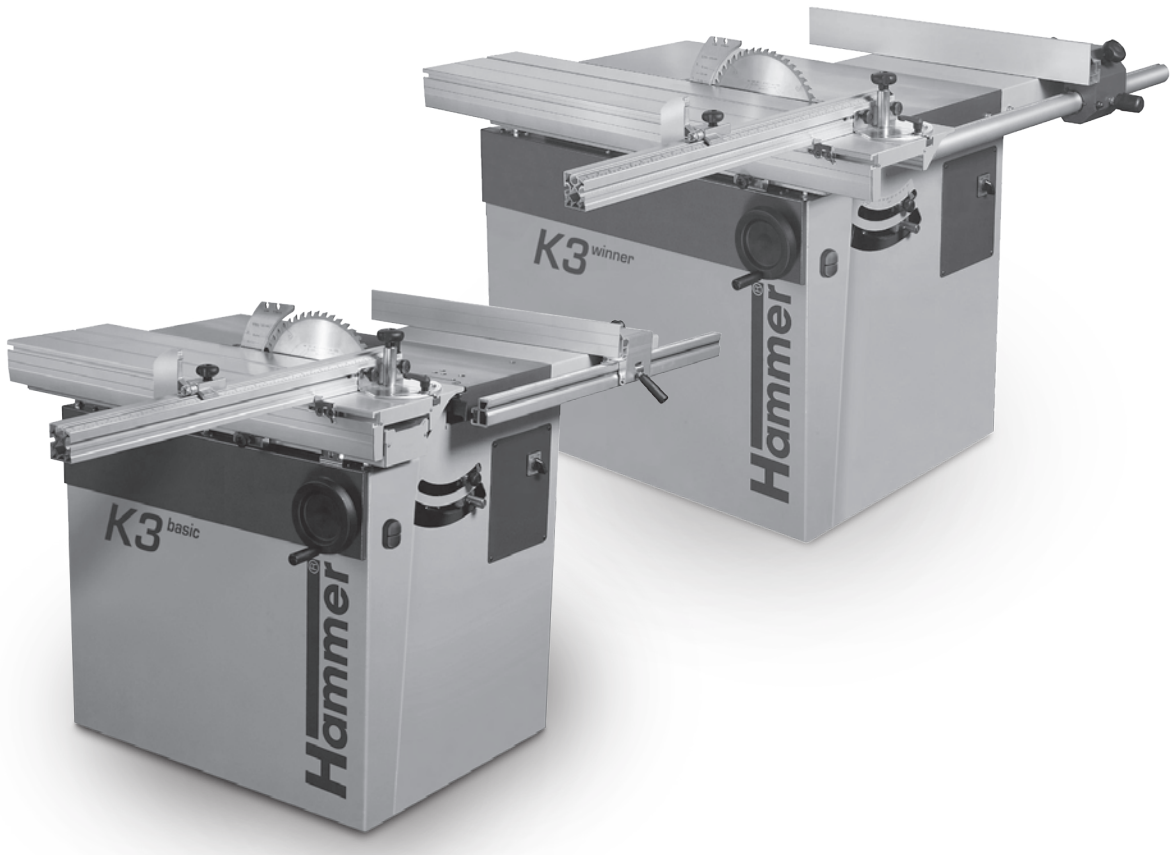
Hammer®

User Manual

translation

Panel Saw
K3 basic/K3 winner



Keep this manual handy and in good condition for continual reference!

Dok.ID: 503010-902_02 • Englisch • 2009-10-27

Attention: The machine must be inspected immediately on arrival. If the machine was damaged during transport or if any parts are missing, a written record of the problems must be submitted to the forwarding agent and a damage report compiled. Be sure also to notify your supplier immediately.

For the safety of all personnel, it is necessary to conscientiously study this manual before assembly and commissioning. This manual must be kept in good condition, as it belongs to the machine! Furthermore, keep the manual to hand and in the vicinity of the machine so that it is accessible to personnel when they are using, maintaining or repairing the machine.

HAMMER | **A product of the FELDER GROUP**

© Felder KG
KR-FELDER-STR. 1
A-6060 Hall in Tirol

Tel.: +43 (0) 5223 45 0 90
Fax: +43 (0) 5223 45 0 99

E-mail: info@hammer.at
Internet: www.hammer.at

01.06.2006

Table of Contents

Table of Contents

1 General

1.1 Explanation of symbols

Important technical safety instructions in this manual are marked with symbols.
These instructions for work safety must be followed. In all these particular cases, special attention must be paid in order to avoid accidents, injury to persons or material damage.

Warning: Risk of injury or death!
This symbol marks instructions that must be followed in order to avoid harm to one's health, injuries, permanent impairment or death.

Warning: Danger – electric current!
This symbol warns of potentially dangerous situations related to electric current. Not observing the safety instructions increases the risk of serious injury or death. Required electrical repairs may only be carried out by a trained electrical technician.

Attention: Risk of material damage!
This symbol marks instructions which, if not observed, may lead to material damage, functional failures and/or machine breakdown.

Attention:
This symbol marks tips and information which should be observed to ensure efficient and failure-free operation of the machine.

1.2 Information about the manual

This manual describes how to operate the machine properly and safely. Be sure to follow the safety tips and instructions stated here as well as any local accident prevention directives and general safety regulations. Before beginning any work on the machine, ensure that the manual, in particular the chapter entitled „Safety" and the respective safety guidelines, has been read in its entirety and fully understood. This manual is an integral part of the machine and must therefore be kept in the direct vicinity of the machine and accessible at all times. If the machine is sold, rented, lent or otherwise transferred to another party, the manual must accompany the machine.

1.3 Liability and warranty

The contents and instructions in this manual were compiled in consideration of current regulations and state of the art technology as well as based on our know-how and experience acquired over many years. This manual must be read carefully before commencing any work on or with this machine. The manufacturer shall not be liable for damage and or faults resulting from the disregard of instructions in the manual. The texts and images do not necessarily represent the delivery contents. The images and graphics are not depicted on a 1:1 scale. The actual delivery contents are dependent on custom-build specifications, add-on options or recent technical modifications and may therefore deviate from the descriptions, instructions and images contained in the manual. Should any questions arise, please contact the manufacturer. We reserve the right to make technical modifications to the product in order to further improve user-friendliness and develop its functionality.

1.4 Copyright

This manual should be handled confidentially. It is designated solely for those persons who work on or with the machine. All descriptions, texts, drawings, photos and other depictions are protected by copyright and other commercial laws. Illegal use of the materials is punishable by law.
This manual – in its entirety or parts thereof – may not be transferred to third parties or copied in any way or form, and its contents may not be used or otherwise communicated without the express written consent of the manufacturer.
Infringement of these rights may lead to a demand for compensation or other applicable claims. We reserve all rights in exercising commercial protection laws.

1.5 Warranty notice

The guarantee period is in accordance with national guidelines. Details may be found on our website, www.felder-group.com

1.6 Spare parts

Attention: Non genuine, counterfeit or faulty spare parts may result in damage, cause malfunction or complete breakdown of the machine.

If unauthorised spare parts are installed in the machine, all warranty, service, compensation and liability claims against the manufacturer and their contractors, dealers and representatives shall be rejected.

Use only genuine spare parts supplied by the manufacturer.

Attention: The original spare parts that have been authorised for use are listed in a separate spare parts catalogue, enclosed in the documentation package supplied with the machine.

1.7 Disposal

If the machine is to be disposed of, separate the components into the various materials groups in order to allow them to be reused or selectively disposed of. The whole structure is made of steel and can therefore be dismantled without problem. This material is also easy to dispose of and does not pollute the environment or jeopar-dise public health. International environmental regulations and local disposal laws must always be complied with.

Attention: Used electrical materials, electronic components, lubricants and other auxiliary substances must be treated as hazardous waste and may only be disposed of by specialised, licensed firms.

2 Safety

At the time of its development and production, the machine was built in accordance with prevailing technological regulations and therefore conforms to industry safety standards.
However, hazards may arise should the machine be operated by untrained personnel, be used improperly or employed for purposes other than those it was designed for. The chapter entitled „Safety" offers an overview of all the important safety considerations necessary to optimise safety and ensure the safe and trouble-free operation of the machine.
Additionally, in order to further minimise risks, the other chapters of this manual contain specific safety instructions, all marked with symbols. Besides the various instructions, there are a number of pictograms, signs and labels affixed to the machine that must also be heeded. These must be kept visible and legible and may not be removed.

2.1 Intended use

The HAMMER K3 basic/K3 winner circular saw is only to be used to machine wood or other machinable materials. Working materials other than wood is only permitted with the express written consent of the manufacturer.
Operational safety is guaranteed only when the machine is used for its intended purposes.

Attention: Any other application above and beyond the intended purposes is considered improper use and is therefore not permitted. All claims regarding damage resulting from improper use that are made against the manufacturer and its authorized representatives shall be rejected. The operator shall be solely liable for any damage that results from improper use of the machine.

The term „proper use" also refers to correctly observing the operating conditions as well as the specifications and instructions in this manual.
The machine may only be operated with parts and original accessories from the manufacturer.

2.2 Manual contents

All those appointed to work on or with the machine must have fully read and understood the manual before commencing any work. This requirement must be met even if the appointed person is familiar with the operation of such a machine or a similar one, or has been trained by the manufacturer.
Knowledge about the contents of this manual is a prerequisite for protecting personnel from hazards and avoiding mistakes so that the machine may be operated in a safe and trouble-free manner. It is recommended that the operator requests proof from the personnel that the contents of the manual have in fact been read and understood.

2.3 Making changes and modifications to the machine

In order to minimise risks and to ensure optimal performance, it is strictly prohibited to alter, retrofit or modify the machine in any way without the express consent of the manufacturer.
All the pictograms, signs and labels affixed to the machine must be kept visible, readable and may not be removed. Pictograms, signs and labels that have become damaged or unreadable must be replaced promptly.

