

## Operating Instructions

### HV 207 | HV 261

Swivel Arm | Belt-Grinding Unit



# Operating Instructions

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## **Swivel Arm HV 207 Belt-Grinding Unit HV 261**

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### **Documents for machine operator**

Operating Instructions

### **Date of issue of the operating instructions**

May 30, 2025

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# 1. Important notes

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## 1.1 Preface to the operating instructions

These operating instructions are intended to make it easy to learn how to use the grinding units and to properly utilize their features.

These operating instructions contain important notes on how to operate the grinding units safely, properly, and efficiently. Your attention helps to avoid hazards, reduce repair costs and down-times, and to increase the reliability and service life of the grinding units.

The operating instructions must always be stored in the location that the grinding units are used.

The operating instructions must be read and applied by every person who is assigned to work on the grinding units, e. g.:

- transport, installation, commissioning
- operation, including troubleshooting in the work sequence, as well as
- maintenance (servicing, 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:



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



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

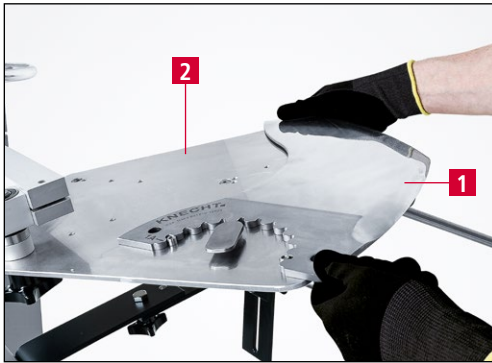
# 1. Important notes

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## 1.3 Figure and position numbers in the operating instructions

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

Example: (7-11/1) means Figure number 7-11, position 1.



*Clamp the knife (7-11/1) onto the grinding plate (7-11/2).*

**Figure 7-11** *Clamping the knife onto the grinding plate*

## 2. Safety

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### 2.1 Basic safety instructions

#### 2.1.1 Observe notes in the operating instructions

The basic prerequisite for safe use and trouble-free operation of these grinding units is knowledge of the basic safety instructions and safety regulations.

- These operating instructions contain important notes on how to operate the grinding units safely.
- All persons carrying out work on the grinding units 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 grinding units, who

- are familiar with the basic regulations on work safety and accident prevention and have been trained and instructed in the handling of the grinding units,
- 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 grinding units shall be obliged, before starting work, to

- observe basic work 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 grinding units

The grinding units have been built to the latest technological standards and the acknowledged rules of technical safety. In spite of that, its use presents inherent risks which could result in bodily harm or even death of the user or third persons, or impairment of the grinding units or other property.



## 2. Safety

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The grinding units are only to be used

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

Malfunctions that may impair safety are to be eliminated immediately.

### 2.1.5 Malfunctions

If safety-relevant malfunctions occur with the grinding units, or if the operating behavior indicates that such malfunctions may have occurred, the grinding units must be stopped immediately until the malfunction has been found and eliminated.

Malfunctions may only be eliminated by authorized qualified personnel.

## 2.2 Intended use

The HV 207 and HV 261 grinding units are exclusively intended for grinding sickle-shaped flat machine knives (e.g. cutter knives). They are suitable for mounting on the KNECHT grinding machines of the S 200 model series.

All knives must be clamped onto the corresponding holding fixtures for grinding. First, check whether the holding fixture matches the knife to be ground. The knife can only be ground if this is the case.

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 grinding unit exists, for example, if:**

- **it is installed onto grinding machines other than the KNECHT S 200 series,**
- **the knife has been clamped incorrectly,**
- **the knife is ground without being clamped,**
- **protective equipment is not properly attached.**

## 2. Safety

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### 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 grinding units,
- improper transport, commissioning, operation, and maintenance of the grinding units,
- operating the grinding units with defective safety devices, or improperly installed safety and protective devices,
- ignoring the operating instructions with regard to transportation, commissioning, operation, maintenance and repair of the grinding units,
- unauthorized structural modifications to the grinding units,
- inadequate monitoring of parts subject to wear and tear as well as
- use of non-approved spare 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

All existing safety devices must be checked regularly.

The intervals for recurring maintenance work prescribed or specified in the operating instructions must be observed!

#### 2.4.2 Protective equipment

Before commissioning the grinding units, ensure that all protective devices are properly mounted and in functional condition.

Protective devices may be removed only after the grinding units have been stopped and secured against accidental restart.

When delivering spare parts, the protective devices must be attached by the operator as stipulated.

## 2. Safety

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### 2.4.3 Informal safety measures

The operating instructions must be permanently available in the place that the grinding units are used. 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 danger warnings on the grinding units must be complete and clearly legible.

### 2.4.4 Selection and qualification of personnel

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

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

Personnel still in the training or instruction phase are only permitted to work on the grinding units under the constant supervision of an experienced person!

### 2.4.5 Machine control system

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

### 2.4.6 Safety measures in normal operation

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

At least once per shift (or per day), check the grinding units 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 grinding units and secure them against restart.

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

In the event of a malfunction, immediately stop the grinding 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. Safety

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### 2.4.8 Particular hazard areas

In the area of the grinding wheel, wet-grinding belt and finned brush, there is a hazard of pinching and being drawn in, e.g. clothing, fingers and hair. Wear suitable personal protective equipment.

### 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 grinding 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 modifications to the grinding units

Do not make any changes, additions or conversions to the grinding units 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 any 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 grinding units

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. Safety

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### 2.4.13 Relocation of the grinding machine with grinding units

Disconnect the grinding machine from any external current supply, even if adjusting its position slightly. Before restarting the grinding machine, properly connect it to the power supply.

When loading or unloading, only use suspension devices and load suspension devices with sufficient load-bearing capacity. Designate a qualified instructor for the lifting operation.

Ensure that only persons authorized to carry out this work are located where the machine is unloaded and installed.

Use only a suitable transport vehicle with sufficient carrying capacity. Secure loads safely. See also the operating instructions for the S 200 universal wet-sharpening machine (chapter 4, "Transport").

When recommissioning, do so only in accordance with the operating instructions.

