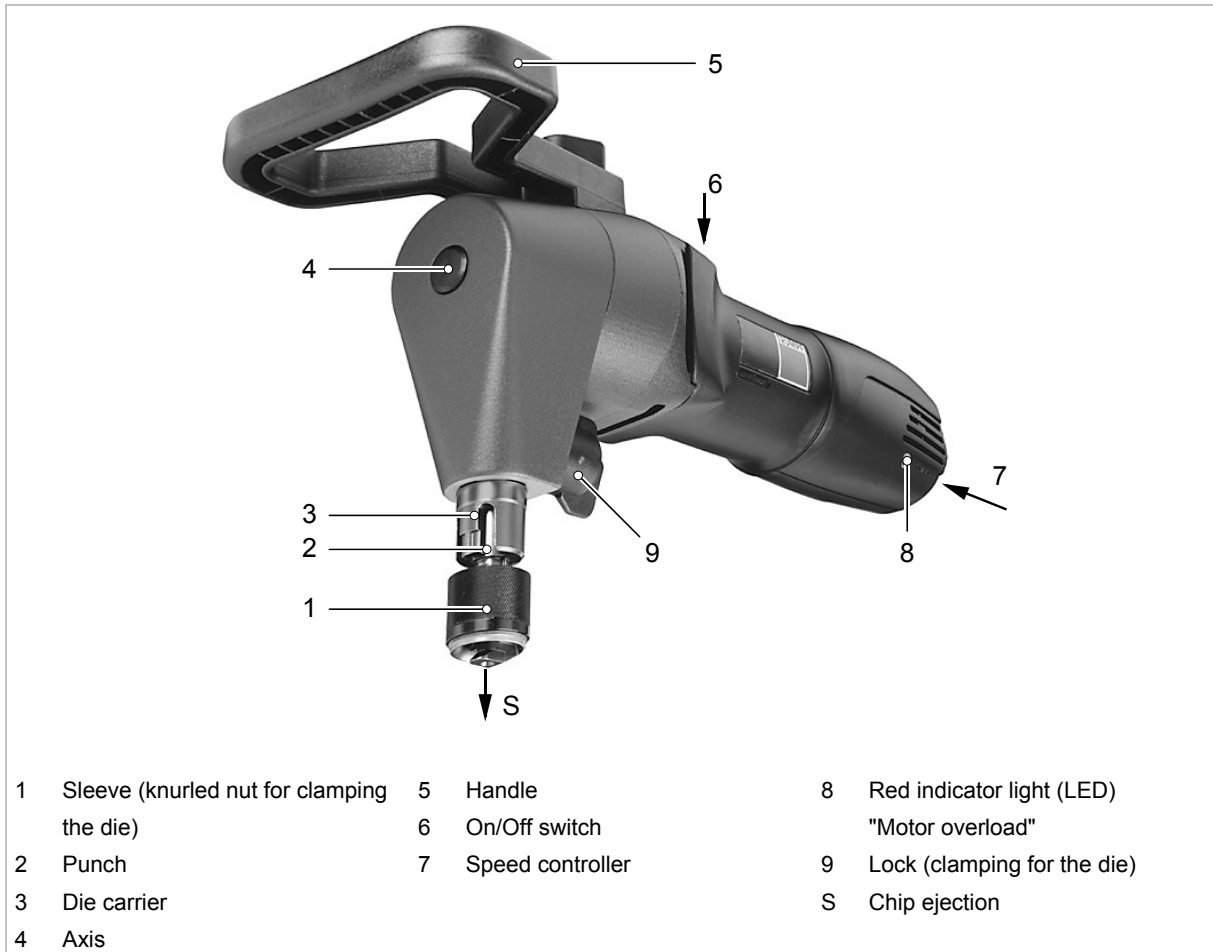
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**Risk of injury from falling machinery!**

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

- Use suspension eyelet with balancer.
-

## 2. Description



Nibbler TruTool N 350

Fig. 28212

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## 2.1 Correct use



### Warning

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#### Risk of injury!