2.4 Responsibilities of the owner operator

This manual must be kept in the immediate vicinity of the machine and be accessible at all times to all persons working on or with the machine. The machine may only be operated if it is in proper working order and in safe condition. Every time before the machine is switched on, it must be inspected for visible defects and general condition. All instructions in this manual must be strictly followed without reservation.
Besides the safety advice and instructions stated in this manual, it is necessary to consider and observe local accident prevention regulations, general safety regulations as well as current environmental stipulations that apply to the operational range of the machine.
The operator and designated personnel are responsible for the trouble-free operation of the machine as well as for clearly establishing who is in charge of installing, servicing, maintaining and cleaning the machine.
Machines, tools and accessories must be kept out of the reach of children.

2.5 What is required of personnel

Only authorized and trained personnel may work on and with the machine. Personnel must be briefed about all functions and potential dangers of the machine. „Specialist staff" is a term that refers to those who – due to their professional training, know-how, experience, and knowledge of relevant regulations – are in a position to assess delegated tasks and recognise potential risks. If the personnel lack the necessary knowledge for working on or with the machine, they must first be trained. Responsibility for working with the machine (installation, service, maintenance, overhaul) must be clearly defined and strictly observed. Only those persons who can be expected to carry out their work reliably may be given permission to work on or with the machine. Personnel must refrain from working in ways that could harm others, the environment or the machine itself. It is absolutely forbidden for anyone who is under the influence of drugs, alcohol or reaction-impairing medication to work on or with the machine. When appointing personnel to work on the machine, it is necessary to observe all local regulations regarding age and professional status. The user is also responsible for ensuring that unauthorised persons remain at a safe distance from the machine. Personnel are obliged to immediately report to the operator any irregularities with the machine that might compromise safety.

2.6 Work safety

Following the safety advice and instructions given in this manual can prevent bodily injury and material damage while working on and with the machine. Failure to observe these instructions can lead to bodily injury and damage to or destruction of the machine. Disregard of the safety advice and instructions given in this manual as well as the accident prevention regulations and general safety regulations applicable to the operative range of the machine shall release the manufacturer and their authorised representatives from any liability and from all compensation claims.

2.7 Personal safety

When working on or with the machine, the following must be strictly observed:

Persons with long hair who are not wearing a hairnet are not permitted to work on or with the machine.

It is prohibited to wear gloves while working on or with the machine.
All jewellery (rings, bracelets, necklaces, etc.) must be removed before starting work on or with the machine.

When working on or with the machine, the following must always be worn by personnel:

Protective gear (overalls, safety goggles, dust mask, hairnet to contain long hair, etc.)
Sturdy, tight-fitting clothing (tear-resistant, no wide sleeves).

Protective footwear
That protects the feet from heavy falling objects and prevents sliding on slippery floors.

Ear protection
To protect against loss of hearing.

2.8 Hazards arising from the machine

The machine has undergone a hazards analysis. The design and construction of the machine are based on the results of this analysis and correspond to state-of-the-art technology.
The machine is considered operationally safe when used properly.
Nevertheless, there are some residual risks that must be considered.
The machine runs with high electrical voltage.

Warning! Danger – electric current: Electrical energy can cause serious bodily injury. Damaged insulation materials or defective individual components can cause a life-threatening electrical shock.

- Before carrying out any maintenance, cleaning and repair work, switch off the machine and secure it against being accidentally switched on again.
- When carrying out any work on the electrical equipment, ensure that the voltage supply is completely isolated.
- Do not remove any safety devices or alter them to put them out of commission.

2.9 Other risks

Warning: Even if the safety measures are followed, there are still certain residual risks that must be considered when working on the machine:

- Risk of cutting injuries, especially when changing the tooling
- Contact with the rotating saw blade and/or the scoring unit can cause an injury
- Risk of injury due to ejected workpieces
- Risk of injury from workpiece kickback
- Hearing damage as a result of high noise levels
- Health impairments due to the inhalation of airborne particles, especially when working with beech and oak wood
- Risk of squashing, catching, reeling, pushing, cutting or slicing off

3 Declaration of Conformity

CE

EG-Declaration of Conformity
according to Machine Guidelines 98/37/EG, Appendix II A

Manufacturer:	**Felder KG** **KR-FELDER-STR. 1** **A-6060 Hall in Tirol**

We hereby declare that the machine indicated below, which corresponds to the design and construction of the model we put on the market, conforms with the safety and health requirements as stated by the EC.

Product designation:	**Panel Saws**
Make:	**HAMMER**
Model designation:	**K3 basic/K3 winner**
The following EC guidelines were applied:	**98/37/EG - Machine Guidelines** **73/23/EWG - Low-Voltage Guidelines** **89/336/EWG - Electromagnetic Tolerance Guidelines**
The following harmonised norms were applied:	**EN 418**, **EN 12100-1/-2** **EN 1870-1**, **EN 50081-2** **EN 60204-1**, **EN 50082-2**
Issuing authority:	**Prüf- und Zertifizierungsstelle im BG-Prüfzert** **Fachausschuss Holz** **Vollmoellerstraße 11** **D-70563 Stuttgart** **Nr. 0392**
Conformity with the EC Machine Guidelines certified by:	**EG-Design Test Certificate No. 061096** according to Machine Guidelines 98/37/EG, Appendix VI

This EC Declaration of Conformity is valid only if the CE label has been affixed to the machine.

Modifying or altering the machine without the express written agreement of the manufacturer shall render the warranty null and void.

Johann Felder

Hall in Tirol, 21.11.2006

Johann Felder, Managing Director

4 Specifications

4.1 Dimensions and weight

4.1.1 K3 basic

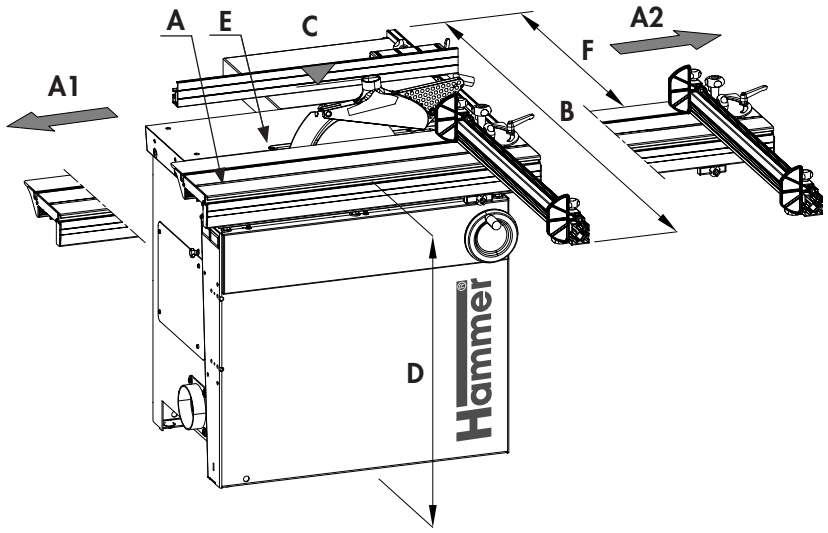


Fig. 1: Dimensions K3 basic

Machine		Standard	Optional
Sliding table length (A)	mm	950	1250
Travel distance Sliding table (A1)	mm	459	764
Travel distance Sliding table (A2)	mm	716	1084
Total length (A1+E+A2)	mm	2035	2708
Overall width (B)	mm	1839	
Total height (C)	mm	ca. 1022	
Working height (D)	mm	888	
Machine table width (E)	mm	860	
Rip capacity (F)	mm	700	
Weight	kg	240	
Machine including packaging			
Length	mm	1470	
Width	mm	1160	
Height	mm	1200	
Weight	kg	310	

4.1.2 K3 winner

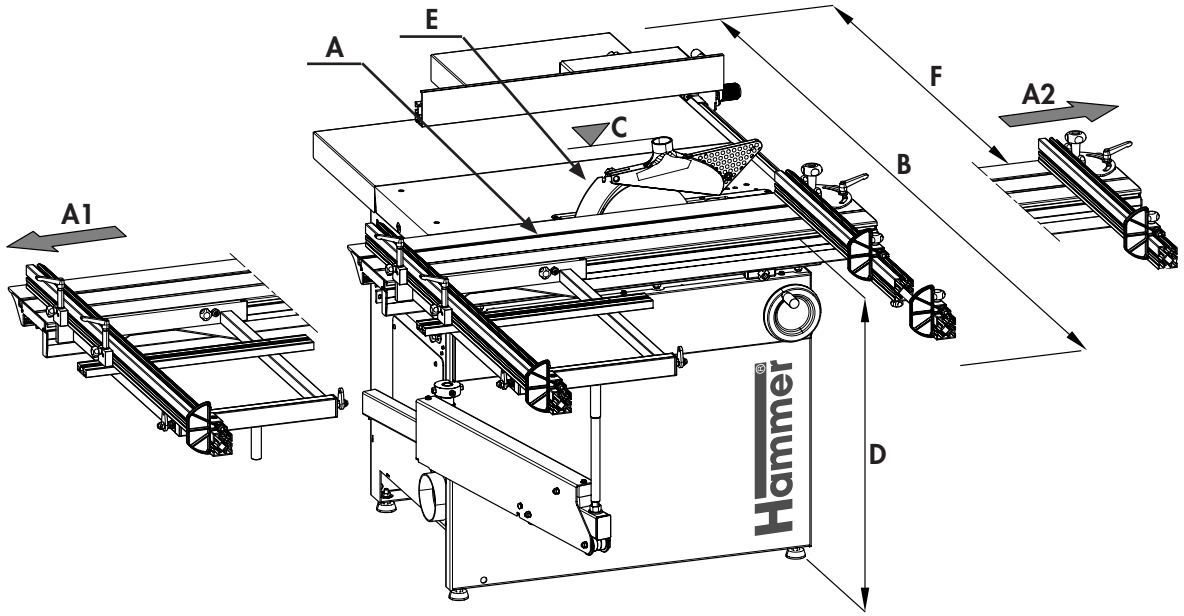


Fig. 2: Dimensions K3 winner

Machine		**Standard**	**Option**
Sliding table length (A)	mm	1250	2000
Travel distance Sliding table (A1)	mm	724	1480
Travel distance Sliding table (A2)	mm	1034	1828
Total length (A1+E+A2)	mm	2708	4258
Overall width (B)	mm	2400	2840
Total height (C)	mm	ca. 1022	
Working height (D)	mm	888	
Machine table width (E)	mm	950	
Rip capacity (F)	mm	800	
Weight	kg	280	
Machine including packaging			
Length	mm	1470	
Width	mm	1160	
Height	mm	1200	
Weight	kg	350	

4.2 Operation and storage conditions

Operation/room temperature	+10° to +40° C
Storage temperature	-10° to +50° C

4.3 Electrical connection

Mains voltage	230/400 ±10% V
Safeguarding	16 A
Triggering characteristic	C

*) *The transport width measures under 800 mm. This makes it possible to transport the machine through doorways.*

4.4 Drive motor

The actual values can be found on the data plate.