## 3. Description

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### 3.1 Intended use of the HV 207 Swivel Arm

The HV207 Swivel Arm is used to grind sickle-shaped cutter knives as well as cutting tools with sickle-shaped cutting edges on the cup grinding wheel.

It can be used to grind precise angles with simple operation and minimal effort.

The device is used on the KNECHT grinding machines of the S 200 model series.

### 3.2 HV 207 Technical specifications

Height \_\_\_\_\_ approx. 110 mm

Width \_\_\_\_\_ approx. 430 mm

Depth \_\_\_\_\_ approx. 70 mm

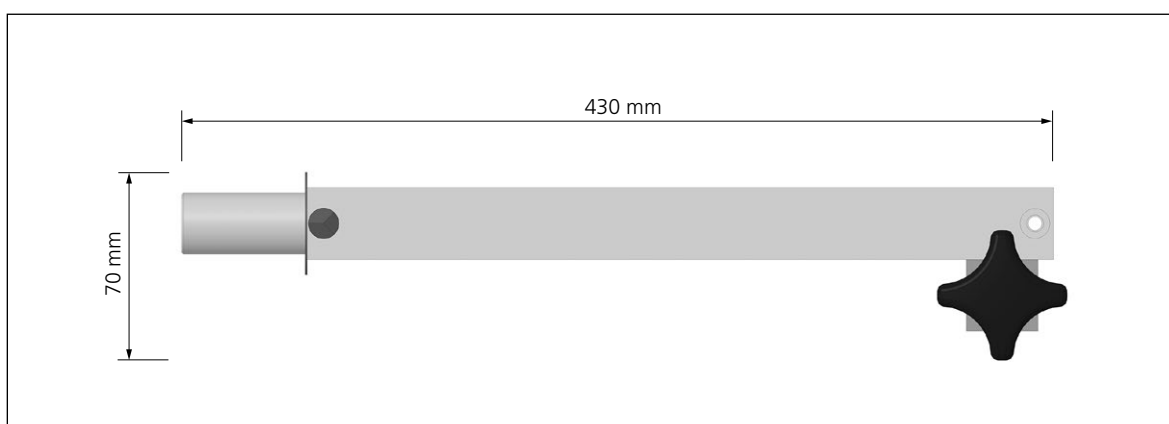
Weight \_\_\_\_\_ approx. 1,7 kg

Maximum grinding radius \_\_\_\_\_ 435 mm

Minimum grinding radius \_\_\_\_\_ 80 mm

Poss. Cutter knife sizes\* \_\_\_\_\_ 45–500 l

\*) The grinding radius must be within the specified range.



**Figure 3-1** HV 207 top view, (dimensions in mm)

#### **ATTENTION**

The grinding radius is not the blade radius. The grinding radius of a knife can be found on the grinding plate suitable for this knife, e.g. SR 300.

## 3. Description

---

### **ATTENTION**

The grinding plate with corresponding knife must be mounted in the correct position on the swivel arm. SR 80–365 front and SR 130–435 rear.

The swivel arm is labeled accordingly.

### 3.3 HV 207 Functional description

The HV207 Swivel Arm can be used to grind sickle-shaped knives up to a grinding radius of 435 mm. To grind, the cutting tool is moved concentrically over the cup grinding wheel. Cutter knives are pre-sharpened on the cup grinding wheel and, if necessary, receive a repair grinding.

Cutting tools with tapered cutting edges are finished ground here.

## 3. Description

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### 3.4 HV 207 Description of the assemblies



**Figure 3-2** HV 207 Swivel Arm, general view

- 1 Hand wheel to set grinding angle
- 2 Angle scale
- 3 Rotatable mounting head (for sickle-shaped knives)
- 4 Cup grinding wheel with guard

#### 3.4.1 Mounting head for sickle-shaped knives



**Figure 3-3** Rotatable mounting head

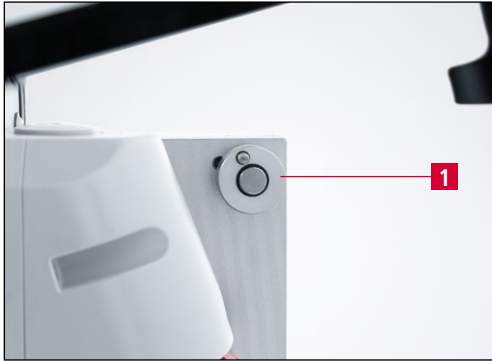
The rotatable mounting head (3-3/1) is used to grind sickle-shaped knives on the cup grinding wheel.



## 3. Description

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### 3.4.2 Spacer disc



**Figure 3-4** Spacer disc

The spacer disc (3-4/1) is used when grinding sickle-shaped knives with a grinding radius bigger than SR 200 mm on the HV207.

The spacer disc is placed on the locating bolt (see chapter 7.1.1, Figure 7-3). Then the grinding plate is mounted.

## 3. Description

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### 3.5 Intended use of the HV261 Belt-Grinding Unit

The HV261 Belt-Grinding Unit is used to grind sickle-shaped cutter knives as well as cutting tools with sickle-shaped cutting edges on the wet-grinding belt.

It can be used to grind precise angles with simple operation and minimal effort.

The device is used on the KNECHT grinding machines of the S 200 model series.