- For processing and materials, only use machines which are named in "Correct use".

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The TRUMPF Nibbler TruTool N 350 is an electric hand tool used for the following applications:

- Slitting plate-shaped workpieces made of a punchable material such as steel, aluminium, non-ferrous heavy metals, and plastic.
- Nibbling straight or curved exterior and interior cutouts.
- Nibbling from scribed lines or templates.

#### Note

The nibbling process produces cutting edges free of deformations.

#### Note

Because of the hollow round punch, the nibbler can be rotated at any position such that processing can continue in any direction.

## 2.2 Technical data

	Rest of the world			USA
	Values	Values	Values	Values
<b>Voltage</b>	230 V	120 V	110 V	120 V
<b>Frequency</b>	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
• <b>Steel 400 N/mm<sup>2</sup></b>	3.5 mm	3.5 mm	3.5 mm	0.14 in
• <b>Steel 600 N/mm<sup>2</sup></b>	2.3 mm	2.3 mm	2.3 mm	0.09 in
• <b>Steel 800 N/mm<sup>2</sup></b>	1.8 mm	1.8 mm	1.8 mm	0.07 in
• <b>Aluminium 250 N/mm<sup>2</sup></b>	3.5 mm	3.5 mm	3.5 mm	0.14 in
<b>Working speed</b>	1.4 m/min	1.4 m/min	1.4 m/min	3.9 ft/min
<b>Nominal power consumption</b>	1400 W	1400 W	1140 W	1200
<b>Stroke rate with idle run</b>	725/min	725/min	650/min	650/min
<b>Weight</b>	3.7 kg	3.7 kg	3.7 kg	8.2 lbs
<b>Cutting track width</b>	14 mm	14 mm	14 mm	0.55 in
<b>Start hole diameter for die</b>	30 mm	30 mm	30 mm	1.2 in
<b>Smallest radius with curved cutouts</b>	7 mm	7 mm	7 mm	0.28 in
<b>Protective insulation</b>	Class II	Class II	Class II	Class II

Technical data

Table 1

<b>Noise and vibration</b>	<b>Measured values in accordance with EN 50144</b>
A-weighted sound level	Typically 83 dB (A)
A-weighted acoustic power level	Typically 85 dB (A)
Hand-arm vibration	Typically less than or equal to 2.5 m/s <sup>2</sup>

Measured values for noise and vibration

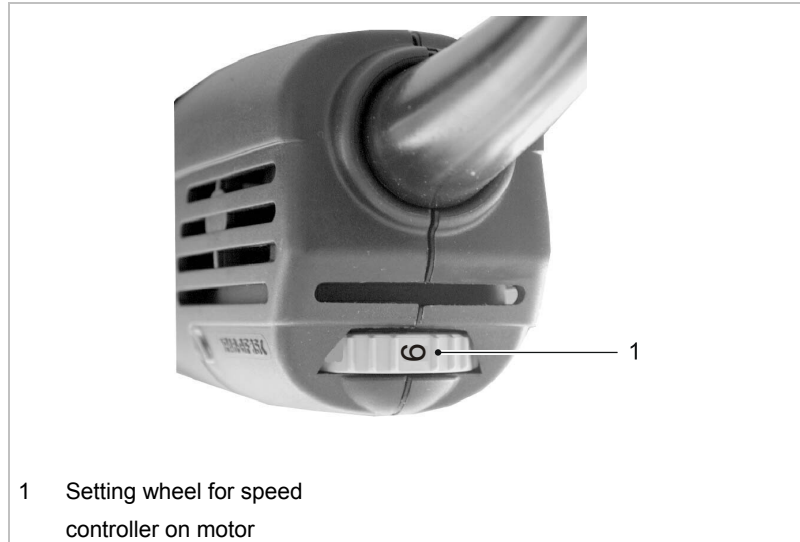
Table 2

### Note

The measured values specified above may be exceeded while working.

