KNECHT

Operating Instructions

A 400

Sharpening Machine

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Operating Instructions

A 400 Sharpening Machine

Manufacturer

KNECHT Maschinenbau GmbH
Witschwender Straße 26
88368 Bergatreute
Germany

Phone +49-7527-928-0
Fax +49-7527-928-32

mail@knecht.eu
www.knecht.eu

Documents for machine operator

Operating Instructions

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1. Important notes

1.1 Preface to the operating instructions

These operating instructions are intended to make it easy to learn how to use the A 400 Sharpening Machine, hereafter referred to as the sharpening machine and to properly utilize its features.

These operating instructions contain important notes on how to operate the sharpening machine safely, properly and efficiently. Observing these instructions helps to avoid hazards, reduce repair costs and downtimes and to increase the reliability and service life of the sharpening machine.

The operating instructions must always be stored in the location that the sharpening machine is used.

The operating instructions must be read and applied by every person tasked with working with the sharpening machine, e.g.:

- transport, installation, commissioning
- operation, including error rectification during operation, as well as
- servicing (maintenance, repair).

Recognized technical standards for safe and professional work must be observed in addition to these operating instructions and the binding accident prevention regulations applicable in the country of use and at the place of use.

1.2 Warnings and symbols in the operating instructions

The operating instructions use the following symbols/designations that must be followed:

CAUTION

The hazard triangle with the signal word "CAUTION" serves as a work safety notice for all work for which there is a risk of personal injury or death.

In these cases, work should be done with special attention and care.

ATTENTION

"ATTENTION" is written in places where special attention must be paid to prevent damage or destruction of the sharpening machine or its surroundings.

NOTE

"NOTICE" refers to user tips and especially useful informations.

1. Important notes

1.3 Warning and mandatory signs and their meaning

1.3.1 Warning and mandatory signs on the sharpening machine

The following warnings signs have been affixed on the sharpening machine:

CAUTION! RISK OF INJURY FROM ABRASIVE PARTICLES (mandatory sign on the control panel)

Grinding, deburring and dressing gives rise to abrasive particles which can enter the eyes.

Wearing eye protection is mandatory when carrying out such work.

CAUTION! RISK OF INJURY FROM KNIFE! (mandatory sign on the control panel)

Working with the sharpening machine involves grinding knives that could cause serious cut injuries due to their sharpness.

Caution when transporting blades. Use the protective equipment provided by the knife manufacturer. Protective gloves and safety shoes must be worn.

1.3.2 General warning and mandatory signs

The following general warning signs must be observed:

CAUTION! DANGEROUS ELECTRICAL VOLTAGE!

The sharpening machine carries life-threatening voltage when it is connected to the power supply.

Voltage-carrying parts of the machine may only be opened by authorized personnel.

Before care, maintenance and repair work, the sharpening machine must be disconnected from the power supply.

1. Important notes

1.4 Rating plate and machine serial number

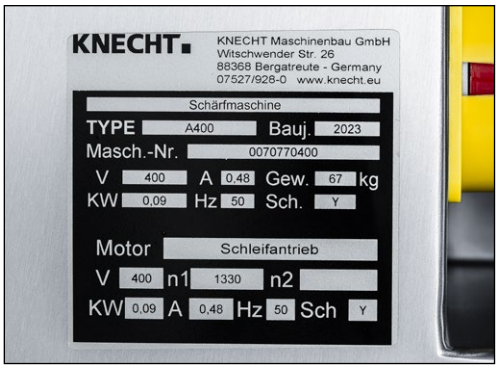

Figure 1-1 Rating plate

The rating plate (1-1) is located on the left side of the machine.

Figure 1-2 Machine serial number

The machine serial number (1-2) is located on the rating plate (1-1) and on the lower right side of the grinding table.

1.5 Figure and item numbers in the operating instructions

If the text makes a reference to a machine component depicted in a figure, the figure and position number will be given in brackets.

Example: (7-3/1) means picture number 7-3, position 1.

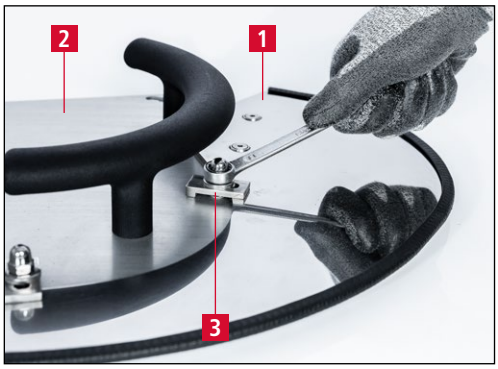

Figure 7-3 *Clamping the sickle shaped knife on the copy grinding plate*

Place the sickle-shaped knife (7-3/1) with the knife protector on the corresponding copy grinding plate (7-3/2).

Tighten the clamping claws (7-3/3) with moderate force using an AF 13 mm open-end wrench.

2. Safety

2.1 Basic safety instructions

2.1.1 Observe notes in the operating instructions

The basic prerequisite for the safe handling and uninterrupted operation of this sharpening machine is knowledge of the basic safety instructions and regulations.

- These operating instructions contain important notes on how to operate the sharpening machine safely.
- All persons carrying out work on the sharpening machine must follow these operating instructions, in particular the safety notices.
- In addition, the rules and regulations regarding accident prevention at the place of use are to be observed.

2.1.2 Obligation on the part of the operator

The operator is obliged to allow only those persons to work on the sharpening machine, who

- are familiar with the occupational safety and accident prevention regulations and have received instruction in handling the sharpening machine,
- have read and understood the operating instructions, in particular the section entitled "Safety" and the warning notes and have provided signed confirmation of this.

The safety-awareness of the personnel at work will be monitored at regular intervals.

2.1.3 Obligation on the part of the personnel

All personnel working on the sharpening machine shall be obliged, before starting work, to

- observe basic occupational safety and accident prevention regulations,
- read the operating instructions, particularly the section entitled "Safety" and the warning notes and provide signed confirmation that they have understood them.

2.1.4 Hazards involved in handling the sharpening machine

The sharpening machine has been built to the latest technological standards and the recognized rules of technical safety. In spite of this, its use poses inherent risks which could result in bodily harm or even death of the user or third persons, or damage to the sharpening machine or other property.

The sharpening machine may be used only:

- for its intended purpose
- in a safe and secure condition.

2. Safety

Malfunctions that may impair safety are to be eliminated immediately.

2.1.5 Malfunctions

If safety-relevant malfunctions occur with the sharpening machine, or if the processing behavior indicates that such malfunctions may have occurred, the sharpening machine must be stopped immediately and until such time as the malfunction has been found and eliminated.

Allow only authorized trained personnel to eliminate the malfunctions.

2.2 Intended use

The sharpening machine is exclusively suitable for sharpening sickle shaped knives up to a maximum size of 1000 mm.

Any other use or use beyond this is not considered as intended. KNECHT Maschinenbau GmbH is not liable for any damage resulting from this. The risk is borne solely by the user.

Intended use also includes observing all instructions in the operating manual.

ATTENTION

Improper use of the sharpening machine exists, for example, if:

- **fixtures are not properly fastened.**
- **cutting tools other than those mentioned above are sharpened.**

2.3 Warranty and liability

Warranty and liability claims in case of personal injury or property damage are excluded if such damage is attributable to one or more of the following causes:

- improper use of the sharpening machine,
- improper transport, commissioning, operation and maintenance of the sharpening machine,
- operating the sharpening machine with defective safety devices, or using improperly attached or malfunctioning safety and protective equipment,
- failure to observe the instructions with regard to transportation, commissioning, operation, maintenance and repair of the sharpening machine,
- unauthorized structural alterations to the sharpening machine,
- unauthorized modification, e.g. of the drive conditions (output and speed),

- failure to monitor machine parts that are subject to wear, and
- use of unapproved replacement and wear parts.

Use only original replacement and wear parts. If externally purchased parts are used, it is not guaranteed that they have been designed and manufactured to meet the requirements in terms of stress and safety.

2.4 Safety regulations

2.4.1 Organizational measures

Inspect all available safety devices regularly.