### 3.6 HV261 Technical specifications

Height \_\_\_\_\_ approx. 320 mm

Width \_\_\_\_\_ approx. 240 mm

Depth \_\_\_\_\_ approx. 770 mm

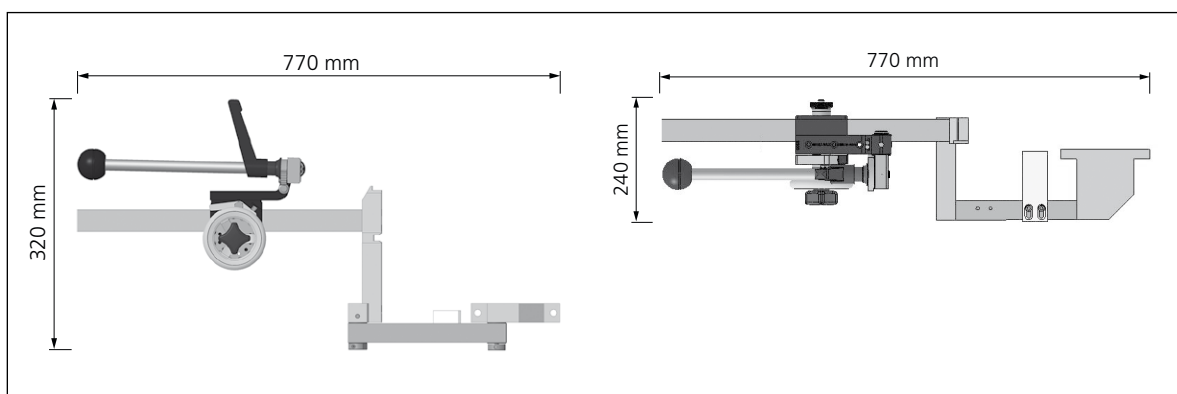
Weight \_\_\_\_\_ approx. 7 kg

Maximum grinding radius \_\_\_\_\_ 400 mm

Minimum grinding radius \_\_\_\_\_ 80 mm

Poss. Cutter knife sizes\* \_\_\_\_\_ 45–500 l

\*) The grinding radius must be within the specified range.



**Figure 3-5** HV261 side and top view, (dimensions in mm)

## 3. Description

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### 3.7 HV 261 Functional description

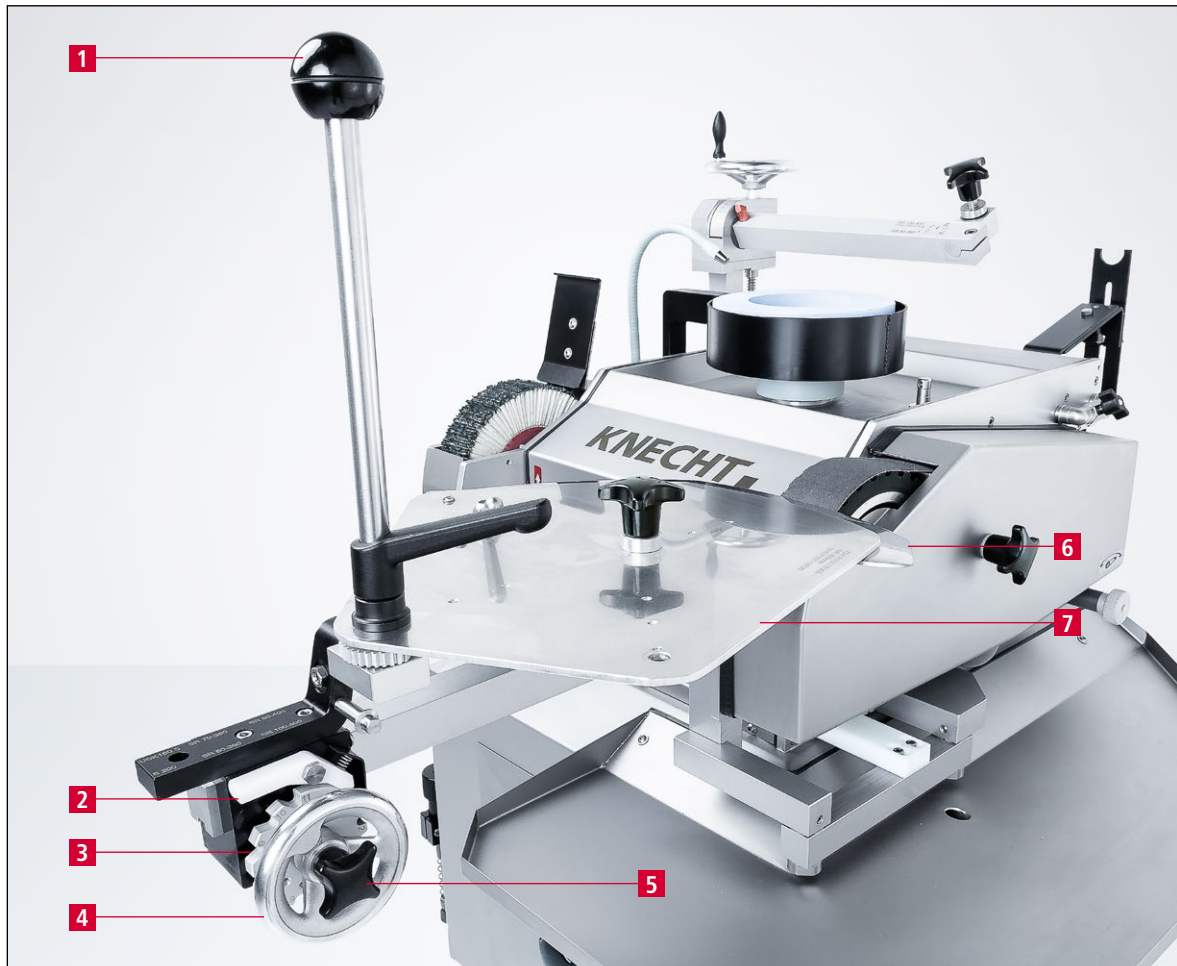
The HV261 Belt-Grinding Unit can be used to grind knives with sickle-shaped cutting edges up to a grinding radius of 400 mm. To grind, the cutting tool is moved concentrically over the wet-grinding belt.

The HV 261 grinds cutter knives with normal wear.

## 3. Description

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### 3.8 HV 261 Description of the assemblies



**Figure 3-6** HV 261 Belt-Grinding Unit, general view

- 1 Grinding lever
- 2 Locking lever
- 3 Locking disc
- 4 Hand wheel
- 5 Locking disc star handle
- 6 Cutter knife
- 7 Grinding plate

## 4. Transport

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

### 4.1 Transport aids

To transport the grinding units, use only adequately dimensioned transport aids.

### 4.2 Transport damage

If damage is detected after unloading and/or when accepting delivery, notify KNECHT Maschinenbau GmbH and the forwarding agent immediately. Promptly refer to an independent specialist as needed.