4.4.1 K3 basic

Circular saw drive	**Alternating-current motor**	**Three-phase alternating current motor**
Motor voltage	1x 230 V	3x 400 V
Motor frequency	50/60 Hz	50/60 Hz
Motor power S6-40 %*)	3 kW	3 kW
System of protection	IP 55	IP 55

*) *S6 = 10 minute operation under load and intermittent service; 40% relative operating factor*
i.e. the motor may be run at the nominal capacity for 4 minutes and afterwards must run idle for 6 minutes.

4.4.2 K3 winner

Circular saw drive	**Alternating-current motor**	**Three-phase alternating current motor**
Motor voltage	1x 230 V	3x 400 V
Motor frequency	50/60 Hz	50/60 Hz
Motor power S6-40 %*)	3/4 kW	3/4 kW
System of protection	IP 55	IP 55

*) *S6 = 10 minute operation under load and intermittent service; 40% relative operating factor*
i.e. the motor may be run at the nominal capacity for 4 minutes and afterwards must run idle for 6 minutes.

4.5 Particle emissions

The machine was tested for particle emissions according to DIN 33893. The Wood Authority ascertained, according to the "Principles for Testing Particle Emissions" (workplace-related particle concentrations) of woodworking machines, that the particle emission values for this machine are notably below the currently valid atmospheric limit of 2.0 mg/m³. This is certified by the blue label „BG Wood Particle Tested".

4.6 Noise emission

The specified values are emission values and therefore do not represent safe workplace values. Even though a relationship exists between particle emission and noise emission levels, an inference cannot be made about whether additional safety measures need to be implemented. Factors which can significantly affect the emission level that presently exists at the workplace include duration of the effect, characteristics of the workspace, and other ambient influences. The permissible workplace values may also differ from country to country. Nevertheless, this information is provided to help the operator better assess hazards and risks. Depending on the location of the machine and other specific conditions, the actual noise emission values may deviate significantly from the specified values.

Attention: In order to keep noise emissions to a minimum, be sure to always use sharpened planer knives.

Ear protection must always be worn; however, such protection cannot be considered a substitute for properly sharpened tools.

Acoustic power level according to EN ISO 3746 (Constants 4 dB(A)	
Idle	98,6 Decibel (A)
Working	102,3 Decibel (A)

Emission values at the workplace according to EN ISO 11202	
Idle	86,9 Decibel (A)
Working	89,8 Decibel (A)

An allowance must be made to compensate for tolerances with the specified emission values. K=4 Decibel (A)

4.7 Chip extraction

Unit	
Outlet size Ø	120 mm
Air speed	20 m/s
Vacuum, min.	1824 Pa
Volume flow, min. (at 20 m/s)	814+35 m3/h

Saw guard arbor	
Outlet size Ø	50 mm
Air speed	20 m/s
Vacuum, min.	953 Pa
Volume flow, min. (at 20 m/s)	680 m3/h

4.8 Tools

Warning! Risk of injury!

Only use saw blades ,
- which have an authorised speed higher than the speed of the saw arbor,
- which conform to DIN EN 847-1 standards and
- which are marked with „MAN"!

Only use grooving tools designed for wood purposes!

Attention: Only use original manufacturer tools (see HAMMER-catalogue).

Circular saw blades	
Diameter	250 bis 315 mm
Chisel, without driver	30 mm
Speed (50 Hz)	4800 min-1
Cutting height, max.	103 mm
Saw blade tilting/inclination	90-45°

Scoring unit blades	
Diameter, max.	80 mm
Chisel	20 mm
Speed	10000 min-1
Cutting height, max.	4 mm

Slotting cutters CE-Specifications	
Diameter, max.	180 mm
Width	5 to 20 mm

Slotting cutters US-Specifications	
Diameter, max.	7''
Width	max.. 3/4 ''

5 Setting up the machine

5.1 Overview

5.1.1 K3 basic

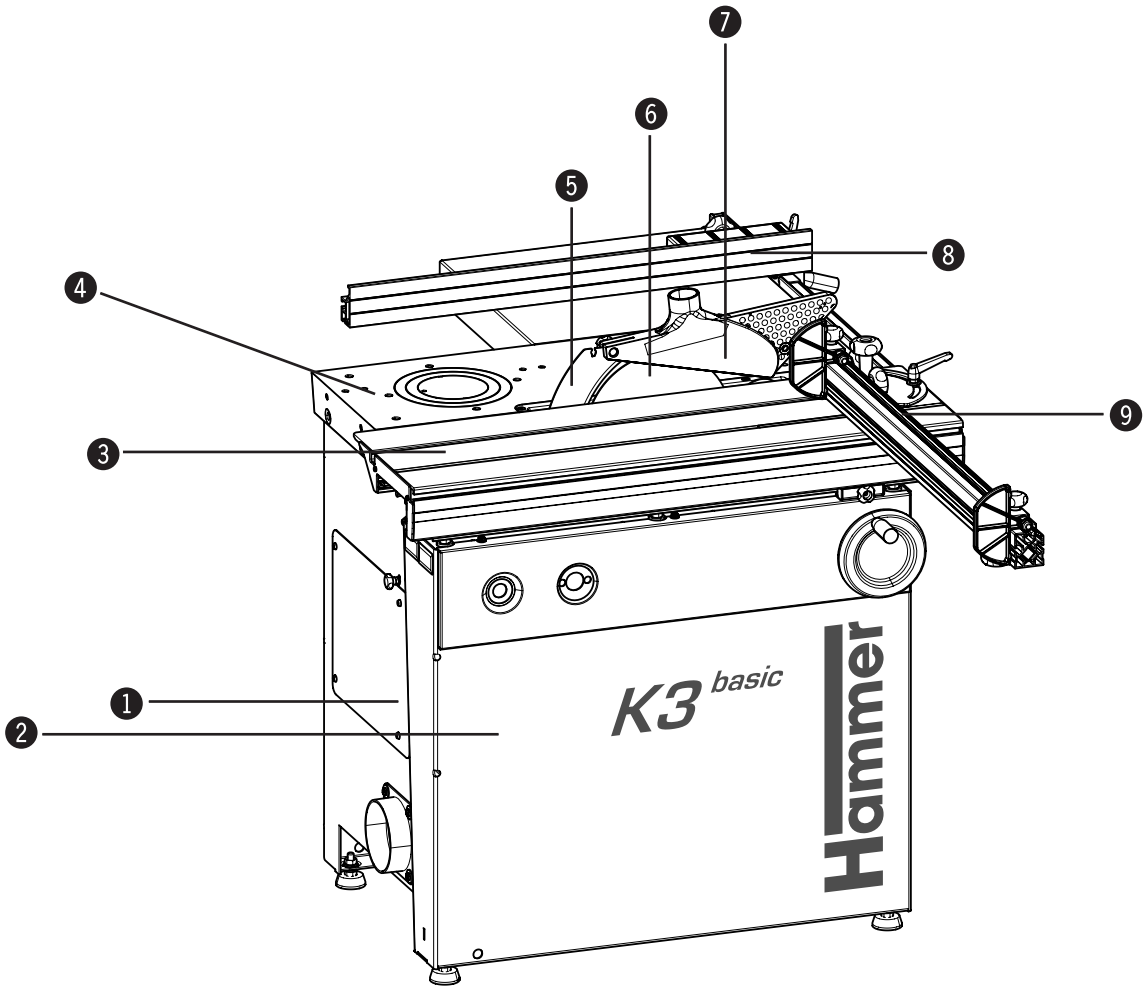


Fig. 3: Overview

1. Dust extraction (Connection D = 120 mm)
2. Machine frame
3. Sliding table
4. Loading table
5. Splitter
6. Saw blade
7. Saw guard with dust extraction (Connection D = 50 mm)
8. Parallel cutting fence
9. Crosscut fence (Sliding table)