Observe prescribed intervals for recurring maintenance work or as specified in the operating instructions!

2.4.2 Protective equipment

Before every commissioning of the sharpening machine, ensure that all protective equipment is properly mounted and in functional condition.

Protective equipment may be removed only after the sharpening machine has stopped and has been secured against accidental restart.

When attaching spare parts, the protective equipment must be attached by the operator as stipulated.

2.4.3 Informal safety measures

The operating instructions must be permanently available at the place of use of the sharpening machine. In addition to the operating instructions, the generally applicable as well as locally relevant accident prevention regulations must also be made available and observed.

All safety alert symbols and hazard warnings on the sharpening machine must be complete and clearly legible.

2.4.4 Selection and qualification of personnel

Only trained and instructed personnel may work on the sharpening machine. Observe the legally permitted minimum age!

The responsibilities of personnel with respect to commissioning, operation, maintenance and repair must be clearly specified.

Personnel still undergoing training or instruction may only work on the sharpening machine under the permanent supervision of an experienced person!

2.4.5 Machine control system

Only trained and instructed personnel are permitted to switch on and operate the machine.

2.4.6 Safety measures in normal operation

Do not operate the machine in any unsafe manner. Only operate the sharpening machine if all the safety devices are installed and fully functional.

At least once per shift (or per day), check the sharpening machine for externally visible damage and proper functioning of the safety devices.

Immediately report any changes present (including those of the operating behavior) to the responsible office or person. If necessary, immediately shut down the sharpening machine and secure it against restart.

Before you switch on the sharpening machine, ensure that no one can be injured by the start-up of the machine.

In the event of a malfunction, immediately stop the sharpening machine and secure it against restart. Rectify malfunctions immediately.

2.4.7 Hazards due to electrical power sources

Work on electrical systems or operating materials may only be performed by a qualified electrician, in accordance with electrical regulations.

Defects, such as damaged cables, cable connections, etc. must be immediately rectified by an authorized specialist.

2.4.8 Particular hazard areas

In the area of the grinding wheels there is a hazard of pinching and of drawing in e.g. clothing, fingers and hair. Suitable personal protective equipment must be worn.

2.4.9 Servicing (maintenance, repair) and fault rectification

Maintenance work is to be carried out on schedule by trained personnel. Inform operating personnel before beginning repair work. Designate a supervisor responsible for this.

For all service work, the sharpening machine is to be disconnected from the current supply and secured against accidental restart.

Remove power plug. Secure repair area as necessary.

After completing maintenance work and rectifying any faults, install all safety devices and verify that they are fully functional.

2.4.10 Structural alterations to the sharpening machine

Do not make any changes, additions or conversions to the sharpening machine without the approval of the manufacturer. This also applies to the installation and setup of safety devices.

Any conversion work requires the written permission from KNECHT Maschinenbau GmbH.

Immediately replace machine parts that are not in perfect condition.

Use only original replacement and wear parts. If externally purchased parts are used, it is not guaranteed that they have been designed and manufactured to meet the requirements in terms of stress and safety.

2.4.11 Cleaning the sharpening machine

Properly handle any cleaning agents and materials used and dispose of them in an environmentally-friendly manner.

Dispose of the wear parts and replacement parts in a safe and environmentally-friendly manner.

2.4.12 Lubricants / oils and greases

When using oils and greases, follow the safety regulations applicable to the product. Comply with the special regulations for the food areas.

2.4.13 Relocation of the sharpening machine

Disconnect the sharpening machine from any external power supply, even in the event of a minor change of location. Before restarting the sharpening machine, connect it properly to the power supply.

For loading work, use only lifting equipment and load-bearing devices with sufficient lifting capacity. Appoint a qualified instructor for the lifting operation.

No persons other than those designated for this work may be present in the loading and installation area.

Only lift the sharpening machine properly with lifting gear as specified in the operating instructions. Only use a suitable transport vehicle with sufficient load-bearing capacity. Secure the load reliably. Use suitable attachment points.

When restarting the machine, proceed only in accordance with the operating instructions.

3. Description

3.1 Intended use

The A400 Sharpening Machine is used to sharpen and deburr sickle-shaped knives up to a maximum size of 1000 mm.

3.2 Technical specifications

Height	approx. 1510 mm
Width	approx. 1260 mm
Depth	approx. 790 mm
Space requirement (WxD)	approx. 2200 x 1450 mm
Weight	approx. 67 kg
Power supply*	3x 400 V
Mains frequency*	50 Hz
Power output*	0.18 kW
Power consumption*	0.18 kW
Current consumption*	0.48 A
Back-up fuse	16 A
Idling noise**	approx. 68 dB (A)
Operating noise level (measured A-weighted emission sound pressure level at the workplace LpA**	approx. 71 dB (A)
Diameter of wet-grinding wheels	150 mm
Speed	130 1/min

*) This information may change depending on the electrical current supply.
**) Two-digit sound emission value according to EN ISO 4871 (measurement uncertainty KpA. 3 dB (A)). Emission sound pressure level according to EN ISO 11201. Sharpened was a sickle-shaped knife from Magurit company.

3. Description

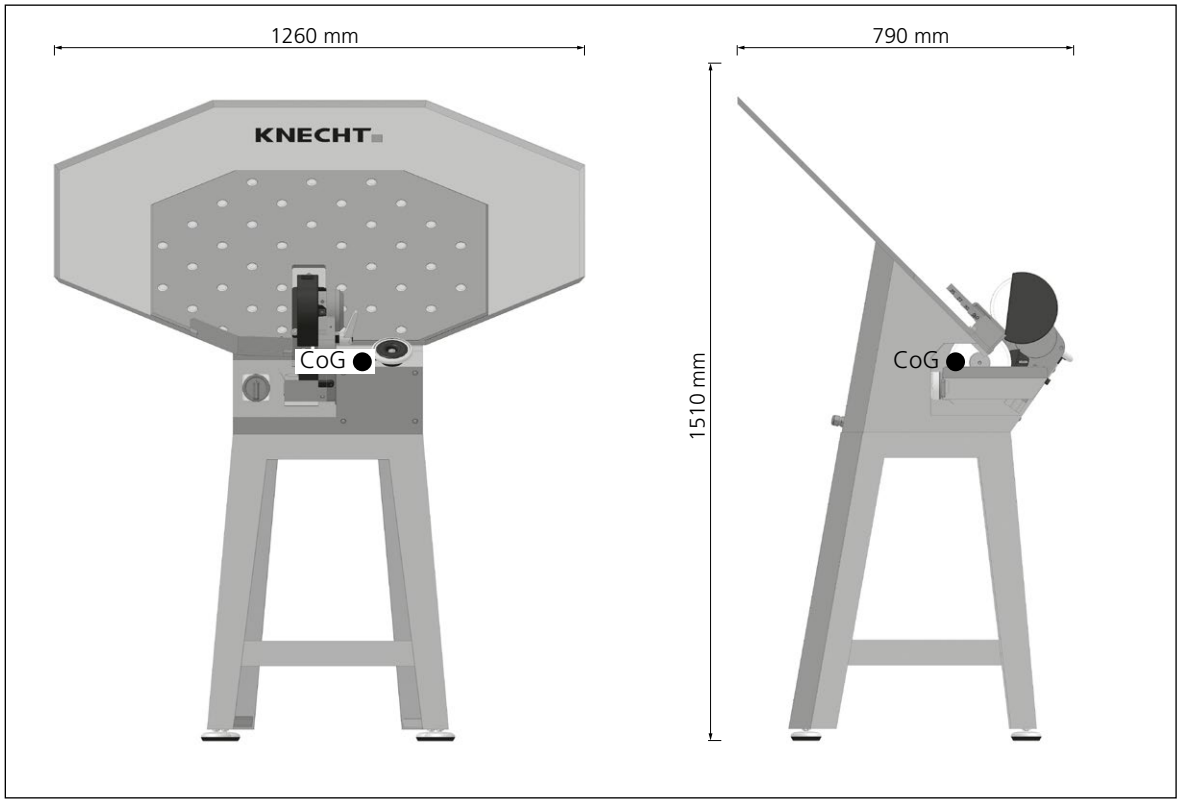

Figure 3-1 Dimensions in mm

3.3 Functional description

The A 400 Sharpening Machine is used to sharpen and deburr sickle-shaped knives up to a maximum size of 1000 mm. The maximum bevel width is 5 mm.