### 3. Tool assembly

#### 3.1 Changing the stroke rate



Speed controller

Fig. 27948

Reducing the stroke rate: rotate setting wheel for the speed controller counter-clockwise.

A reduced number of strokes improves the quality of the work

- for precise machining along scribed lines.
- for machining radiuses.
- for machining steel with a tensile strength  $> 400 \text{ N/mm}^2$  (improved service life).



## 3.2 Selecting the tool.

2 different tool sets are available for machining sheets of different tensile strengths:


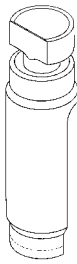
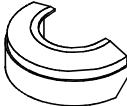
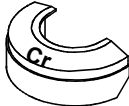
Parameters	Standard	Cr
<b>Tensile strength of the material to be machined</b>	< 400 N/mm <sup>2</sup> (e.g. mild steel)	> 400 N/mm <sup>2</sup> (e.g. chromium steel)
<b>Type of punch</b>	Standard (093538)	Punch for high-tensile sheets (103545)
<b>Characteristics differentiating between the punches</b>		
<b>Die</b>	Standard (093536)	Die for high-tensile sheets (103546)
<b>Characteristics differentiating between the dies</b>		

Table 3

## 4. Operation



**Caution**

**Damage to property possible due to too-high network voltage!**

**Damage to the motor.**

- Check the power supply. The power supply must correspond to the information on the machine type plate.



**Warning**

**Danger of injury possible due to improper handling!**

- When working with the machine, always ensure that it has a secure base.
- Never touch the tool while the machine is running.
- Always guide the machine away from the body while working.
- Do not work holding the machine above your head.

### Electromagnetic faults

The appliance may switch off prematurely when affected by electromagnetic disruptions. The appliance will resume operation once the faults have been cleared.

### Motor overload protection

If the motor temperature is too high, the motor will switch off. The red indicator light (LED) with the motor lights up.

- Allow the machine to run in idle until it has cooled down.

The machine can be operated again normally after it has cooled down.

### Switching on the TruTool N 350

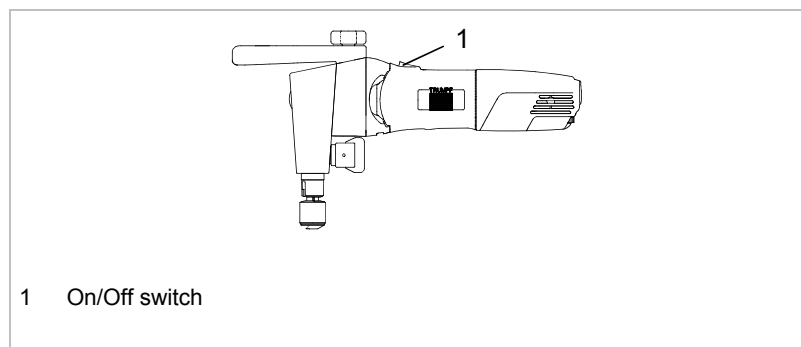


Fig. 27991

- Move the On/Off switch to the front.



### Note

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

Material	Oil
Steel	Punching and nibbling oil, Order No. 103387
Aluminium	Wisura oil, Order No. 125874

Table 4

### Working with the TruTool N 350

1. Do not move the machine towards the workpiece until full speed has been reached.
2. Machine/process the material.
  - Machine the desired cutting line.
3. In the event that the cutting track ends in the sheet, pull the still-running machine a few millimetres back towards where the cutting track has already been cut open.
4. Switch off machine.

### Switching off the TruTool N 350

- Move the On/Off switch to the rear.

## 4.1 Changing the cutting direction

In situations where space is limited, the tool and/or the cutting direction can be turned by 90° to the right or to the left (see Fig. 9766, Pg. 15).

1. Open locking mechanism (31).
2. Rotate die carrier (3) by 90° in the desired direction.
3. Close the locking mechanism again (31) manually.