5.1.2 K3 winner

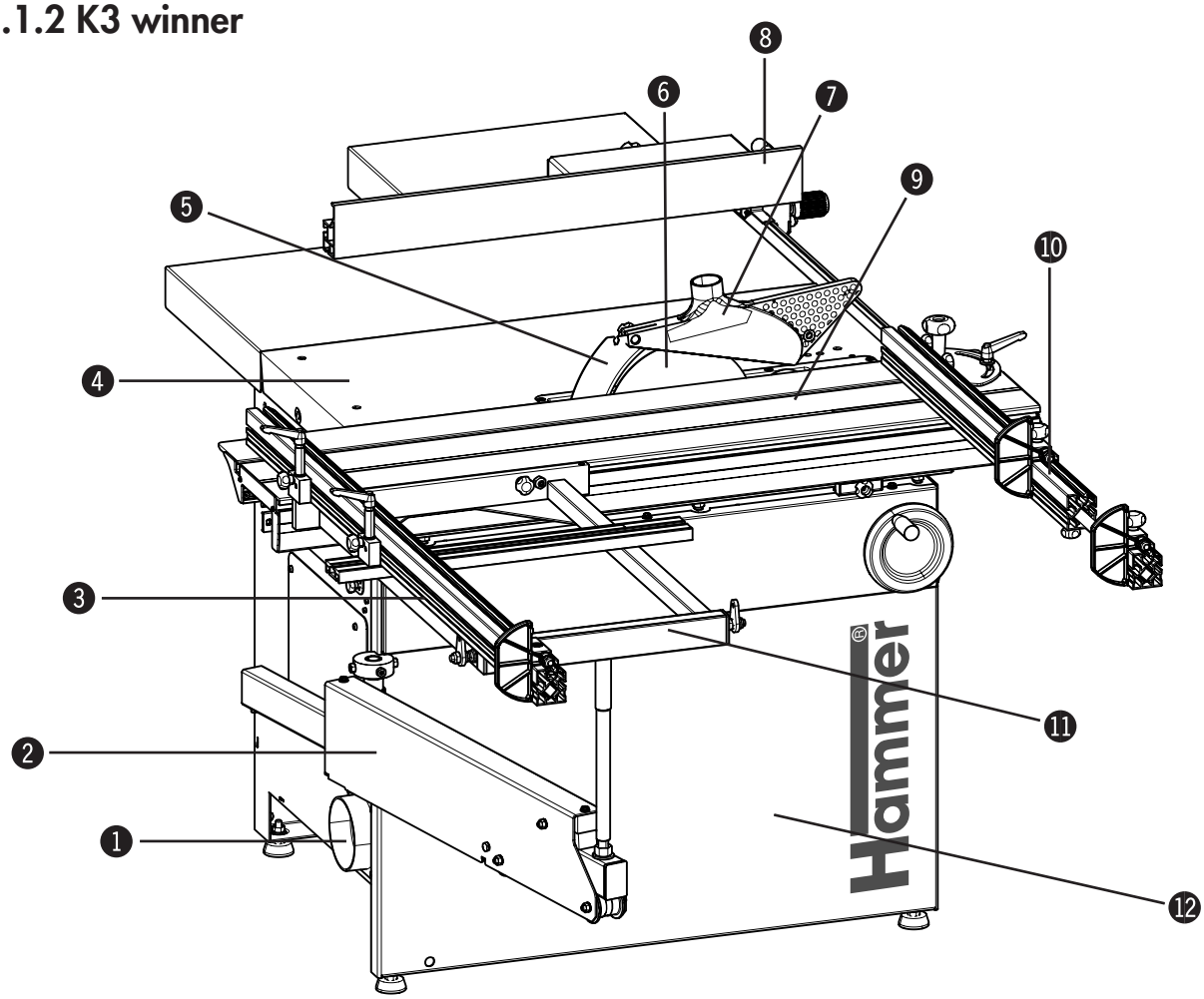


Fig. 4: Overview

1. Dust extraction (Connection D = 120 mm)
2. Outrigger table
3. Crosscut fence (Outrigger table)
4. Loading table
5. Splitter
6. Saw blade
7. Saw guard with dust extraction (Connection D = 50 mm)
8. Parallel cutting fence
9. Sliding table
10. Crosscut fence (Sliding table)
11. Outrigger table
12. Machine frame

5.2 Accessories

Table extension
for K3 basic
Order No. 500-101

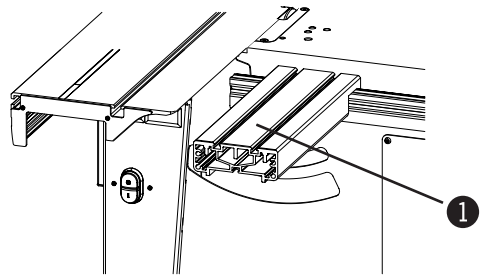


Fig. 5: Table extension

To correctly place the piece to be cut for long cuts (Assembly instructions „Table extension").

❶ Table extension

Table extension with foot support
for K3 winner
Order No. 503-155

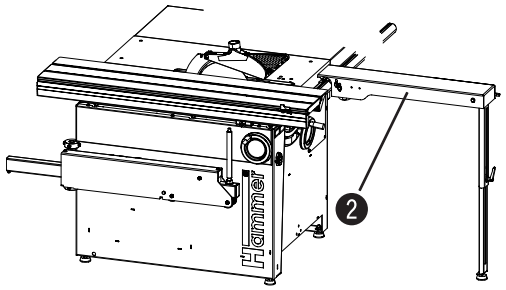


Fig. 6: Table extension with foot support

To correctly place the piece to be cut for long cuts (Assembly instructions „Table extension").

❷ Table extension with foot support

Trimming shoe
Order No. 500-109

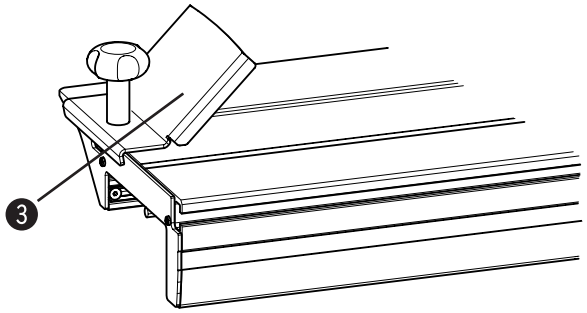


Fig. 7: Trimming shoe

For safe and precise work when trimming (Assembly instructions „Trimming shoe").

❸ Trimming shoe

Trimming equipment
Order No. 500-110

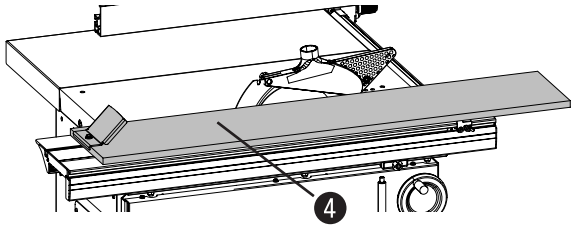


Fig. 8: Trimming shoe

For safe and precise work when trimming (Assembly instructions „Trimming equipment").

❹ Trimming equipment

Table Extension 400 mm
Order No. 503-137

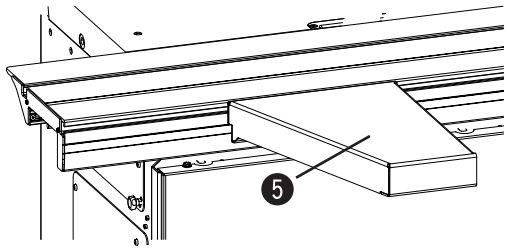


Fig. 9: Table Extension 400 mm

To correctly place the piece to be cut for long cuts (Assembly instructions „Extensible support").

❺ Table Extension 400 mm

Extension with workpiece roller for the outrigger
Order No. 503-132

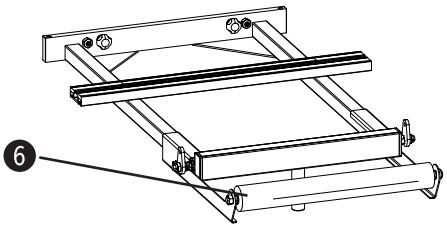


Fig. 10: Extension with workpiece roller for the outrigger

To correctly place very large or very long panels (Assembly instructions „Extension").

❻ Extension with workpiece roller for the outrigger

Outrigger table 1100
Order No. 503-108

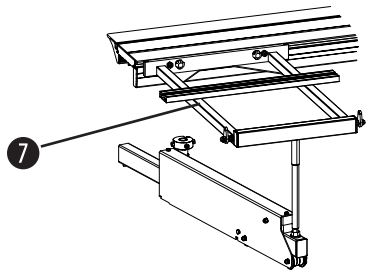


Fig. 11: Outrigger table 1100

To machine large and heavy panels (Assembly instructions „Outrigger table").

❼ Outrigger table

Rolling carriage with 4 rollers
Order No. 503-134

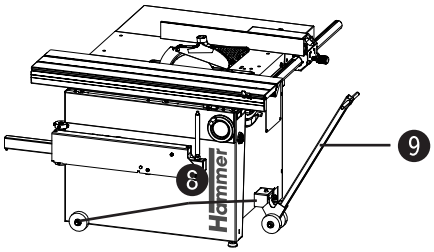


Fig. 12: Rolling carriage with 4 rollers

The rolling carriage is mounted to the machine base.

The rolling carriage enables a problem-free and uncomplicated placing of the machine (Assembly instructions „Rolling carriage with 4 rollers").

8 Rolling carriage with 4 rollers
9 Lifting bar

Lifting bar
Order No. 500-149

The lifting bar is hooked under the lifting bar plate of the rolling carriage (accessory).

Manoeuvring in the smallest space is possible with the lifting bar and rolling carriage (Assembly instructions „Lifting bar").

5.3 Data plate

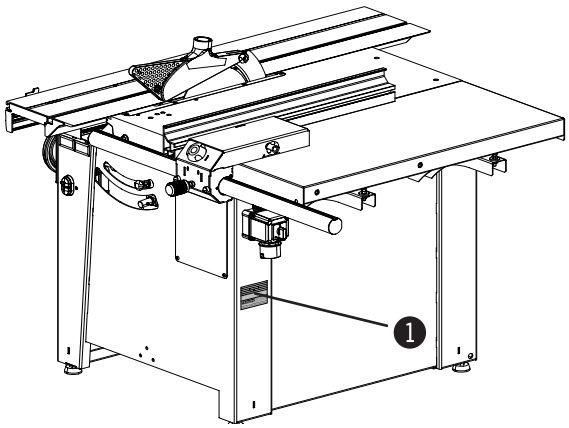


Fig. 13: Layout of the data plate

The data plate is found on the back of the machine.