For sharpening, the sickle-shaped knives are guided manually on a defined path along the grinding wheels. The path is specified by the copy grinding plate and corresponds to the knife contour.

The grinding angle is continuously adjustable between 25° and 35°. The setting is made by means of corresponding angle gauges.

3.3.1 Structure

The sharpening machine has a grinding unit with two grinding wheels and one deburring wheel. The grinding wheels are located in the lower area, the deburring wheel in the upper area of the grinding aggregate.

The grinding unit is driven by an electric motor. The power is transmitted to the grinding wheels via a spur gear transmission.

3. Description

3.4 Description of the assemblies

Figure 3-2 General view of sharpening machine

1 Grinding table
2 Copy grinding plate
3 Sickle-shaped knife
4 Grinding unit
5 Main switch
6 Water tray
7 Hand wheel angle adjustment
8 Adjustable machine feet

3. Description

3.4.1 Angle gauge

Figure 3-3 Angle gauges

1 Angle gauges

3.4.2 Control panel

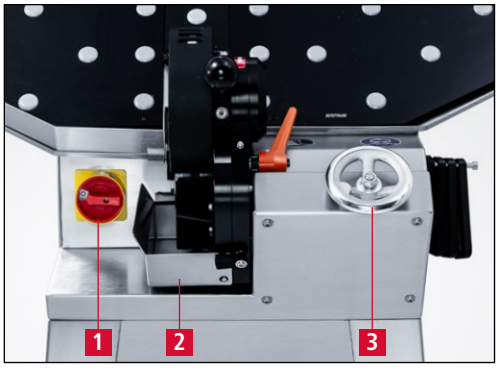

Figure 3-4 Control panel

1 Main switch
2 Water tray
3 Hand wheel for angle adjustment

3.4.3 HV 146 Truing Device

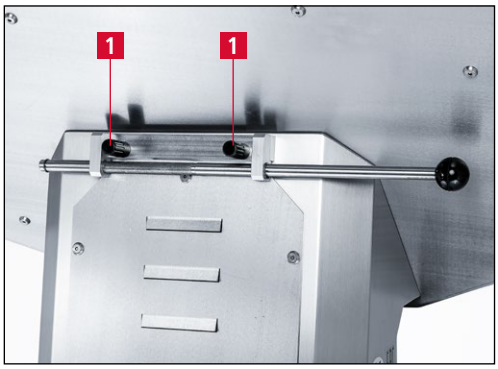

Figure 3-5 HV 146 Truing Device

The truing device is located on the rear side of the machine.

To remove it, loosen the two knurled screws (3-5/1) counterclockwise.

4. Transport

When transporting, observe the local applicable safety and accident prevention regulations.

Only transport the sharpening machine with the machine feet facing downwards.

4.1 Transport aids

For transporting and for setting up of the sharpening machine, only use adequately dimensioned transport aids.

Note the machine's center of gravity when transporting. The center of gravity (CoG) is shown in figure 3-1.

4.2 Transport damage

If damage is detected after unloading, during acceptance of the delivery, immediately inform KNECHT Maschinenbau GmbH and the forwarding agent. If necessary, an independent expert must be called in immediately.

Remove packaging and fastening straps. Dispose of packaging in an environmentally friendly manner.

4.3 Transport to another installation site

For transport to another installation site, ensure that the space requirements are fulfilled (see Chapter 3.2).

A permissible electrical connection must be provided at the new installation site.
The sharpening machine must stand firmly and securely.

Work on the electrical unit is only to be carried out by an authorized specialist. Observe the locally applicable safety and accident prevention regulations.

5. Installation

5.1 Selection of qualified personnel

We recommend having installation work on the sharpening machine carried out by the trained KNECHT personnel.

We are not liable for any damage resulting from improper installation.

5.2 Installation site

When determining the installation site, bear in mind the space required for installation as well as maintenance and repair work on the sharpening machine (see Chapter 3.2).

5.3 Supply connections

The sharpening machine is provided ready to connect with the corresponding connection cable.

Ensure that the power supply is connected correctly.

If the connection is incorrect, the grinding wheels may rotate in the opposite direction to the prescribed rotating direction. An incorrect rotating direction can lead to serious injuries.

Observe the prescribed rotating direction, see Chapter 6.

5.4 Settings

KNECHT Maschinenbau GmbH will configure the various components as well as the electrical system before delivery.

ATTENTION

Unauthorized alterations to the preset values are not permitted and can damage the sharpening machine.

5. Installation

5.5 Initial start-up of the sharpening machine

Place the sharpening machine at the installation site on a level base.

Level out any floor unevenness by turning the machine feet. Align the machine using a spirit level.

Have the power supply installed on site by a qualified electrician.

Completely install and inspect the protective equipment before commissioning.

Have all protective equipment checked for proper functioning by authorized trained personnel before commissioning the machine.

6. Commissioning

CAUTION

All work must be performed by authorized trained personnel.

Observe the locally applicable safety and accident prevention regulations.

There is a risk that hands, hair and clothing may be pulled in while the sharpening machine is switched on.

Serious injury may result. Wear personal protective equipment.

Figure 6-1 Moving the grinding unit to the upper end position

Move the grinding unit clockwise to the upper end position using the hand wheel (6-1/1).

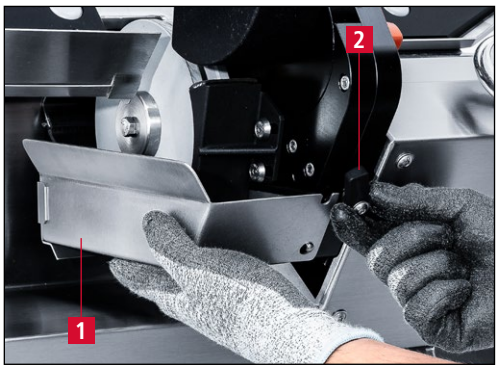

Figure 6-2 Removing the water tray

Swivel the locking lever (6-1/2) of the water tray (6-1/1) clockwise upward.

Pull out the water tray to the front.

6. Commissioning

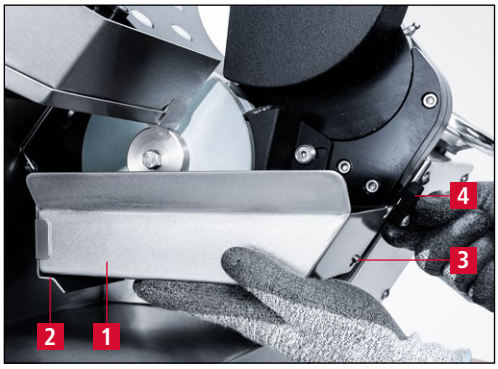

Figure 6-3 Mounting the water tray

Fill the water tray (6-3/1) with water up to approx. 1 cm below the edge.

For installation, move it to the rear as far as possible. Lift the water tray and move it into the rear holder (6-3/2).

The front fixing bolt (6-3/3) must pass through the hole in the front of the water tray.

Swivel the locking lever (6-3/4) counterclockwise downward until it stops.

The water tray (6-3/1) is now secured.

ATTENTION

When the machine is switched off, the grinding wheels may not stand in water for a longer period of time, as they will otherwise become out-of-round.

Connect the machine plug to the on-site socket (3x 400 V, 16 A).

Figure 6-4 Switching on the sharpening machine

Switch on the sharpening machine.

To do this, turn the main switch (6-4/1) to position "I ON".

The grinding wheels rotate.

Figure 6-5 Checking the rotating direction

Check the rotating direction of the grinding wheels.

The direction arrow (6-5/1) indicates the rotating direction of the upper grinding wheel (deburring wheel).

If the rotating direction of the grinding wheels is not correct, have the phase reversed by a qualified electrician.

After ensuring the prescribed rotating direction, switch off the sharpening machine.