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, make sure that the space requirement is observed (see chapters 3.2 and 3.6).

Grinding units must be sufficiently secured during transport.

# 5. Installation

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## 5.1 Selection of qualified personnel



We recommend having installation work on the grinding units carried out by trained KNECHT personnel.

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

## 5.2 Installation site

When determining the installation site, take into account the space required for assembly, maintenance and repair work on the grinding attachments (see chapters 3.2 and 3.6).

## 5.3 Settings

KNECHT Maschinenbau GmbH will configure the various components before delivery.

### ATTENTION

Unauthorized changes to the preset values are not permitted and can damage the grinding units and grinding machine.

## 5.4 Initial start-up of the grinding units

Completely install and inspect the protective equipment before commissioning.

The HV 207 and HV 261 grinding units are only suitable for mounting on the KNECHT grinding machines of the S 200 model series.



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

## 6. Commissioning HV 207



**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 grinding machine is switched on.

Serious injury may result. Wear personal protective equipment.

### 6.1 Mounting the HV 207 Swivel Arm



**Figure 6-1** Removing the HV 203 Universal grinding arm

The HV 207 Swivel Arm is already mounted as standard. If another grinding device, e.g. the HV 203 Universal grinding arm, is mounted, proceed as follows:

Use an hexagon screwdriver, width across flats 6 mm, to loosen the M 10 countersunk screw (6-1/1) counterclockwise.

Pull off the mounted Universal grinding arm from the grinding unit.



**Figure 6-2** Mounting the HV 207 Swivel Arm

Place the HV 207 Swivel Arm (6-2/1) on the grinding unit (6-2/2) from the right and secure it with the M10 countersunk screw (6-1/1).

## 7. Operating the HV 207

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### 7.1 Grinding sickle-shaped knives on the grinding wheel

#### 7.1.1 Attaching the SP 107 grinding plate

#### NOTE

KNECHT produces a suitable 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

For grinding plates with a grinding radius SR 80–335, the mounting head is mounted on the front side of the swivel arm.

For grinding plates with a grinding radius SR 130–435, the mounting head must be mounted on the rear side of the swivel arm (see also chapter 3.2).



**Figure 7-1** Checking the position of the mounting head

The grinding radius (SR) indicated on the grinding plate and the position of the mounting head on the swivel arm must match.



## 7. Operating the HV 207

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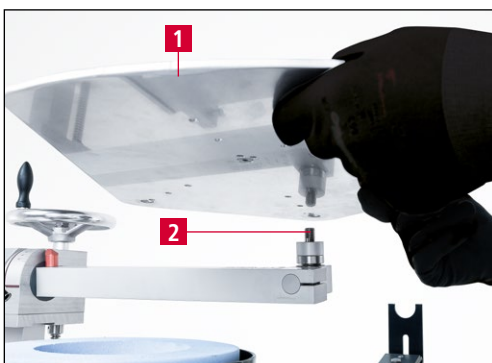
**Figure 7-2** Removing the star handle

Remove the star handle (7-2/1).



**Figure 7-3** Placing the spacer disc onto the locating bolt

Place spacer disc (7-3/1) onto the locating bolt (7-3/2).



**Figure 7-4** Mounting the grinding plate

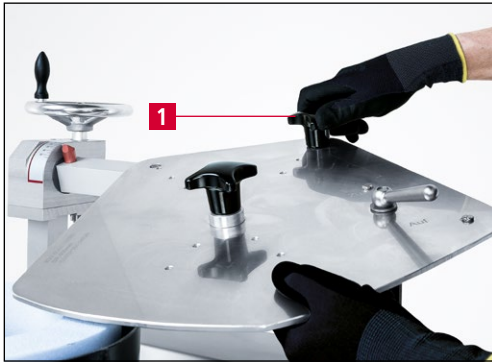
Place the grinding plate (7-4/1) on the locating bolt (7-4/2) of the swivel arm.

### NOTE

If the grinding plate has several locating holes, mount it so that the cutting segment at the knife tip is ground first.

## 7. Operating the HV 207

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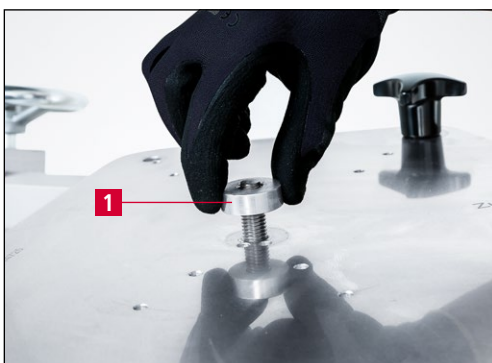
**Figure 7-5** Clamping the grinding plate

Screw the M12 star handle (7-5/1) onto the mounting head and tighten it.



**Figure 7-6** Removing the star handle

Remove the M12 star handle (7-6/1) from the grinding plate.



**Figure 7-7** Removing the spacer disk

Remove the spacer disk (7-7/1) from the grinding plate.

## 7. Operating the HV 207

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**Figure 7-8** Mounting the grinding lever on the grinding plate

Place the grinding lever (7-8/1) onto the mounting screw of the grinding plate and tighten it clockwise with the M12 star handle (7-8/2).



**Figure 7-9** Mounting the grinding lever on the locating bolt

If the grinding plate does not have a mounting screw, insert the grinding lever directly onto the locating bolt thread (7-9/1) and tighten it clockwise using the M12 star handle (7-9/2).

### NOTE

If the grinding lever is screwed directly onto the locating bolt, no spacer disc (7-3/1) is necessary.

## 7. Operating the HV 207

### 7.1.2 Clamping the knife



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

Protective gloves and safety shoes must be worn.

#### ATTENTION

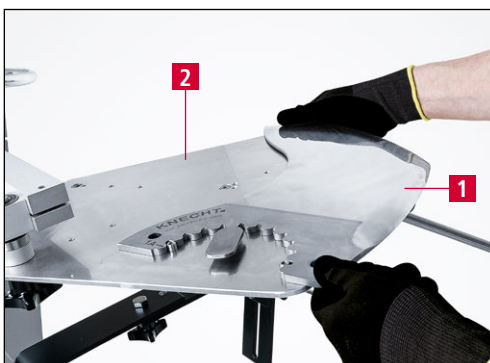
Before clamping the knife, check whether the grinding plate fits the knife to be ground. Compare the inscription of the grinding plate with that of the knife.