1 Data plate

TYPE :		
NR. :		
V:	PH:	HZ:
KW:	A:	
Baujahr / year of constr. / annee de constr. :		

Hammer® Maschinen + Werkzeuge für Holz
Machines + tools for wood
Machines + Outillage pour le bois

Made by Hammer AUSTRIA EUROPE A-6060 HALL
Loretto 42 Tel.: 05223/45090 Fax 05223/45099

Fig. 14: Data plate

The data plate displays the following specifications:
- Model designation
- Machine number
- Voltage
- Phases
- Frequency
- Power
- Electricity
- Year of construction
- Manufacturer info

5.4 Main switch

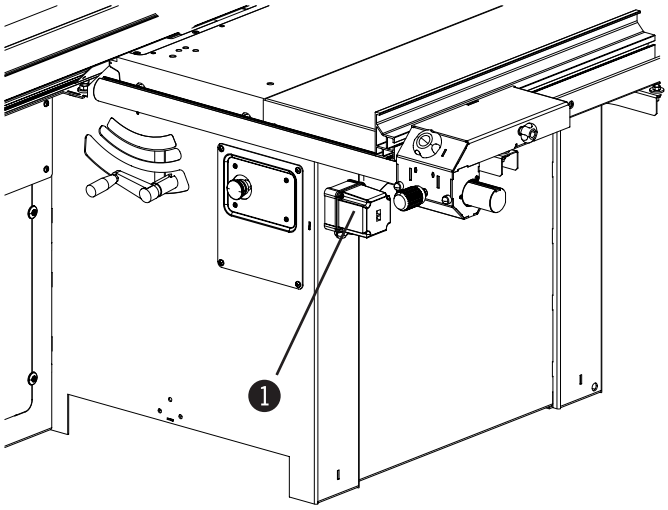


Fig. 15: Main switch

The main switch is located on the back of the machine.
- Position „0“: Mains voltage Off
- Position “I”: Mains voltage On

1 Main switch

Attention: A main switch with a 4kW motor power is only installed on the K3 winner circular saw.

5.5 Safety devices

5.5.1 Safety break switches

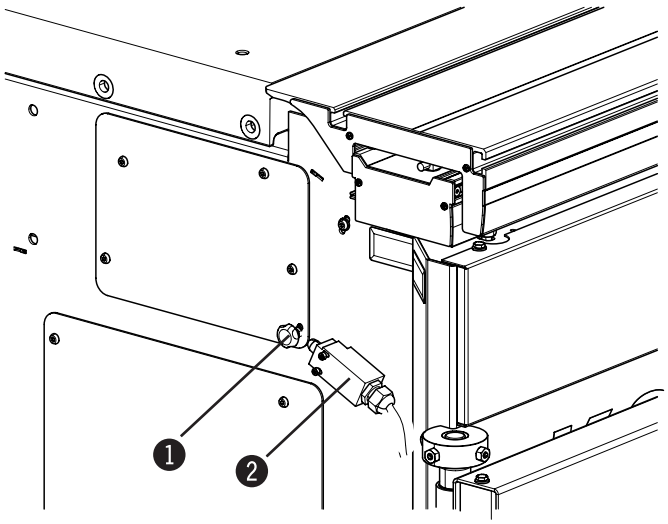


Fig. 16: Safety break switches

The saw blade only operates if the end switch inside the machine frame is actuated (sliding cover is closed and the lock is pushed to the top).

1 Safety system
2 Break switch

5.5.2 Sliding table catch

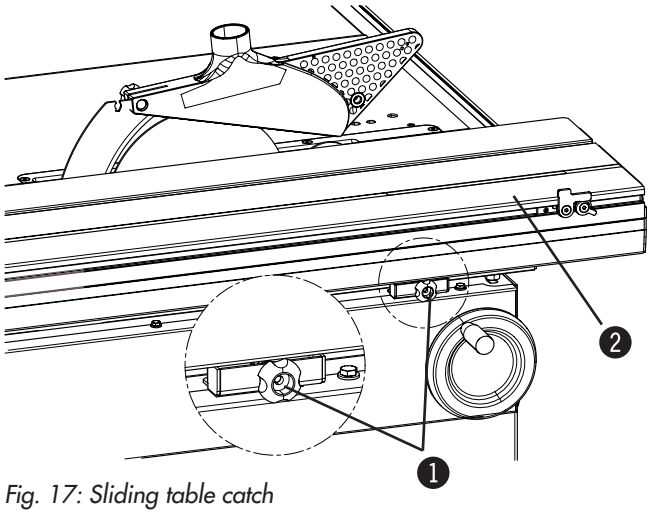


Fig. 17: Sliding table catch

The sliding table can be locked into the centre position by the thumb screw.

1. Thumb screw
2. Sliding table

5.5.3 Saw guard

Warning! Risk of injury! When working with the circular saw blade, the machine's saw blade should be equipped with a saw guard to avoid injuries!

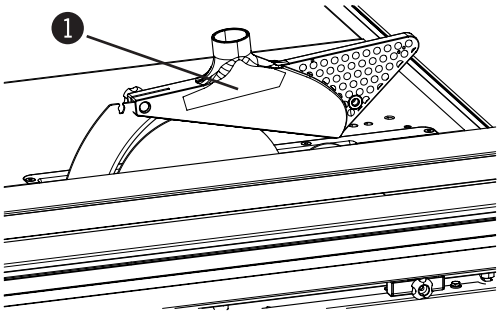


Fig. 18: Saw guard

The saw guard has to be installed and set correctly.

Clean the saw guard with the dust extractor;
Diameter = 50 mm

1. Circular saw guard

5.6 Operation and display elements

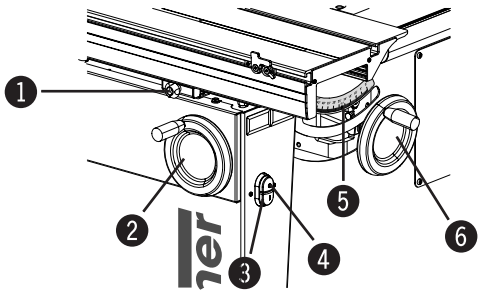


Fig. 19: Operation and display elements

1. Unlock – Sliding cover
2. Hand wheel – Circular saw angle adjustment
3. Key – On
4. Key – Off
5. Scale – Circular saw angle specification
6. Hand wheel – Scoring unit height adjustment

6 Transport, packaging and storage

6.1 Safety instructions

Warning! Danger – electric current: There is a risk of injury due to falling parts while transporting, loading or unloading the machine.

Attention! Risk of material damage: The machine can be damaged or destroyed if it is subjected to improper handling during transport.

For this reason the following safety instructions must be observed:

- Never lift loads over a person.
- Always move the machine with the utmost care and precaution.
- Only use suitable lifting accessories and hoisting devices that have a sufficient load-carrying capacity.
- Never transport the machine by putting pressure on any of its projecting elements (e.g. the planer tables).
- Consider the machine's centre of gravity when transporting it (minimise the risk of it tipping over).
- Take measures to prevent the machine from slipping sideways.
- Ropes, belts or other hoisting devices must be equipped with safety hooks.
- Do not use torn or worn ropes.
- Do not use knotted ropes or belts.
- Ensure that ropes and belts do not lie against sharp edges.
- Transport the machine as carefully as possible in order to prevent damage.
- Avoid subjecting the machine to shocks.
  When transporting the machine overseas, ensure that the packaging is air-tight and that a desiccant is added to protect the metal parts against corrosion.

6.2 Transport

Attention: Transport the machine only according to the enclosed transport and assembly instructions. Never lift the machine by its planer tables. Ropes, belts and chains may only be fastened to the base.

The machine is completely assembled when delivered on the pallet.

The machine can be transported with a crane, forklift, pallet jack or rolling carriage.

6.2.1 Transport locking device

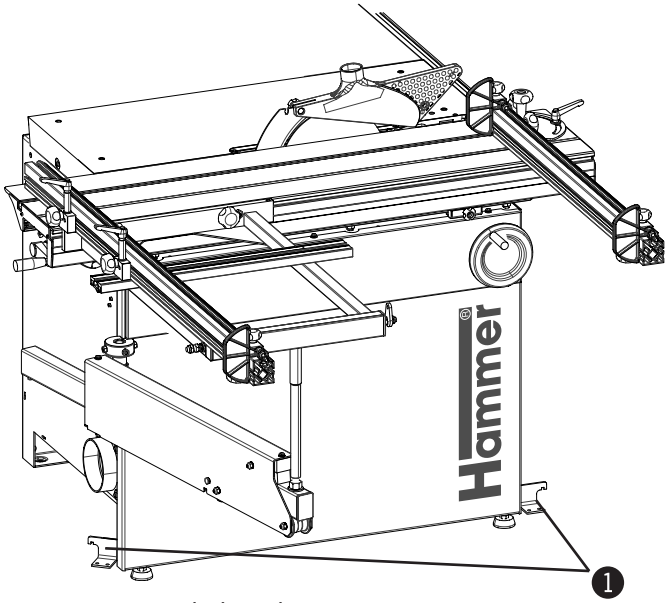


Fig. 20: Transport locking device

The machine is mounted to the pallet with transport brackets.

Remove the transport brackets before moving the machine to the installation location.

❶ Transport brackets

6.2.2 Transport devices for the circular saw K3 basic

Warning! Risk of injury! Remove the transportation device immediately after moving the machine.

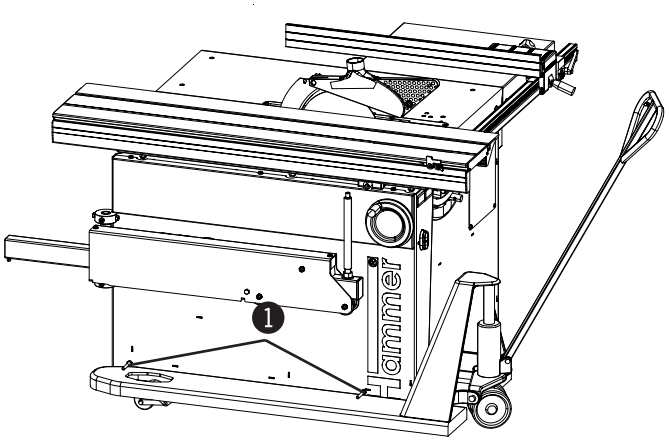


Fig. 21: Transport device – Example: Transporting with a pallet jack

Affix the transport device (Option) onto the frame to transport the K3 basic circular saw with a fork lift truck or pallet jack (Assembly instructions "Transport device").

❶ Transport device

6.2.3 Transport with a crane

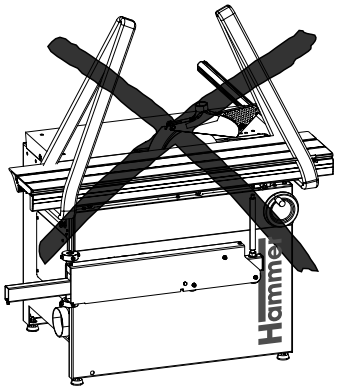


Fig. 22: Transport with a crane

Only use belts or chains to transport the machine.