7. Operation

7.1 General grinding fundamentals

To sharpen the cutting edge which has become blunt, the metal must be removed from the knife.

For this purpose, the sickle shaped knife is ground to the cutting edge until the desired sharpness is achieved. With the A 400, the knife is ground and deburred at the same time. The special matching of the grinding and deburring wheels makes this possible.

As it is not only the sharp cutting edge, but also the long service life that define a blade, the cutting edge angle is another important indicator of a blade's performance.

The smaller the cutting edge angle, the higher its theoretical service life. In practice, however, it seems that a cutting edge angle that is too small results in the cutting edge breaking off and thus becoming blunt.

The cutting edge angle is therefore between 25° and 35°. For cutting edge angles below 15°, the cutting edge is so unstable that it snaps with the smallest resistance.

For a cutting edge angle of more than 40°, the cutting edge is stable but it loses sharpness very fast.

As a general rule, the cutting edge angles specified by the manufacturer must be observed.

7. Operation

CAUTION

There is a risk that hands, hair and clothing may be pulled in while the sharpening machine is switched on. Serious injury may result!

Grinding create abrasive particles that can enter the eyes. Wear safety glasses.

7.2 Grinding with the copy grinding plate

7.2.1 Mounting the guide slide

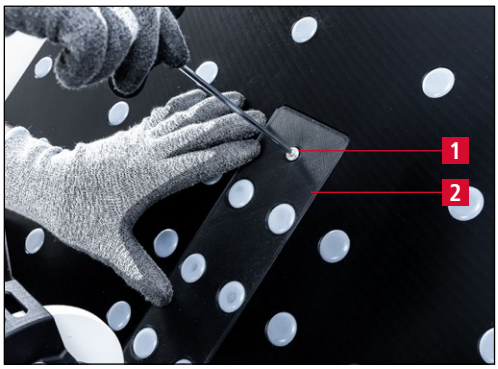

Figure 7-1 Removing the table segment

Use a hexagon screwdriver AF 4mm to unscrew the fastening screw (7-1/1) of the table segment (7-1/2).

Remove the table segment (7-1/2).

Figure 7-2 Mounting the guide slide

Mount the guide slide (7-2/1) in reverse order.

Tighten the screw with moderate force.

7.2.2 Clamping the sickle-shaped knife on the copy grinding plate

CAUTION

Serious cuts may occur when handling sickle-shaped knives. Only transport sickle-shaped knives using transport devices intended for this purpose.

Protective gloves and safety shoes must be worn.

NOTE

KNECHT produces a suitable copy grinding plate for each knife. KNECHT requires as precise information as possible on the shape and size of the knife to be ground. A drawing from the knife manufacturer is ideal (knives that can be procured on the open market sometimes deviate from the original contour).

Photos of the entire knife and the knife label are also helpful.

ATTENTION

Before clamping the knife, check whether the copy grinding plate fits the knife to be ground. Compare the inscription of the copy grinding plate with that of the knife.

The use of an unsuitable copy grinding plate can damage the knife and copy grinding plate.

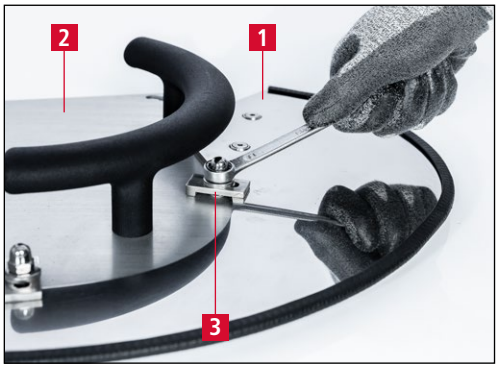

Figure 7-3 Clamping the sickle-shaped knife on the copy grinding plate

Place the sickle-shaped knife (7-3/1) with the knife protector on the corresponding copy grinding plate (7-3/2).

Tighten the clamping claws (7-3/3) with moderate force using an AF 13 mm open-end wrench.

NOTE

Before tightening, move the clamping claws as far as possible in the direction of the knife to obtain the best tension.

7. Operation

7.2.3 Mounting the adjustment stop for the angle setting

Figure 7-4 Mounting the adjustment stop

Mount the adjustment stop (7-4/1) to the left of the grinding unit in a clockwise direction and tighten it with moderate force.

7.2.4 Attaching the copy grinding plate with knife to the grinding table

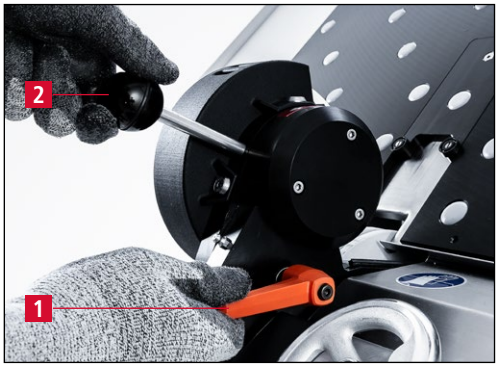

Figure 7-5 Swiveling the deburring unit to the upper end position

Slightly loosen the clamping lever (7-5/1) on the grinding unit counterclockwise.

Swivel the deburring unit (7-5/2) to the upper end position.

Tighten the clamping lever (7-5/1) again moderately.

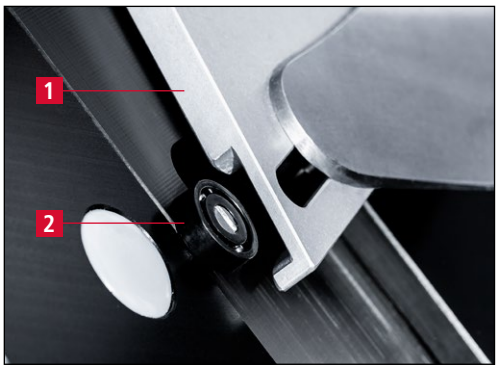

Figure 7-6 Attaching the copy grinding plate with knife to the grinding table

Insert the copy grinding plate (7-6/1) with the guide groove into the two ball bearings of the guide slide (7-6/2).

7. Operation

Figure 7-7 Removing the knife protector

Remove the knife protector (7-7/1).

Figure 7-8 Positioning the sickle-shaped knife

Position the sickle-shaped knife approximately centered to the grinding unit.

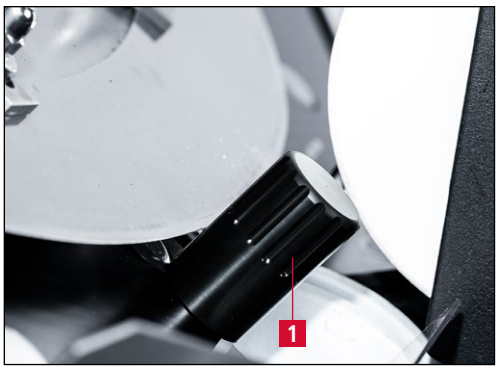

Figure 7-9 Cutting edge at the adjustment stop

Move the sickle-shaped knife in the direction of the grinding wheels until the cutting edge is in contact with the adjustment stop (7-9/1).

7. Operation

7.2.5 Setting the grinding angle

CAUTION

Adjust the grinding angle only with the sharpening machine switched off.

Serious injuries are possible.

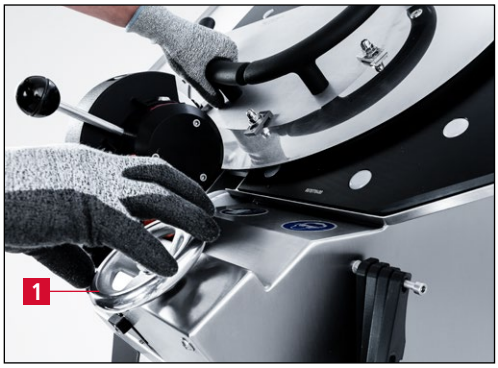

Figure 7-10 Moving the grinding unit to the lower end position

Move the grinding unit counterclockwise to the lower end position with the hand wheel (7-10/1).