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## 4.2 Nibbling with templates

The following requirements must be met when nibbling with templates:

- The template must be at least 3-4 mm thick.
- The contour of the template must have a clearance of 5.5 mm to the contour to be nibbled out.
- The nibbler must be guided in such a way that the exterior cut-out of the punch guide (5) always remains up against the template.
- Observe a minimum radius of 7 mm.

## 4.3 Making inner cutouts

- Make a start hole at least 30 mm in diameter.

## 5. Maintenance



**Danger**

### Possible lethal danger due to electric shock!

- Pull the plug out of the socket when carrying out tool changes and before all maintenance work on the machine.



**Caution**

### Damage to property possible due to blunt tools!

#### Overloading of the machine.

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



**Warning**

### Risk of possible injury due to improper repairs!

#### The machine does not function properly.

- Repairs should be carried out only by a trained specialist.

Maintenance point	Procedure and time interval	Recommended lubricants	Order No. Lubrication agents
Punch and die carrier	With each tool change	Lubricating grease "G1" (tube) 25 g	344969
Gearbox and gear head (2)	After 300 operating hours, arrange for a trained specialist to relubricate or to replace the lubricating grease	Lubricating grease "G1" 900 g	139440
Punch	Regrind as needed	-	-
Punch	Replace as needed	-	-
Ventilation slots	Clean as needed	-	-
Die	Replace as needed	-	-

Maintenance positions and maintenance intervals

Table 5



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## 5.1 Changing the tool

If the punch or die becomes blunt, sharpen the punch or change the tool.

### Disassembling the punch

1. Open locking mechanism.
2. Rotate die carrier by 45°.
3. Pull die carrier out towards the bottom,
4. Remove punch by rotating it,