Attention! Risk of material damage! The machine must not be lifted by the work table, sliding table or base!

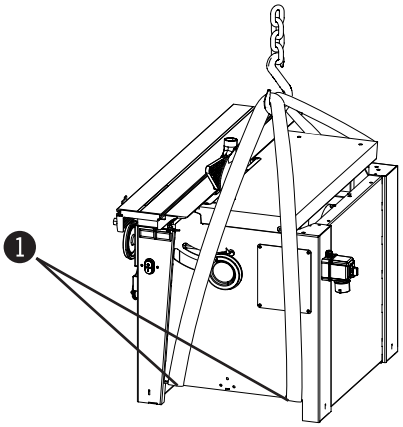


Fig. 23: Transport with a crane

Thread the belts or chains through the cut-out holes in the machine frame.

1 Machine frame

6.2.4 Transport with a fork lift truck

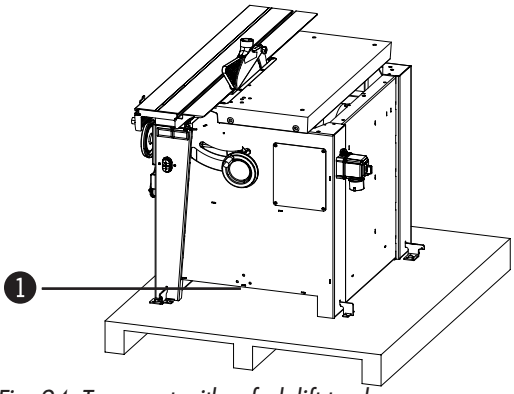


Fig. 24: Transport with a fork lift truck

K3 basic:
Move the forks so that one fork fits into the machine frame cut-out and the other fork into the transport device.

K3 winner:
Move the truck's forks so that they fit into the holes in the machine frame.

1 Machine frame

6.2.5 Transport with a pallet jack

6.2.5.1 Unloading

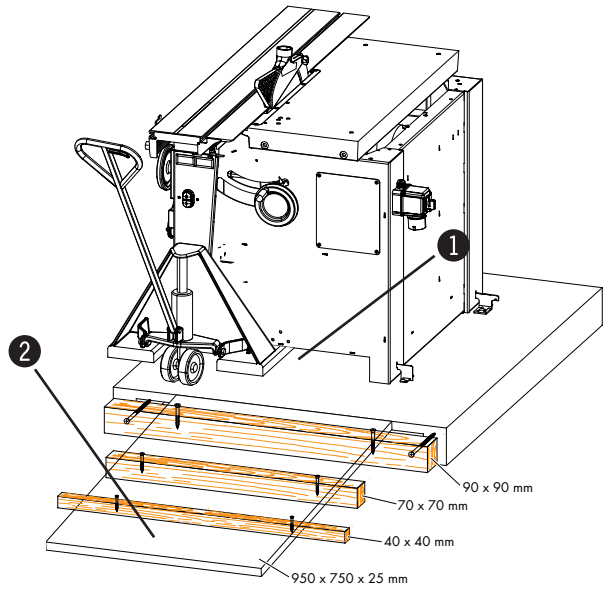


Fig. 25: Transport with a pallet jack – Example: K3 basic

Use a loading platform similar to that depicted in the picture opposite to unload from the pallet.

K3 basic:

1. Screw the transport device on.
2. Push the pallet jack forks into the machine frame cut-out holes and under the transport device.
3. Unload the machine from the pallet with a pallet jack.

K3 winner:

1. Push the pallet jack forks into the holes of the machine frame.
2. Unload the machine from the pallet with a pallet jack.

1 Machine frame
2 Unloading ramp

6.2.5.2 Transporting the machine

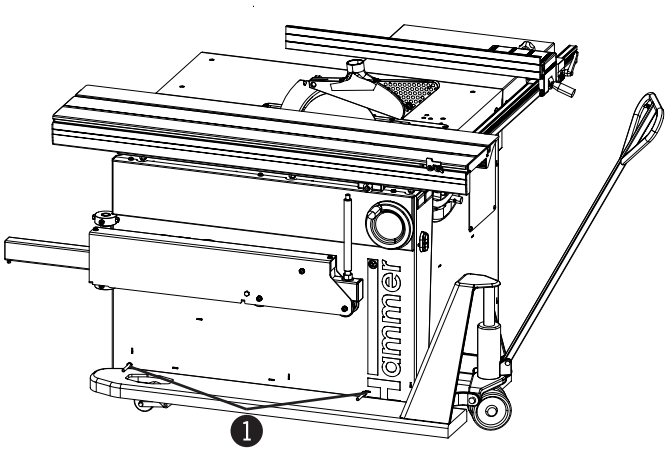


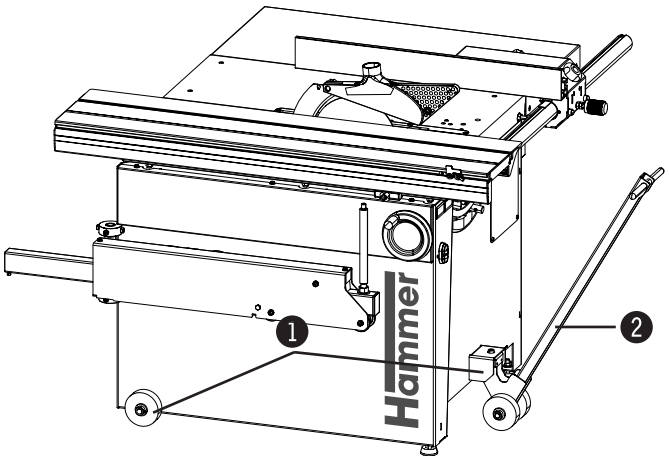
Fig. 26: Transport with a pallet jack– Example: K3 basic

K3 basic:
Push the pallet jack forks into the machine frame cut-out holes and under the transport device.

K3 winner:
Push the pallet jack forks into the holes of the machine frame.

1 Transport device

6.2.6 Transport with a rolling carriage



The rolling carriage is mounted to the machine base (Assembly instructions „Rolling carriage with 4 rollers“ and „Lifting bar“).

1. Rolling carriage with 4 rollers
2. Lifting bar

Fig. 27: Transporting the machine with the rolling carriage and lifting bar

Attention: The rolling carriage and the lifting bar (option) facilitate the task of moving the machine.

6.3 Transport inspection

Upon arrival, inspect the shipment to ensure that it is complete and has not suffered any damage.
If any transport damage is visible, do not accept the delivery or accept it only with reservation. Record the scope of the damage on the transport documents/delivery note. Initiate the complaint process.

For all defects that are not discovered upon delivery, be sure to report them as soon as they are recognised as damage claims must be filed within a certain period, as granted by law.

6.4 Packaging

If no agreement has been made with the supplier to take back the packaging materials, help to protect the environment by reusing the materials or separating them according to type and size for recycling.

Attention! Dispose of the packaging materials in an environmentally friendly way and always in accordance with local waste disposal regulations. If applicable, contract a recycling firm to dispose of the packaging materials.

Attention: Help preserve the environment! Packaging materials are valuable raw materials and in many cases they can be used again or expediently reprocessed or recycled.

6.5 Storage

Keep items sealed in their packaging until they are assembled/installed and be sure to observe the stacking and storage symbols on the outside of the packaging.

Store packed items only under the following conditions:

- Do not store outdoors.
- Store in a dry and dust-free environment.
- Do not expose to aggressive substances.
- Protect from direct sunlight.
- Avoid subjecting the machine to shocks.
- Storage temperature: -10° to +50° C.
- Maximum humidity: 60%.
- Avoid extreme temperature fluctuations (condensation build-up).
- Apply a coat of oil to all bare machine parts (corrosion protection).
- When storing for longer than 3 months, apply a coat of oil to all bare machine parts (corrosion protection). Regularly check the general condition of all parts and the packaging. If necessary, refresh or re-apply the coat of anti-corrosive agent.
- If the machine is to be stored in a damp environment, it must be sealed in air-tight packaging and protected against corrosion (desiccant).

7 Setup and installation

7.1 Safety instructions

Warning! Risk of injury: Improper assembly and installation can lead to serious bodily injury or equipment damage. For this reason this work may only be carried out by authorised, trained personnel who are familiar with the operation of the machine and in strict observance of all safety instructions.

- Ensure that there is sufficient space for working around the machine. If there is not sufficient distance between the machine and neighbouring machines, walls or other solid objects, the rail-guided workpieces pose a risk during the sawing process.
- Keep the work area orderly and clean. Components and tools that are not put in their correct place or put away may be the cause of accidents!
- Install the safety equipment according to the instructions and check that it functions properly.

Warning! Danger – electric current: Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.

Before assembling and installing the machine, check to make sure it is complete and in good condition.

Warning! Risk of injury: An incomplete, faulty or damaged machine can lead to serious bodily injury or equipment damage. Assemble and install the machine and other units only if they are complete.

Attention! Risk of material damage: Only operate the machine in ambient temperatures from +10° to +40° C. If the instructions are not followed, damage may occur during storage.

7.2 Installation

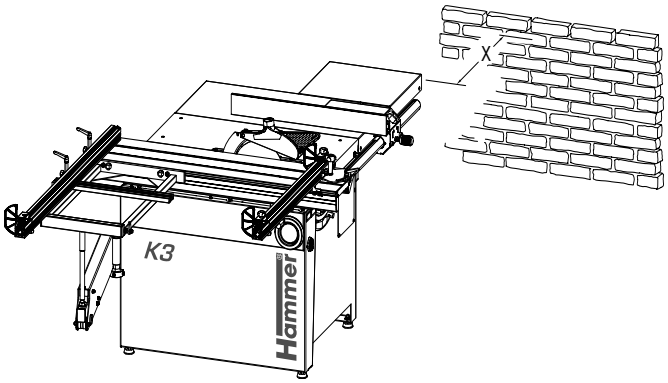


Fig. 28: Space requirements

Characteristics of the installation site:

- Operation/room temperature: +10° to +40° C.
- Ensure that the work surface is sufficiently stable and has the proper load-bearing capacity.
- Provide sufficient light at the workstation.
- Ensure there is sufficient clearance for or from neighbouring workstations.