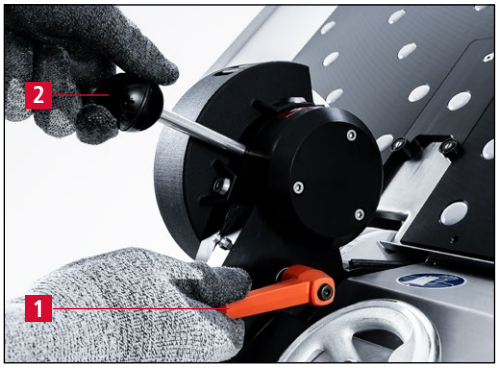

Figure 7-11 Swiveling the deburring unit upward

Slightly loosen the clamping lever (7-11/1) on the grinding unit by turning it counterclockwise.

Swivel the deburring unit (7-11/2) into the upper end position.

Tighten the clamping lever moderately again.

Figure 7-12 Selecting the angle gauge

Selecting the angle gauge (7-12/1).

7. Operation

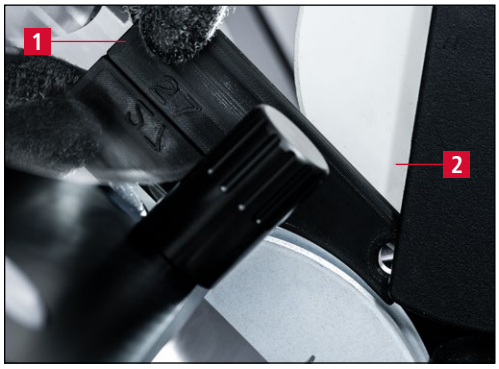

Figure 7-13 Placing the angle gauge

Place the angle gauge (7-13/1) with the magnets on the back of the knife and align it with the de-burring disk (white) (7-13/2).

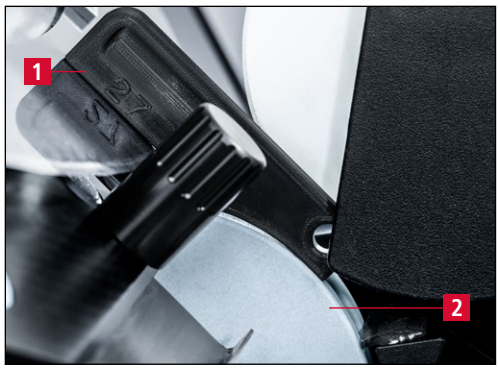

Figure 7-14 Setting the grinding angle

Move the grinding unit upwards by turning the hand wheel (7-10/1) clockwise until the grinding wheel (blue) (7-14/2) slightly touches the angle gauge (7-14/1).

The sharpening machine is now set to the grinding angle indicated on the angle gauge (7-14/1).

Remove the angle gauge (7-14/1).

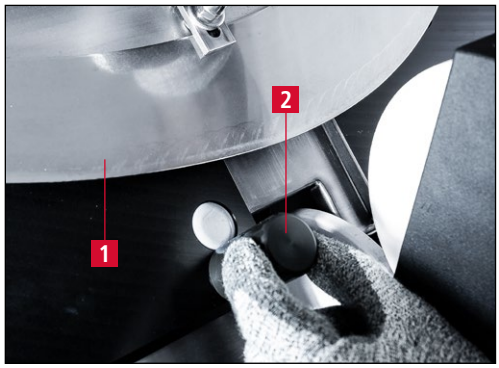

Figure 7-15 Unscrewing the adjustment stop

Move the sickle-shaped knife with the copy grinding plate (7-15/1) upwards to the end position.

Unscrew the adjustment stop (7-15/2) counter-clockwise.

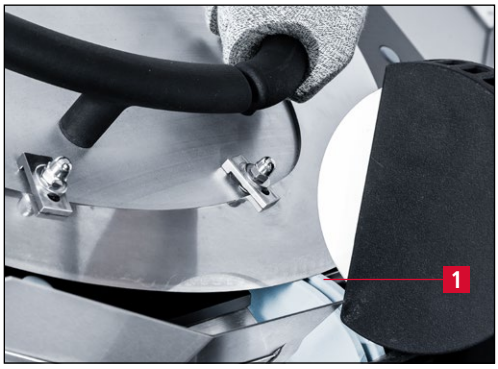

Figure 7-16 Bringing the sickle-shaped knife into the grinding position

Now move the knife with the copy grinding plate in the direction of the grinding unit until the knife edge touches the grinding wheels (blue) (7-16/1).

Hold the knife in this position.

Figure 7-17 Bringing the deburring disk into the grinding position

Slightly loosen the clamping lever (7-17/2) on the grinding unit.

Swivel the deburring unit (7-17/1) downward until the deburring disk rests on the knife back.

Tighten the clamping lever (7-17/2) moderately.

7. Operation

7.3 Grinding sickle-shaped knives

CAUTION

There is a risk that hands, hair and clothing may be pulled in while the sharpening machine is switched on.

Serious injury may result!

Grinding create abrasive particles that can enter the eyes. Wear safety glasses.

NOTE

Before grinding, the adjustment stop must be removed (see Figure 7-15)!

Figure 7-18 Moving the sickle-shaped knife upwards

Move the sickle shaped-knife (7-18/1) up until the grinding wheels are free.

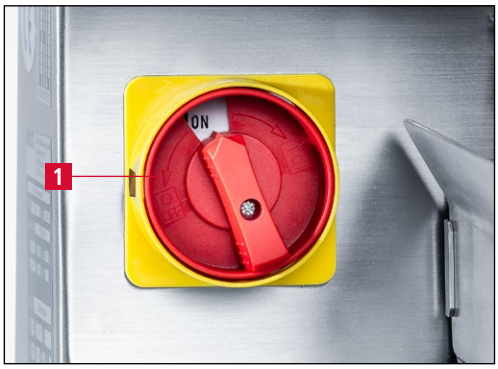

Figure 7-19 Switching on the sharpening machine

Switch on the sharpening machine. To do this, turn the main switch (7-19/1) to position “I ON”.

The grinding wheels rotate.

7. Operation

Figure 7-20 Sharpening start position

Sharpen the sickle-shaped knife from the middle position.

Figure 7-21 Sharpening the sickle-shaped knife

Hold the knife with both hands on the handles of the copy grinding plate and guide it along the grinding wheels. The path of movement is determined by the copy grinding plate.

Only guide the knife, do not apply grinding pressure. The grinding pressure is defined by the inclined position of the grinding table.

Sharpen the sickle-shaped knife approx. 3 complete movement cycles. One cycle means the path from the center to the beginning of the knife edge, then to the end of the knife edge and back to the center.

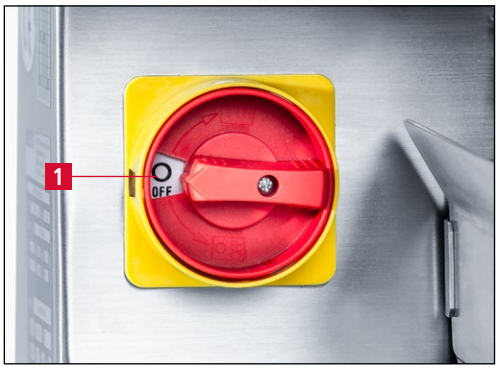

Figure 7-22 Switching off the sharpening machine

Switch off the sharpening machine. To do this, turn the main switch (7-22/1) to position “0 OFF”.

7. Operation

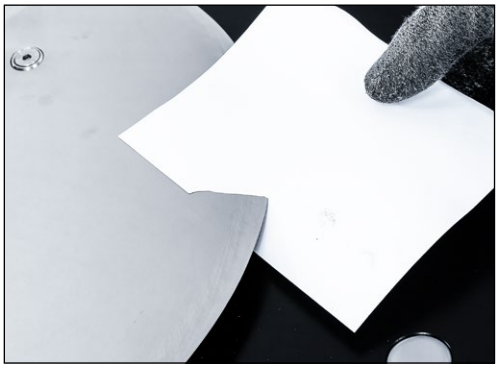

Figure 7-23 Checking the knife sharpness

Check the knife sharpness with a sheet of paper.