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



**Figure 7-10** Swiveling the grinding plate backward

Swivel the grinding plate back using the grinding lever (7-10/1).



**Figure 7-11** Clamping the knife onto the grinding plate

Clamp the knife (7-1/1) onto the grinding plate (7-11/2).

## 7. Operating the HV 207

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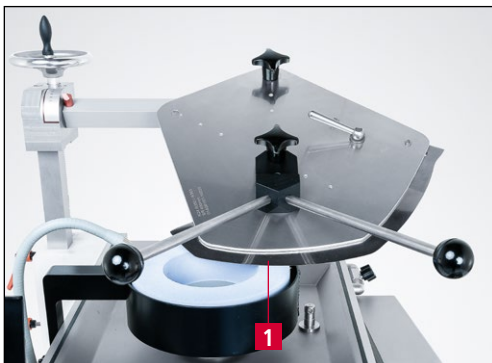
**Figure 7-12** Locking the knife on the grinding plate

Turn clamping lever (7-12/1) to “Closed” position.

The knife is now locked.

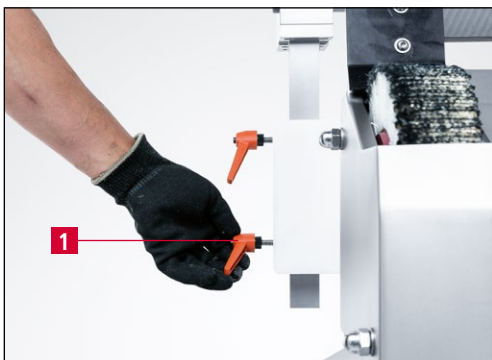
Swivel the grinding plate with the clamped knife forward onto the grinding wheel.

### 7.1.3 Positioning the knife on the grinding wheel



**Figure 7-13** Knife position on the grinding wheel

The cutting edge of the knife (7-13/1) must rest approximately on the center of the grinding wheel.



**Figure 7-14** Adjusting the knife to the center of the grinding wheel

To do so, loosen the lower clamping lever (7-14/1) counterclockwise and move the entire grinding unit until the cutting edge of the knife is approximately at the center of the grinding wheel (see Figure 7-13/1).

Retighten the lower clamping lever (7-14/1).

## 7. Operating the HV 207

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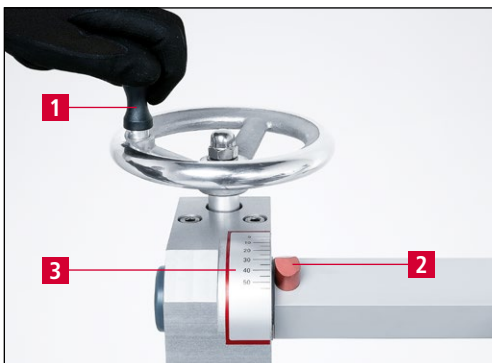
### 7.1.4 Setting the grinding angle



**Figure 7-15** Loosening the clamping lever

To adjust the grinding angle, place the knife on the grinding wheel.

Loosen the upper clamping lever (7-15/1) by turning it counterclockwise.



**Figure 7-16** Setting the grinding angle

Turn the hand wheel (7-16/1) until the pointer (7-16/2) shows the desired angle on the angle scale (7-16/3).

Retighten the upper clamping lever (7-15/1).

## 7. Operating the HV 207

### 7.1.5 Grinding the sickle-shaped cutter knife (convex cutting edge)



Grinding, polishing and deburring releases abrasive particles that can enter the eyes.

Wear protective glasses.



**Figure 7-17** Switching on the grinding machine and coolant unit

Switch on the grinding machine (7-17/1) and coolant unit (7-17/2).



**Figure 7-18** Grinding burr

With sickle-shaped cutter knives, each cutting segment is ground separately (1 segment = corner to corner).

Using the grinding lever, move the knife evenly over the grinding wheel with moderate force.

Grind until a small burr forms on the cutting edge.



**Figure 7-19** Reducing the grinding angle (convex grinding)

Now reduce the grinding angle on the hand wheel (7-48/1) by 5° and grind until the first chamfer is only approx. 3 mm wide.

Reduce the grinding angle by 5° again and grind until the second chamfer is approx. 3 mm wide.

Repeat the process until approx. 5° is reached.

## 7. Operating the HV 207

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**Figure 7-20** Swiveling the cutter knife to the next cutting segment and grind

When the first segment is completely ground, swivel the knife to the next segment.

Adjust the grinding angle (see chapter 7.1.4).

If necessary, reclamp the grinding plate.

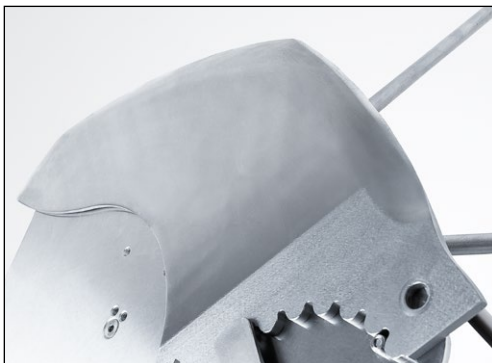
To do so, unclamp the knife. Reclamp the grinding plate as described in chapter 7.1.1 in the locating hole that matches the next cutting segment.

**Grind all cutting segments as described below:**

**Adjust grinding angle (see chapter 7.1.4).**

**Grind cutter knives (see chapter 7.1.5).**

**Repeat process for each cutting segment.**



**Figure 7-21** Convex pre-ground cutter knife

The cutter knife is now pre-ground.

Before it can be deburred and polished, the fine grinding must be carried out on the HV261 Belt-Grinding Unit (see chapter 9.1).



## 8. Commissioning HV 261

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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 grinding machine is switched on.