In order that the machine may be operated and maintained properly, it must be set up at least 500 mm away from the wall, parallel to the work direction.

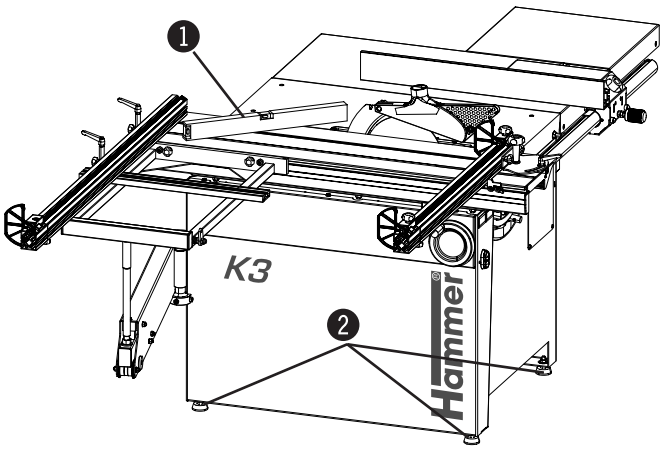


Fig. 29: Positioning the machine

1. Transport the machine to the installation site as instructed in the „Transport“ chapter and the enclosed transport or installation instructions.
2. Position the machine with the aid of a spirit level to ensure that the machine functions precisely and operates smoothly.
   Compensate for uneven floors with the „adjusting screws“.

1 Spirit level
2 Adjusting screws

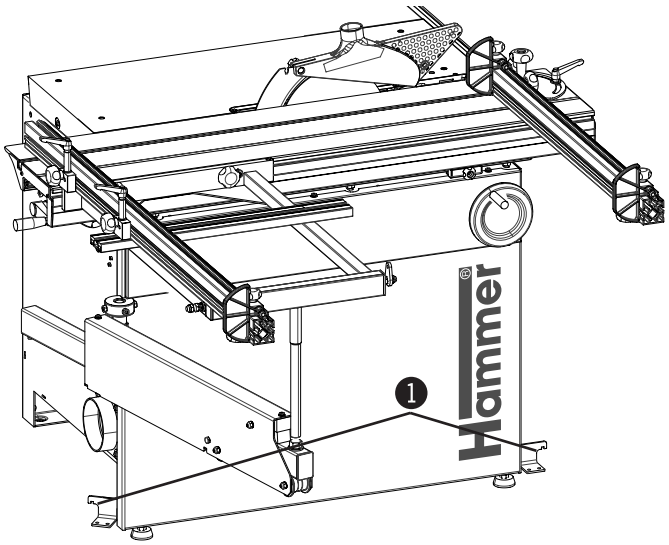


Fig. 30: Floor mounting

3. If necessary, the machine can be bolted down to the floor with the transport brackets.

1 Transport brackets

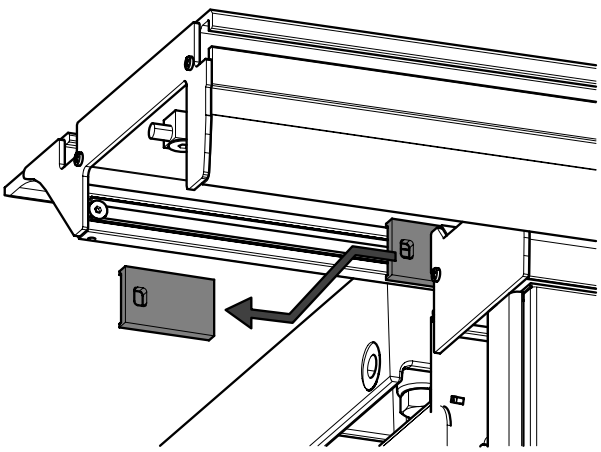


Fig. 31: Transport locking device Sliding table

4. Before the machine operates for the first time, remove, from both sides, the wedges between the base and sliding table.
5. Remove the oxidation protective layer from all blank machine parts.

7.3 Assembly

7.3.1 Sliding table

Attention: Due to transport reasons, the sliding table, depending on its length, may be packaged separately. Two to three additional helpers, depending on the cutting length, are required to install the machine.

The sliding table has to be set up before the initial machine start-up. Individual installation instructions are found with the machine or the sliding table.

7.3.2 Assembling/disassembling the outrigger table

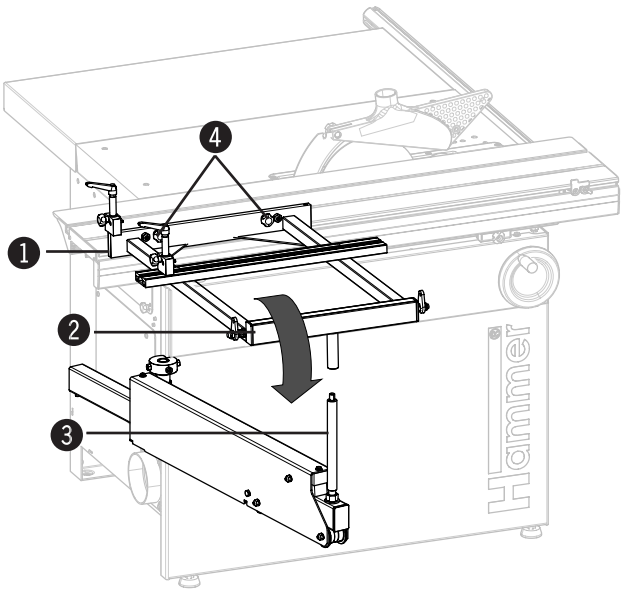


Fig. 32: Assembling the outrigger table

Assembling the outrigger table:

1. Hook the outrigger table into the groove on the sliding table.
2. Place the outrigger table onto the support arbor.
3. Fix with a thumb screw.

Disassemble the outrigger table:

1. Loosen the thumb screw.
2. Unhook the outrigger table from the support arbor and the sliding table.

1. Groove
2. Outrigger table
3. Support arbor
4. Thumb screws

7.3.3 Circular saw guard

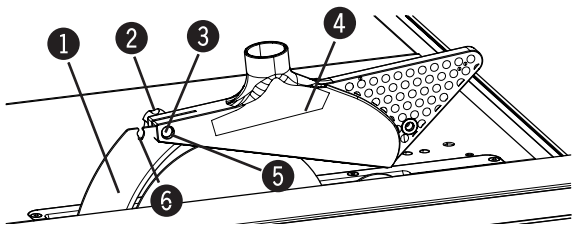


Fig. 33: Circular saw guard

1. Splitter
2. Thumb nut
3. Hood stud
4. Circular saw guard
5. Saw blade recess 300–315 mm
6. Saw blade recess 250 mm

The saw guard is mounted onto the splitter. The mounting depends on the diameter of the saw blade:

- Saw blade recess from 300 up to 315 mm
- Saw blade recess from 250 mm

1. Loosen the thumb nut.
2. Push the hood stud to the back with the thumb nut.
3. Remove the saw guard and insert it into the other recess.
4. Tighten the thumb nut.

7.4 Chip extraction

The machine has to be connected to a dust extractor.

Requirements for the vacuum system and hoses:

	Unit	Saw guard
Dust extraction port-Ø	120 mm	50 mm
Air speed, rpm	20 m/s	20 m/s
Vacuum, rpm	1824 Pa	953 Pa
Volume flow, rpm (New at Format4 20 m/s)	814+35 1900 m³/h	680 1900 m³/h

Attention! The vacuum hoses must be flame retardant. Only use original HAMMER vacuum hoses!

- The vacuum system must produce the required vacuum and air flow.
- Connect the vacuum system to the machine in such a way that they run in unison.
- The vacuum hoses must be electrically conductive and grounded to prevent electrostatic loading.

Before putting the machine into operation for the first time, inspect it for defects.

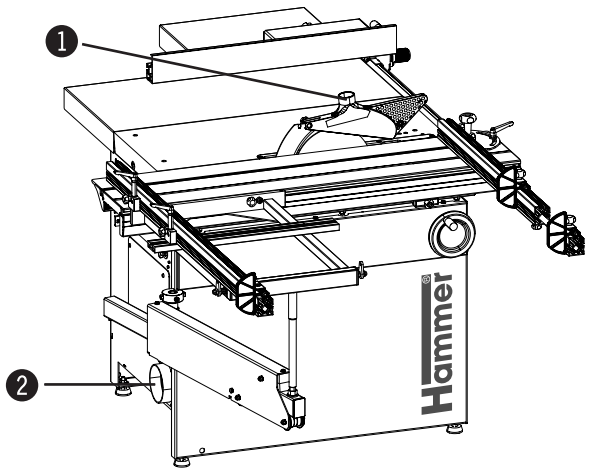


Fig. 34: Connectors

Connection to the exhaust system:

1 Connection Ø = 50 mm
2 Connection Ø 120 mm

7.5 Electrical connection

Warning! Danger – electric current: Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.

Attention: Do not open the machine's switch box without the express consent of the HAMMER service department. Violating this stipulation shall render the right to make claims under the warranty null and void.

Characteristics of electrical connections:

- The machine must be earthed with electrical conductors.
- The voltage fluctuations in the mains supply may not exceed ±10%.
- Safeguarding 16 A, Triggering characteristic C.
- Power supply cable at least 5X2,5 (Three-phase alternating current motor) or 3x2,5 (Alternating-current motor).
- The power supply cable must be protected against damage (e.g. armoured conduit).
- The power supply cable must be laid in such a way that it does not overbend or chafe and there is no risk of tripping over it.

Warning! Danger – electric current: Before hooking up the machine to the power supply, compare the specifications on the data plate with those of the electrical network. Only hook up the machine if the two sets of data correspond to each other. The electrical outlet must have the appropriate socket (for a three phase alternating current motor, CEE).