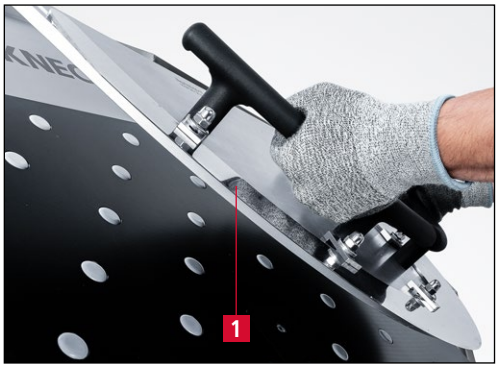

Figure 7-24 Removing the copy grinding plate with knife

Move the sickle-shaped knife to the upper end position.

Remove the copy grinding plate with the clamped knife (7-24/1) from the grinding table.

Attach the knife protector.

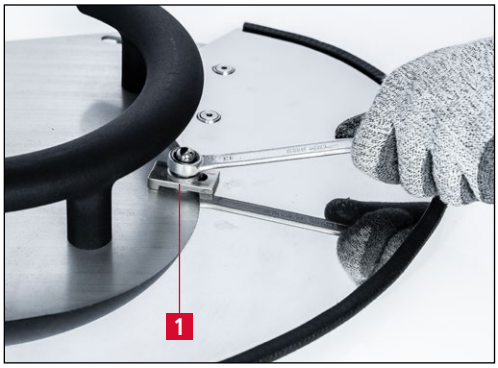

Figure 7-25 Unclamping the sickle-shaped knife

Loosen the clamping claws (7-25/1) with an AF 13 mm open-end wrench.

Remove sickle-shaped knife.

7. Operation

7.4 Water tray

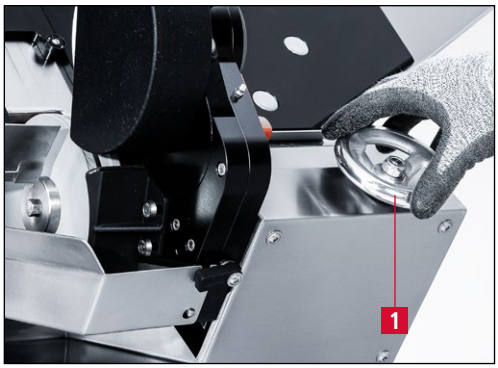

Figure 7-26 Moving the grinding unit to the end position

After completing the grinding work, the water tray must be removed so that the grinding wheels are no longer in the water.

Move the grinding unit clockwise to the upper end position using the hand wheel (7-26/1).

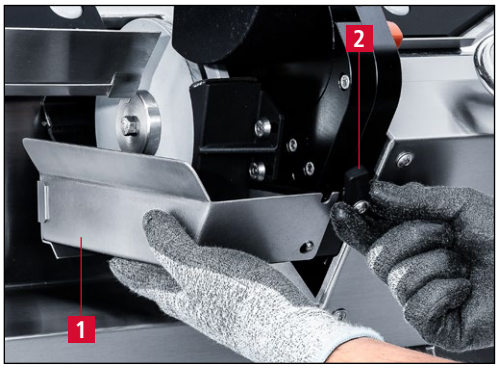

Figure 7-27 Removing the water tray

Now swivel the locking lever (7-27/2) of the water tray (7-27/1) clockwise upwards.

Pull out the water tray (7-27/1) to the front.

ATTENTION

When the machine is switched off, the grinding wheels may not stand in water for a longer period of time, as they will otherwise become out-of-round.

7. Operation

7.5 Dressing the grinding wheel / deburring wheel

Dressing produces abrasive particles which can enter the eyes.

Wear safety glasses.

CAUTION

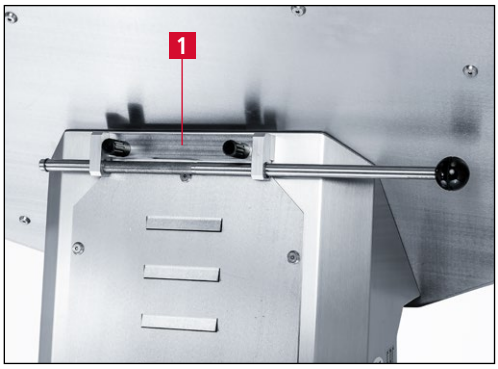

Figure 7-28 HV 146 Truing Device

Grinding wheels that have become out-of-round are rounded with the HV 146 Truing Device (7-28/1).

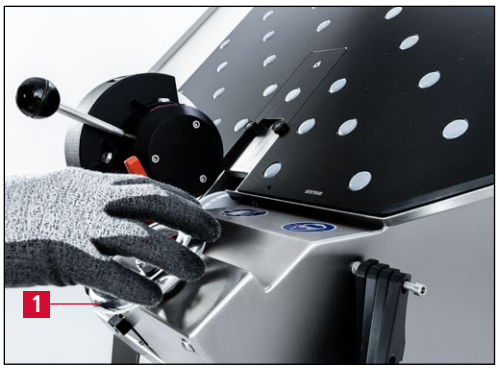

Figure 7-29 Moving the grinding unit to a middle position

Move the grinding unit with the hand wheel (7-29/1) to a middle position.

7. Operation

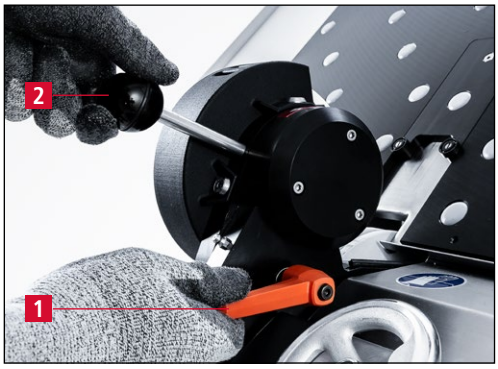

Figure 7-30 Moving the deburring unit to the upper end position

Slightly open the clamping lever (7-30/1) on the grinding unit and swivel the deburring wheel with the lever (7-30/2) to the upper end position.

Tighten the clamping lever moderately.

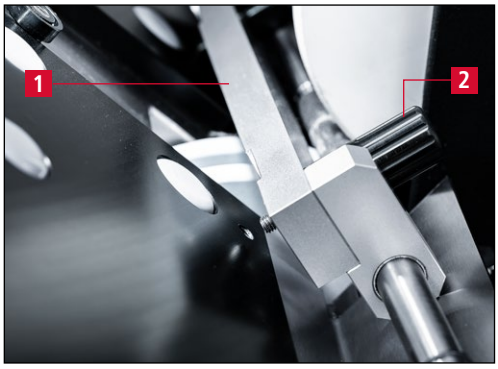

Figure 7-31 Mounting the truing device

Remove the HV 146 Truing Device from the rear of the machine (see Chapter 3.4.3 HV 146 Truing Device).

Fasten the truing device (7-31/1) to the grinding table with the two knurled screws (7-31/2). If necessary, correct the position of the grinding unit.

ATTENTION

There must be several millimeters clearance between the dressing diamond and the grinding wheels.

7. Operation

7.5.1 Dressing the grinding wheels

Figure 7-32 Switching on the sharpening machine

Switch on the sharpening machine. To do this, turn the main switch (7-32/1) to position "I ON".

The grinding wheels rotate.

Figure 7-33 Moving the grinding unit to the dressing position

Move the grinding unit clockwise with the hand wheel (7-33/1) upward until the grinding wheels touch the dressing diamond.

Figure 7-34 Dressing the grinding wheels

Slowly move the dressing diamond back and forth with your right hand. While doing so, constantly turn slowly clockwise and counterclockwise.

Move the grinding unit further upward in hundredth steps with the hand wheel (7-34/1).

Do not build up too much pressure but wait until the grinding wheels have ground themselves free again.

Continue feeding until the grinding wheel surfaces are clean and free of grinding marks.

NOTE

If there is too much resistance on the dressing diamond, turn the grinding unit slightly downwards using the hand wheel.