Serious injury may result. Wear personal protective equipment.

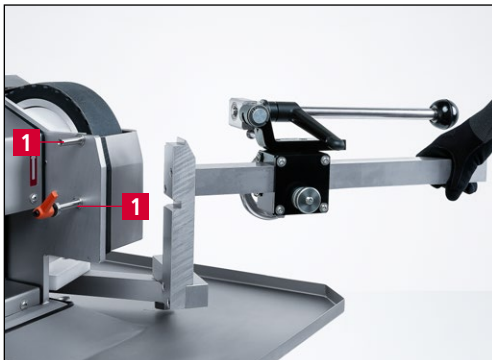
### 8.1 Swiveling the HV 261 Belt-Grinding Unit into working position



**Figure 8-1** HV 261 in rest position

When not working with the HV261 Belt-Grinding Unit, it is swiveled into the rest position.

The wet-grinding belt is thus freely accessible.



**Figure 8-2** Swiveling the HV 261 into working position

To bring it into working position, swivel the Belt-Grinding Unit to the left until it touches both stop pins (8-2/1).

## 8. Commissioning HV 261

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**Figure 8-3** Locking the belt-grinding unit

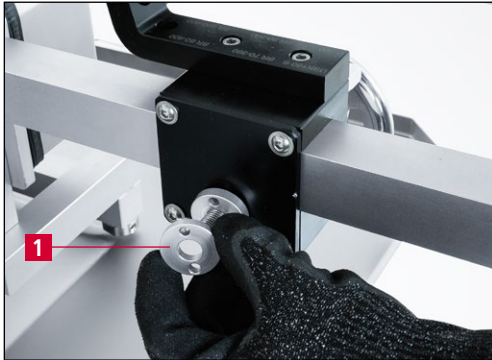
Tighten the clamping lever (8-3/1) clockwise.

## 9. Operating the HV 261

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### 9.1 Grinding sickle-shaped cutter knives on the wet-grinding belt (convex cutting edge)

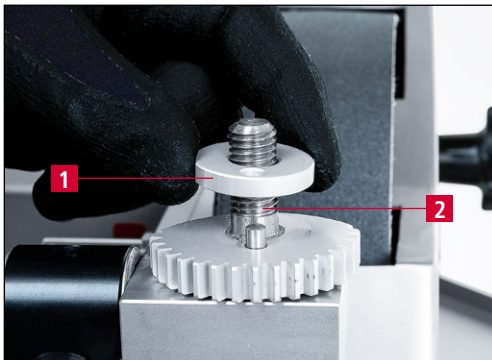
#### 9.1.1 Setting the grinding angle



**Figure 9-1** Spacer discs for adjusting grinding angle

The grinding angle is set on the Universal Belt-Grinding unit using spacer discs.

Spacer discs for 25° and 27° (9-1/1) are located on the left side of the guideway housing of the belt-grinding unit.



**Figure 9-2** Setting the grinding angle

To set the desired grinding angle, place the appropriate spacer disc (9-2/1) on the locating bolt (9-2/2).

#### 9.1.2 Mounting the grinding plate

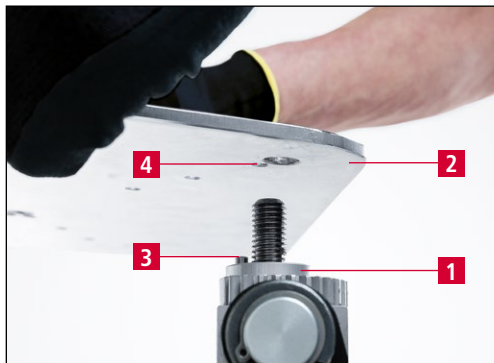
##### NOTE

KNECHT produces a suitable 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 free market sometimes deviate from the original contour).

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

## 9. Operating the HV 261

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**Figure 9-3** Mounting the grinding plate

The grinding plate (9-3/2) is placed over the spacer disc (9-3/1).

The cylindrical pin (9-3/3) of the spacer disc (9-3/1) must engage in the hole (9-3/4) of the grinding plate.

If the grinding plate has several locating holes, mount it so that the cutting segment at the knife tip is ground first.



**Figure 9-4** Slightly tightening the grinding lever

Turn the grinding lever (9-4/1) clockwise onto the locating bolt and tighten it slightly so that the grinding plate can still be moved.

### 9.1.3 Adjusting the swivel range of the grinding plate



**Figure 9-5** Setting the swivel range

Swivel the grinding plate to the right until the left edge of the grinding plate comes to rest approx. 10 cm to the right of the grinding belt.

Tighten the grinding lever (9-5/1) clockwise.

## 9. Operating the HV 261

### 9.1.4 Clamping the cutter knife



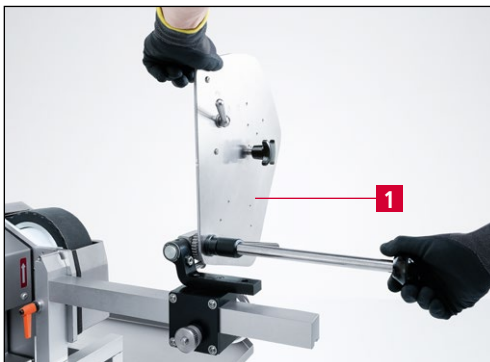
Serious cuts may occur when handling cutter knives. Only transport cutter knives using transport devices intended for this purpose.

Protective gloves and safety shoes must be worn.

#### ATTENTION

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

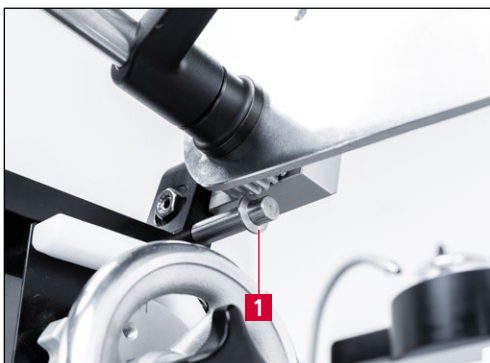
The use of an unsuitable grinding plate can damage the knife and grinding plate.