### Installing the punch

1. Lightly lubricate the punch and die carrier bore hole with lubricating grease "S1" TRUMPF Order No. 121486.

## Replacing the die

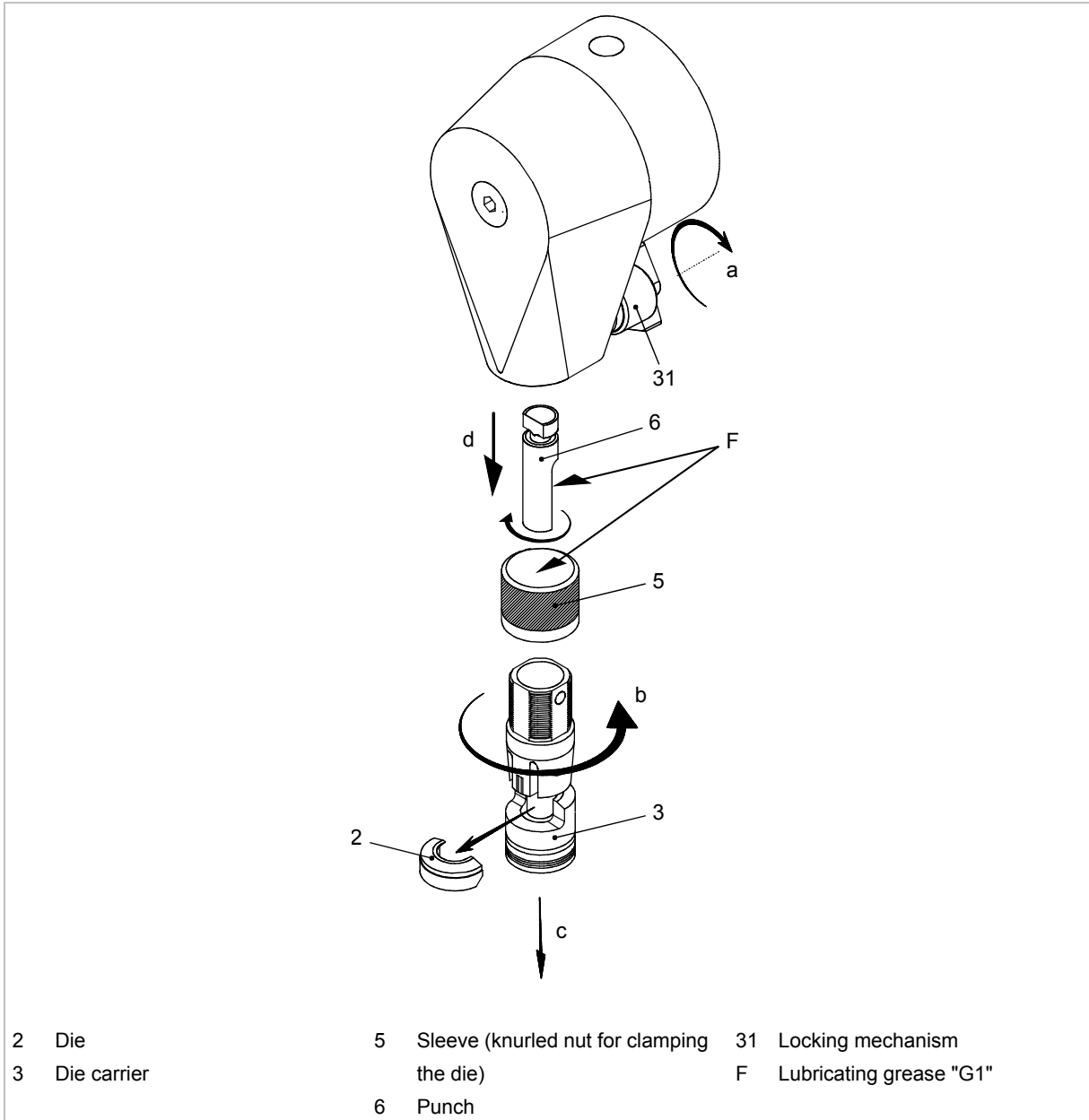


Fig. 9766

Requirements for loosening the die.

1. Loosen knurled nut.
2. Slide knurled nut upwards.
3. Clean support area on the die carrier.
4. Clamp the new die tightly in the die carrier with the sleeve.