7.5.2 Dressing the deburring wheel

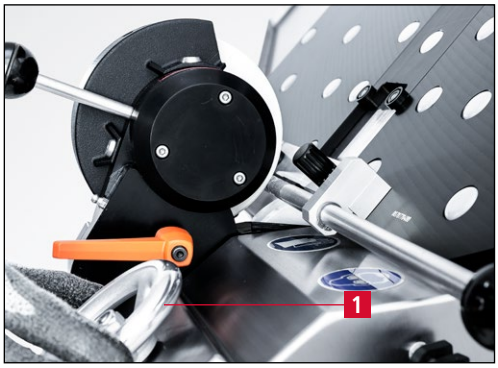

Figure 7-35 Dressing the deburring wheel

Move the grinding unit counterclockwise with the hand wheel (7-35/1) downward until the deburring wheel touches the dressing diamond (see Figure 7-36).

Figure 7-36 Dressing the deburring wheel

Slowly move the dressing diamond back and forth with your right hand. While doing so, constantly turn slowly clockwise and counterclockwise.

Move the grinding unit further down with the hand wheel (7-35/1) in hundredths steps.

Do not build up too much pressure, but wait until the deburring wheel has ground itself free again.

Continue feeding until the deburring wheel surface is clean and free of grinding marks.

NOTE

If there is too much resistance on the dressing diamond, move the grinding unit slightly upwards using the hand wheel.

Figure 7-37 Switching off the sharpening machine

Switch off the sharpening machine after dressing. To do this, turn the main switch (7-37/1) to position "0 OFF".

Remove the truing device and place it on the rear side of the machine (see Figure 7-31).

7.5.3 Rounding the edges of the grinding wheels / deburring wheel

Figure 7-38 Switching on the sharpening machine

Switch on the sharpening machine. To do this, turn the main switch (7-38/1) to position "I ON".

The grinding wheels rotate.

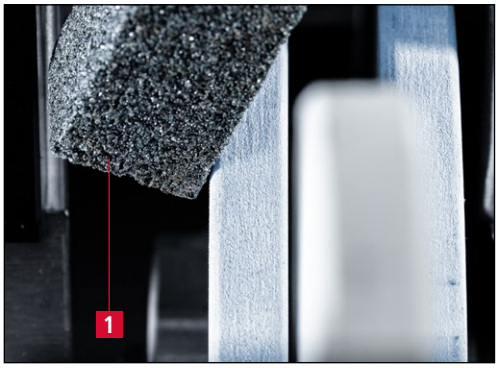

Figure 7-39 Rounding the grinding wheel edges

Round the edges of the grinding wheels and the deburring wheel slightly with the dressing stone (7-39/1).

NOTE

The edges of the grinding wheels must always be rounded after dressing. Sharp edges tend to chip the grinding wheels.

Figure 7-40 Switching off the sharpening machine

Switch off the sharpening machine. To do this, turn the main switch (7-40/1) to position "0 OFF".

7. Operation

7.6 Changing the grinding wheels / deburring wheel

CAUTION

For all work on the sharpening machine, the local safety and accident prevention regulations as well as the chapters “Safety” and “Important information” in the operating instructions must be observed.

Disconnect the power plug before changing the grinding wheels.

Never switch on the machine without protective covers. Risk of injury!

Figure 7-41 Moving the grinding unit to the upper end position

To change the grinding wheels, the water tray must be removed.

Move the grinding unit clockwise to the upper end position using the hand wheel (7-41/1).

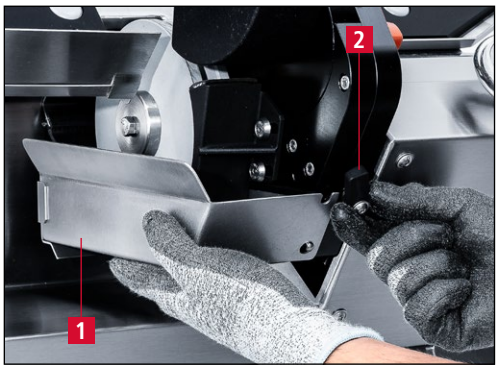

Figure 7-42 Removing the water tray

Now swivel the locking lever (7-42/2) of the water tray (7-42/1) clockwise upward.

Pull out the water tray (7-42/1) to the front.

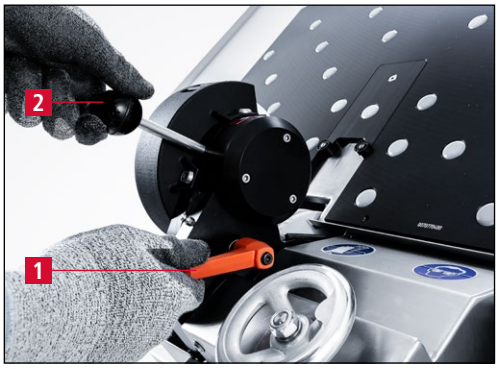

Figure 7-43 Swiveling the deburring wheel to the upper end position

Slightly open the clamping lever (7-43/1) on the grinding unit and swivel the deburring wheel (7-43/2) to the upper end position.

Tighten the clamping lever moderately.

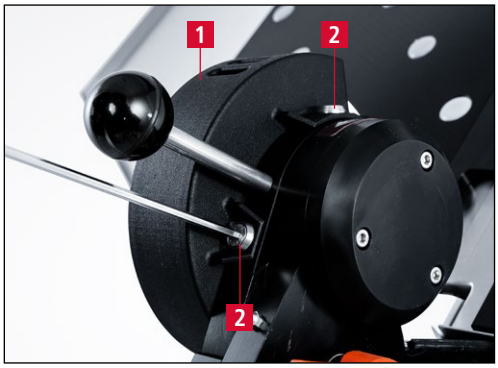

Figure 7-44 Loosening the screws of the protection hood

Remove the protection hood (7-44/1).

Unscrew the two screws (7-44/2) with a hexagon screwdriver AF 4 mm.

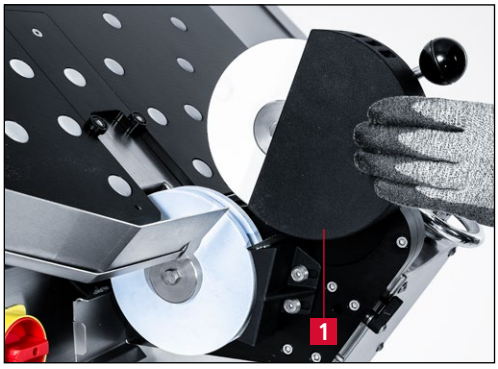

Figure 7-45 Removing the protection hood

Remove the protection hood (7-45/1).

7. Operation

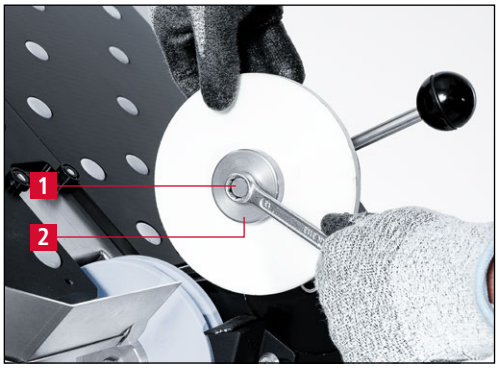

Figure 7-46 Loosening the clamping screw

Unscrew the clamping screw (7-46/1) of the deburring wheel (white) **clockwise (left-hand thread)** using an AF 13 mm open-end wrench.

Remove the clamping flange (7-46/2).

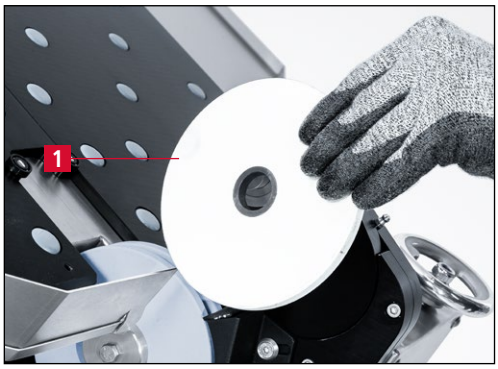

Figure 7-47 Removing the deburring wheel and replacing it with new one

Remove used deburring wheel (7-47/1) and mount new one in reverse order.