**Figure 9-6** Swiveling the grinding plate backward into the anti-rotation lock

Swivel the grinding plate (9-6/1) back as far as it will go. It is now secured against rotating.

Position the grinding plate in such a way that the mounting area of the knife is easily accessible.



**Figure 9-7** Anti-rotation lock

The grinding plate must be engaged in the anti-rotation lock (9-7/1).

## 9. Operating the HV 261



**Figure 9-8** Clamping the knife onto the grinding plate

Clamp the knife (9-8/1) onto the grinding plate (9-8/2).



**Figure 9-9** Locking the knife on the grinding plate

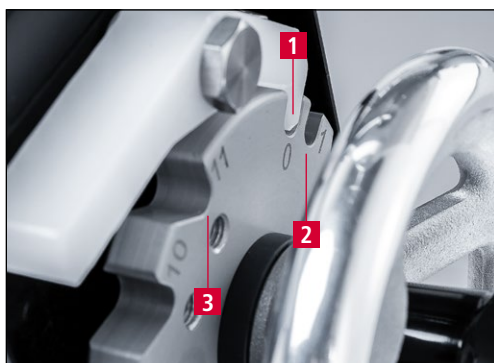
Turn clamping lever (9-9/1) to "Closed" position. The knife is now locked.

Swivel the grinding plate with the clamped knife forward to the grinding belt.

### 9.1.5 Basic function of the HV 261 locking mechanism

#### NOTE

**The locking disc has several locking positions. The first two positions are U-shaped, all subsequent positions are V-shaped.**



**Figure 9-10** Locking disc

The two U-shaped locking positions are used to adjust the knife on the grinding belt and to grind the burr.

The V-shaped locking positions are used for convex grinding of the knife.

- 0 = adjustment position (9-10/1)
- 1 = grinding position (9-10/2)
- 2 – 11 = convex grinding (9-10/3)

## 9. Operating the HV 261

### NOTE

Every grinding process is started with adjustment position "0".

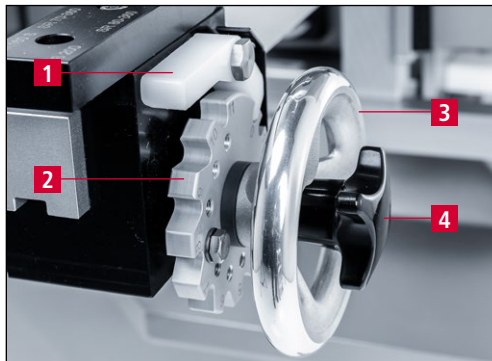


Figure 9-11 Overview of locking mechanism

- 1 Locking lever
- 2 Locking disc
- 3 Hand wheel
- 4 Star handle

### 9.1.6 Bringing the HV 261 Belt-Grinding Unit into adjustment position



Figure 9-12 Bringing the grinding unit into adjustment position "0"

To bring the belt-grinding unit into the adjustment position, press the locking lever (9-12/1) with your thumb and turn the hand wheel (9-12/2) with your remaining four fingers until adjustment position "0" is reached.

Release the locking lever (9-12/1).



Figure 9-13 Loosening the star handle

Slightly loosen the star handle (9-13/1) by turning counterclockwise.

The grinding unit can now be moved back and forth freely using the hand wheel.



## 9. Operating the HV 261

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**Figure 9-14** Moving the grinding unit to the grinding belt

Use the hand wheel to move the grinding unit counterclockwise towards the grinding belt until the cutting edge of the cutting segment to be ground first touches the grinding belt slightly.

Tighten the star handle (9-14/1) clockwise.



## 9. Operating the HV 261

### 9.1.7 Grinding the sickle-shaped cutter knife



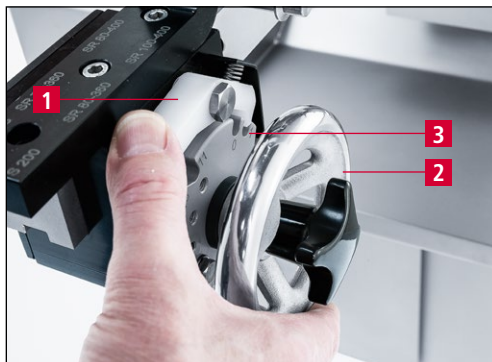
Grinding, polishing and deburring releases abrasive particles that can enter the eyes.

Wear protective glasses.



**Figure 9-15** Switching on the grinding machine and coolant unit

Switch on the grinding machine (9-15/1) and coolant unit (9-15/2).

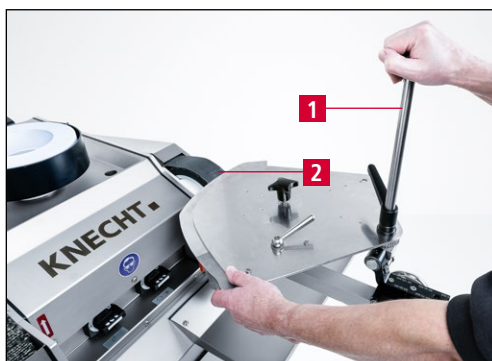


**Figure 9-16** Bringing the grinding unit into grinding position "1"

Move the grinding unit from adjustment position to grinding position "1".

To do so, press the locking lever (9-16/1) with your thumb and turn the hand wheel (9-16/2) counterclockwise towards the grinding belt with your remaining four fingers until grinding position "1" is reached (9-16/3).

Release the locking lever (9-16/1).



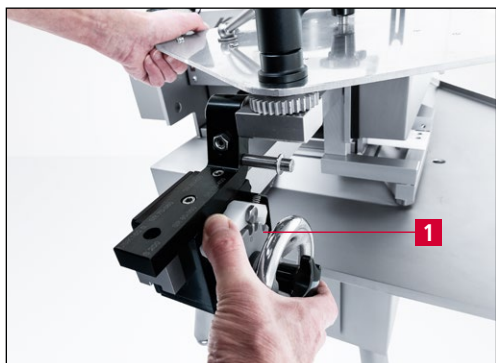
**Figure 9-17** Grinding burr

With sickle-shaped cutter knives, each cutting segment is ground separately (1 segment = corner to corner).