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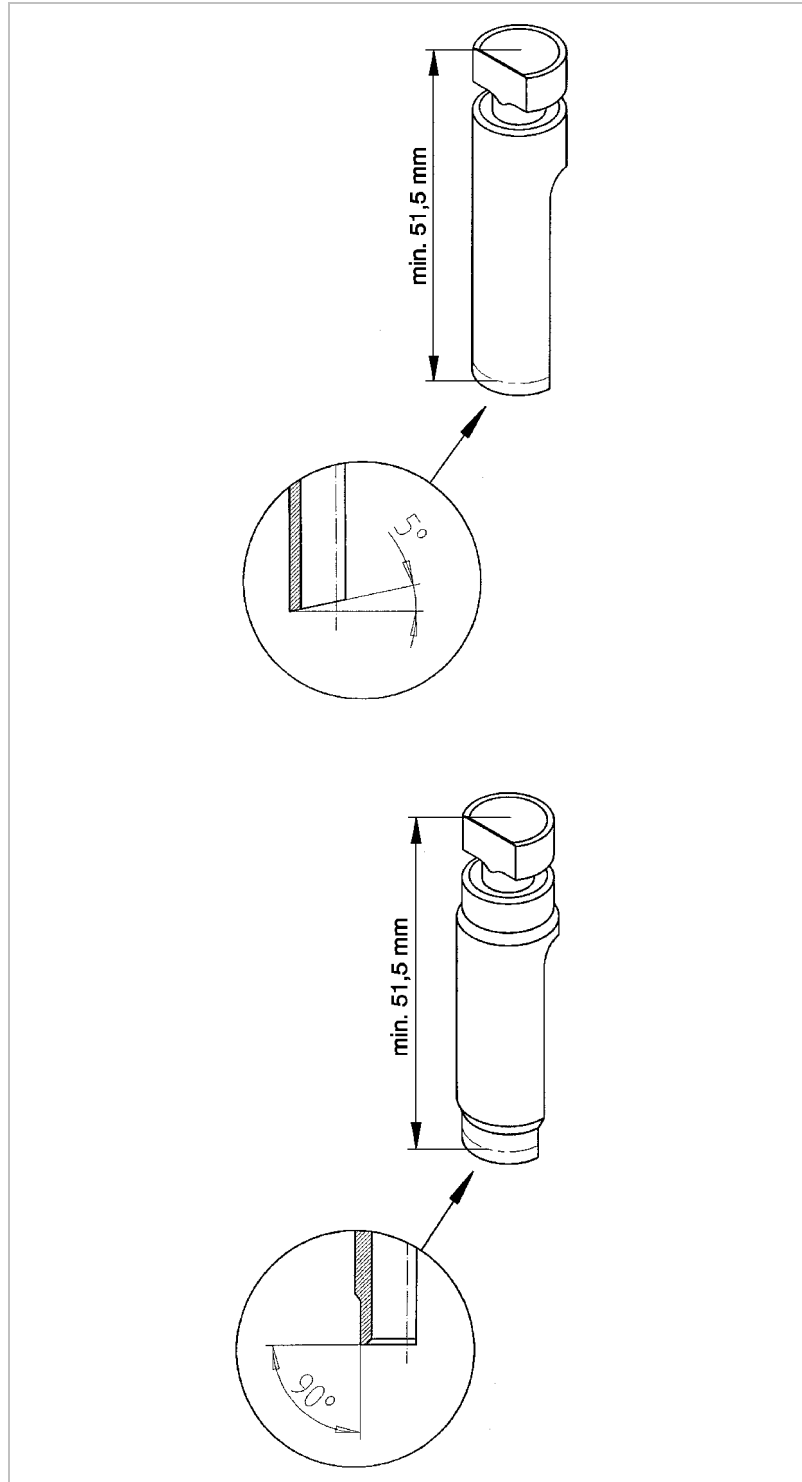
## 5.2 Disassembling the machine

If the machine has been taken apart, the following is to be observed when reassembling it:

- Tighten axis (093539) with a turning moment of 24 Nm.



### 5.3 Resharpener tools



Punch for the Nibbler N 350

Fig. 9907



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Punches can be resharpened as long as they do not become shorter than the minimum length specified.

- Regrind the grinding surface in accordance with the preceding diagram, making sure that it is well-cooled during the process.
- Lightly apply fine-grained oil stone to the cutting edge.
- Observe a minimum length of 51.5 mm. Shorter punches must be replaced (risk of collision).

**Note**

Dies can not be resharpened.

## 5.4 Replacing carbon brushes

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

- Have the carbon brushes checked and replaced as needed by a trained technician.

**Note**

Only use original replacement parts and take note of the information on the rating plate.

## 6. Wearing parts

Designation	Material No.
Standard punch	093538
Punch for high-tensile sheets	103545
Standard die	093536
Die for high-tensile sheets	103546

Table 6

**Ordering wearing parts** To ensure fast delivery of the correct original and wearing/ expendable parts:

1. Give the order number.
2. Enter further order data:
  - Tension data
  - Number of pieces
  - Machine type
3. Give complete dispatch data:
  - Correct address.
  - Required delivery type (e.g. air mail, courier, express mail, ordinary freight, parcel post).
4. Send the order to the TRUMPF representative office. For TRUMPF service addresses, see the address list at the end of the document.

## 7. Original accessories

Designation	Material No.
Handle, complete	974659
Lubricating grease "G1", tube	344969
Case	982540
Operator's manual	976150
Safety information (red document), other countries	125699
Safety information (red document), USA	1239438

Table 7

## 8. Options

Designation	Material No.
Chip bag	097210
Punching and nibbling oil for steel (0.5 litre)	103387
Punching and nibbling oil for aluminium (1 litre)	125874
Suspension eyelet	097208
Spacer bush for $\leq 2$ mm sheet	110104

Table 8