Moderately tighten the clamping screw **counter-clockwise**.

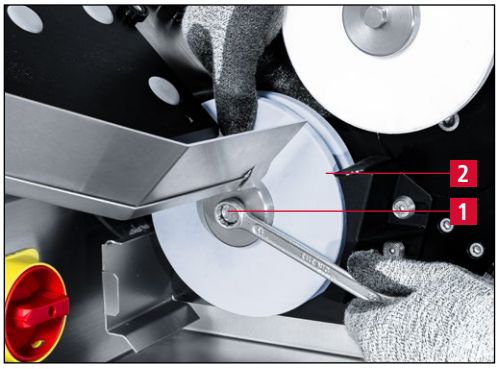

Figure 7-48 Loosening the clamping screw

Unscrew the clamping screw of the grinding wheels (blue) (7-48/1) **counterclockwise** using an AF 13 mm open-end wrench.

Remove the clamping flange and the first grinding wheel (7-48/2).

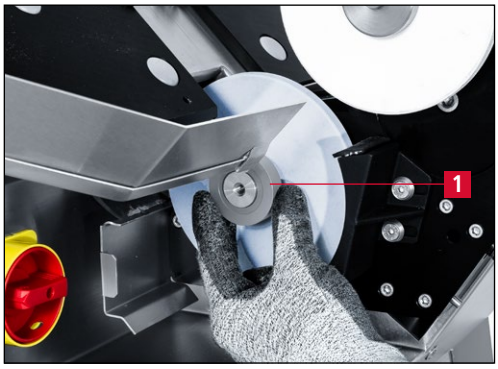

Figure 7-49 Removing the intermediate flange

Remove intermediate flange (7-49/1).

Figure 7-50 Removing the grinding wheels and replacing them with new ones

Remove second used grinding wheel (7-50/1) and mount new one in reverse order.

Tighten the clamping screw (7-48/1) moderately in **clockwise** direction.

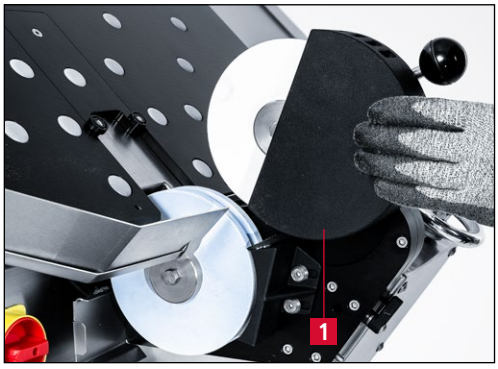

Figure 7-51 Mounting the protection hood

Reassemble the protection hood (7-51/1) properly.

Figure 7-52 Attaching the water tray

Reattach the water tray (7-52/1) properly.

ATTENTION

Only original abrasives from KNECHT Maschinenbau GmbH are permitted to be used.

KNECHT Maschinenbau GmbH assumes no responsibility for the use of non-original abrasives.

8. Care and maintenance

For all work on the sharpening machine, observe the locally applicable safety and accident prevention regulations as well as instructions in the "Safety" and "Important notes" section of the operating instructions.

8.1 Cleaning

The sharpening machine must be cleaned daily, otherwise the grinding abrasion dries and is difficult to remove.

After cleaning, we recommend the products listed below for the care of the machine (see also Cleaning agent and lubricant table, Chapter 8.1.1).

Coolant must be replaced daily. The water tray must be cleaned each time the coolant is changed.

ATTENTION

Do not spray the sharpening machine with water.

8.1.1 Cleaning agent and lubricant table

Cleaning / Lubrication work	Interflon	WÜRTH	SHELL	EXXON Mobil
Cleaning and care of machine parts	Dry Clean Stainless Steel	Edelstahl Pflegespray	Risella 917	Marcol 82
Lubricate threads and sliding surfaces	Fin Grease	Mehrzweckfett	Gadus S2	Ronex MP

8. Care and maintenance

8.2 Maintenance plan (one-shift operation)

Interval	Assembly	Maintenance task
Daily	Water tray	Replace coolant and clean water tray.
	All machine surfaces	Clean with soft cloth and care spray.
	Guide slide and guideway	Clean with soft cloth and care spray and lubricate with multi-purpose grease.
	Copy grinding plate and it's guideway	Clean with soft cloth and care spray.
Weekly	Threads of the star handles and clamping levers	Lubricate with multi-purpose grease.
Annually		Contact the service department of KNECHT Maschinenbau GmbH.

9. Disassembly and disposal

9.1 Disassembly

All operating materials must be disposed of properly.

Secure moving parts against slippage.

Disassembly must be conducted by a qualified specialist.

9.2 Disposal

After the machine has reached the end of its service life, it must be disposed of by a qualified specialist. In exceptional situations and after consultation with KNECHT Maschinenbau GmbH, the machine may be returned.

Operating materials (e.g. grinding wheels etc.) must also be disposed of correctly.

10. Service, spare parts and accessories

10.1 Postal address

KNECHT Maschinenbau GmbH
Witschwender Straße 26
88368 Bergatreute
Germany

Phone +49-7527-928-0
Fax +49-7527-928-32

mail@knecht.eu
www.knecht.eu

10.2 Service

Service line:
For address, see postal address

service@knecht.eu

10.3 Wear and spare parts

If you need spare parts, please use the spare parts list provided with the machine. Please place your order using the format described below.

When ordering, please always provide:	**(example)**
Machine type	(A 400)
Machine number	(0020770A400)
Designation of assembly	(Table assembly A400)
Designation of individual part	(Guide slide assembly A400)
Item number (position number)	(02)
Drawing number (article number)	(013A400-0045)
Quantity	(1 pc)

We are always happy to answer any questions.

10. Service, spare parts and accessories

10.4 Accessories

10.4.1 Abrasives used, etc.

Designation	Dimensions	Grain	Article Number	Note
Grinding wheel A, blue	d.150x10xd.25	280	412E-12-0485	installed on delivery
Grinding wheel A, white (Deburring wheel)	d.150x10xd.25	400	412E-15-0749	installed on delivery
Dressing diamond	d.15x550		412Q-30-0550	installed on delivery
Dressing stone C	20 x 20 150		412P-03-0471	included in scope of delivery

ATTENTION

Only original abrasives, wear and spare parts from KNECHT Maschinenbau GmbH are permitted to be used.

KNECHT Maschinenbau GmbH assumes no responsibility for the use of non-original wear parts.

If you require abrasives or other accessories, please contact our sales staff and distributors, or KNECHT Maschinenbau GmbH directly.

Thank you for your confidence!

11. Appendix

11.1 EU Declaration of Conformity
in accordance with EU Directive 2006/42/EU

- Machinery 2006/42/EU
- Electromagnetic Compatibility 2014/30/EU

We hereby declare that the machine designated as follows, due to its construction and design, as well as the version we placed on the market, complies with the relevant fundamental safety and health requirements of the applicable EU Directive.

In case of a modification of the machine not agreed with us, this declaration loses its validity.

Machine designation:	Sharpening Machine
Model designation:	A 400
Machine number:	from no. 0020770A400
Applicable harmonized standards, in particular:	DIN EN 12100-1 DIN EN 12100-2 DIN EN 60204-1 ISO 13857 DIN EN 349
Responsible for documentation:	Andreas Doerr (State-certified technician) Phone +49-7527-928-81 a.doerr@knecht.eu
Manufacturer:	KNECHT Maschinenbau GmbH Witschwender Straße 26 88368 Bergatreute Germany

A complete technical documentation is available. The operating instructions document for the machine is available in its original version and in the native language of the user.

The validity of the declaration expires in the event of changes to the legal requirements.

Bergatreute, May 26, 2025

KNECHT Maschinenbau GmbH

Markus Knecht
CEO

KNECHT Maschinenbau GmbH
Witschwender Straße 26 ▪ 88368 Bergatreute ▪ Germany ▪ T +49-7527-928-0 ▪ F +49-7527-928-32
mail@knecht.eu ▪ www.knecht.eu