Using the grinding lever (9-17/1), press the knife against the grinding belt (9-17/2) with moderate force and move it evenly over the grinding belt.

Grind until a small burr forms on the cutting edge.

## 9. Operating the HV 261



**Figure 9-18** Sickle-shaped cutter knife, convex grinding

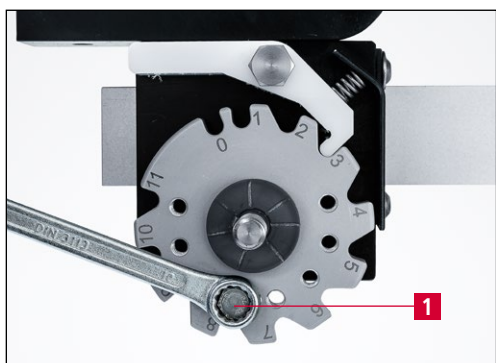
With the following locking positions, the knife is ground convex.

To do this, press the locking lever with your thumb and with the remaining four fingers, turn the handwheel counterclockwise towards the grinding belt, until locking position "2" (9-18/1) is reached. Release the locking lever.

In this position, make about ten grinding strokes (1 stroke = 1 movement from one corner to the other corner of the cutting segment).

Then move to the next, locking position "3". Do approx. ten grinding strokes here also.

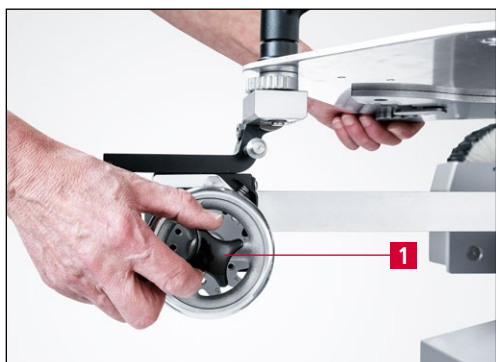
Repeat the process until approx. locking position "7" until the entire convex edge of the knife is ground.



**Figure 9-19** Stop screw

The number of infeeds can be limited by the stop screw (9-19/1) in any position.

For better access to the stop screw (9-19/1), unscrew the star handle and remove the hand wheel.



**Figure 9-20** Retracting the grinding unit

Once the first segment has been fully ground, return the grinding unit to grinding position "1" by turning the hand wheel clockwise toward the operator.

Move the grinding unit to adjustment position "0" by pressing the locking lever.

Loosen the star handle (9-20/1) and move the grinding unit approx. 5 cm away from the grinding belt.

## 9. Operating the HV 261

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**Figure 9-21** Swiveling the cutter knife to the next cutting segment and grind

Slightly loosen the grinding lever (9-21/1) and swivel the knife to the next cutting segment.

If necessary, reclamp the grinding plate.

To do so, unclamp the knife. Reclamp the grinding plate as described in chapter 9.1.2 in the locating hole that matches the next cutting segment.

**Grind all cutting segments as described below:**

**Bring the HV 261 Belt-Grinding Unit into adjustment position "0" (see chapter 9.1.6).**

**Grind cutter knives (see chapter 9.1.7).**

**Repeat process for each cutting segment.**

### 9.1.8 Deburring and polishing the cutter knife



**Figure 9-22** Deburring and polishing the cutter knife on the finned brush

Deburr and polish cutter knives on the finned brush. See the technical documentation for the S 200 Universal Wet-Grinding Machine, chapter 7.7.

## 10. Care and maintenance

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For all work on the grinding 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.

### 10.1 Cleaning

The grinding units must be cleaned after each sharpening, otherwise the grinding abrasion will dry and will be difficult to remove.

After cleaning the grinding units, we recommend the products listed below for the care of the machine (see also cleaning agent and lubricant table, chapter 10.1.1).

#### 10.1.1 Cleaning agent and lubricant table

Cleaning / lubrication work	Interflon	WÜRTH	SHELL	EXXON Mobil
Cleaning and care of machine parts	Dry Clean Stainless Steel	Stainless steel care spray	Risella 917	Marcol 82
Lubricate threads and sliding surfaces	Fin Grease	Multi-purpose grease	Gadus S2	Ronex MP

### 10.2 Maintenance plan (one-shift operation)

Interval	Assembly	Maintenance task
Daily	All surfaces	Clean with a soft cloth and care spray.
Weekly	Star handle threads	Lubricate with multi-purpose grease.
	Guideways	Clean and lubricate with multi-purpose grease.
Annually		Contact the service department of KNECHT Maschinenbau GmbH.

# 11. Disassembly and disposal

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## 11.1 Disassembly

All operating materials must be disposed of properly.

Secure moving parts against slippage.

Disassembly must be conducted by a qualified specialist.

## 11.2 Disposal

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

Operating materials (e.g. grinding wheels, grinding belts, finned brushes, etc.) must be disposed of correctly.

# 12. Service, spare parts and accessories

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## 12.1 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

## 12.2 Service

**Service line:**

For address, see postal address

service@knecht.eu

## 12.3 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	(HV 261)
Designation of assembly	(distance ring 27°)
Item number	(13)
Drawing number (article number)	(2000030-3908)
Quantity	(1 pc.)

We are always happy to answer any questions.

# 13. Appendix

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## 13.1 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 in 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.


<b>Machine designation:</b>	Swivel Arm
<b>Model designation:</b>	HV 207
<b>Machine designation:</b>	Belt-Grinding Unit
<b>Model designation:</b>	HV 261
<b>Applicable harmonized standards, in particular:</b>	DIN EN 12100-1 DIN EN 12100-2 DIN EN 60204-1 ISO 13857 DIN EN 349
<b>Responsible for documentation:</b>	Andreas Doerr (State-certified technician) Phone +49-7527-928-81 a.doerr@knecht.eu
<b>Manufacturer:</b>	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 30, 2025

KNECHT Maschinenbau GmbH

  
Markus Knecht  
CEO

**KNECHT Maschinenbau GmbH**

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