The machine's power cable is delivered with an open cable end, i.e. without a plug.
The operator is responsible for fitting the machine's power cable with a suitable plug in accordance with any country-specific regulations.

1. Connect the plug to the power supply.
2. Switch on and let the machine run briefly.
3. While the motor is running, check its direction of rotation.
4. Should a change in the direction of rotation be necessary, switch the two phases on the power cable.

8 Making adjustments and preparations

8.1 Safety instructions

Warning! Risk of injury: Improper adjustment and working setup can lead to serious bodily injury or material damage. For this reason this work may only be carried out by authorised, trained personnel who are familiar with the operation of the machine and in strict observance of all safety instructions.

- Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being turned on again.
- Before commencing any work with the machine, inspect it to ensure that it is complete and in technically good condition.
- Ensure that there is sufficient space for working around the machine.
- Keep the work area orderly and clean. Components and tools that are not put in their correct place or put away may be the cause of accidents!
- Install the safety equipment according to the instructions and check that it functions properly.

Warning! Danger – electric current: Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.

8.2 Sliding table catch

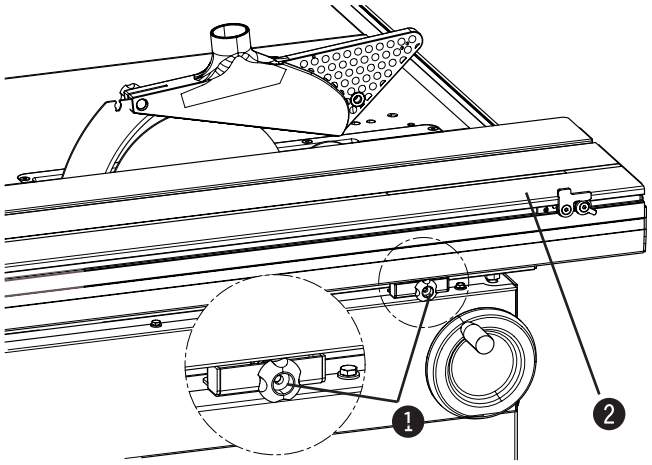


Fig. 35: Sliding table locking system

The sliding table can be locked into the centre position.

1. Rotate the thumb screw by 90° and push in.
2. Move the sliding table slowly into the locked position, until it engages.
3. To unlock, pull out the thumb screw and rotate 90° anti-clockwise.

1 Thumb screw
2 Sliding table

8.3 Crosscut fence on the sliding table

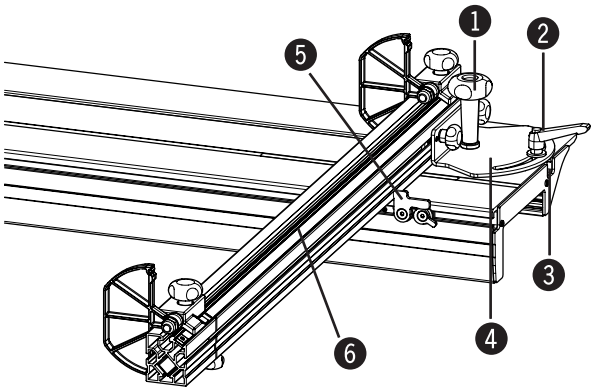


Fig. 36: Assembling the crosscut fence

1. Thread the clamping part of the crosscut fence into the groove of the sliding table and move right up to the stop screw (in the groove).
2. Loosely affix the compressor rod shaft.
3. Adjust the desired cutting angle (-45° to +45°).
   With 90° cuts:
   - Flip open the end stop on the sliding table.
   - Place the fence against the end stop.
4. Clamp the stop with the clamping lever.

1 Compressor rod shaft
2 Single-hand clamp levers
3 Groove
4 Clamping part
5 End stop
6 Stop

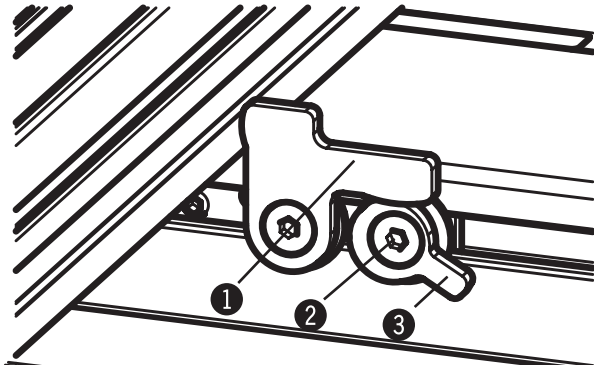


Fig. 37: Adjust end stop

Adjusting :
1. Fold the end stop back.
2. Loosen the setscrew.
3. Turn the cam lever until a 90° angle is attained (the fence reaches the end stop).
4. Check with a sample cut.
5. Tighten the setscrew.

1 End stop
2 Setscrew
3 Cam lever

8.4 Crosscut fence on the outrigger

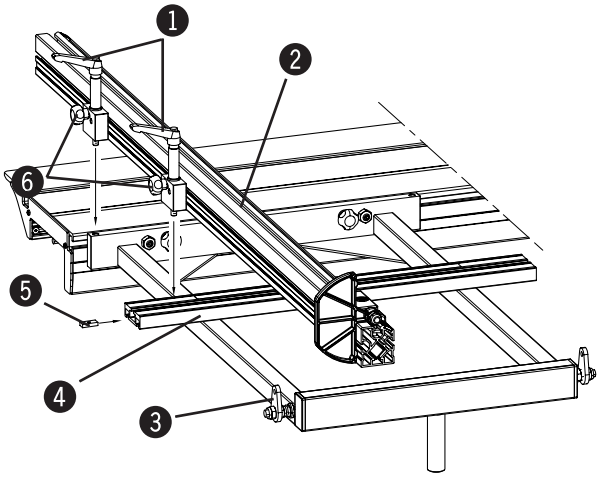


Fig. 38: Assembling the crosscut fence

The crosscut fence can be mounted to the outrigger on the push side.

1. Thread the locking plate into the outrigger rail.
2. Loosen the thumb screws and position the crosscut fence at the outrigger.
3. Clamp the crosscut fence at the outrigger with the clamping lever.
4. Tighten the thumb screws.

1 Clamping lever
2 Crosscut fence
3 End stop
4 Outrigger table
5 Locking plate
6 Thumb screws

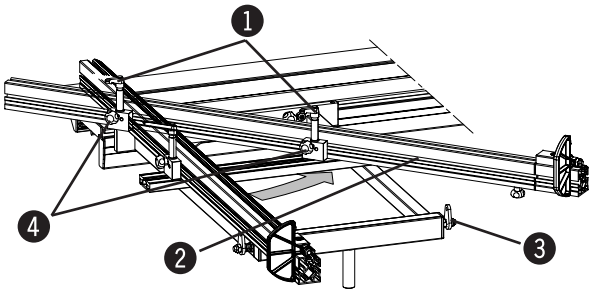


Fig. 39: Adjust the crosscut fence

Pivoting:

1. Loosen the clamping lever and thumb screws.
2. Pivot the crosscut fence to the desired position. Fold the end stop back if necessary, so as to be able to pivot the crosscut fence over it.
3. Clamp the clamping lever in place and tighten the thumb screws.
4. Loosen the thumb screws, move the fence profile and retighten the thumb screws in order to compensate the length of the scale when the fence is pivoted.

1. Clamping lever
2. Crosscut fence
3. End stop
4. Thumb screws

90°-Position:

1. Loosen the clamping lever and thumb screws.
2. Tilt the crosscut fence, until it stops against the end stop.
3. Clamp the clamping lever in place and tighten the thumb screws.

8.5 Cross stop

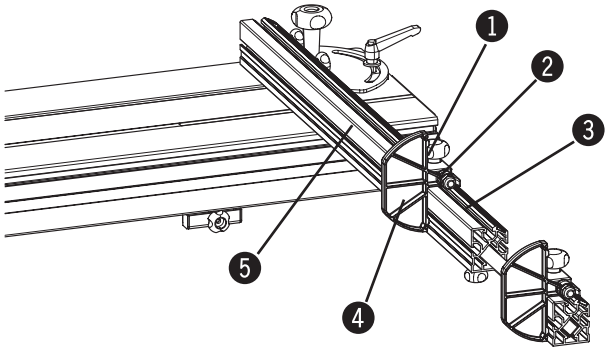


Fig. 40: Cross stop

The cross stop can be pushed onto the crosscut fence in one movement.
If required, the end stop can be folded back.

1. Loosen the thumb screw.
2. Move the crosscut fence extension to the desired position. The measurement (Rip capacity) is read off the scale on the profile edge of the crosscut fence.
3. Tighten the thumb screw.

1. Thumb screws
2. Cross stop
3. Scale
4. End stop
5. Crosscut fence

8.6 Crosscut fence-extension

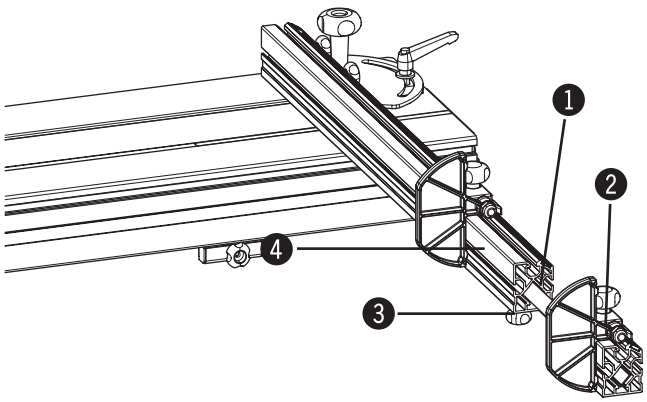


Fig. 41: Crosscut fence-extension

The crosscut fence may be fitted with an extension as an option.

1. Loosen the thumb screw.
2. Move the crosscut fence extension to the desired measurement.
   The measurement (cutting width), is read from the scale on the profile edge of the crosscut fence.
3. Tighten the thumb screw.

1 Scale
2 Extension
3 Thumb screw
4 Crosscut fence

8.7 Parallel cutting fence

8.7.1 Sliding

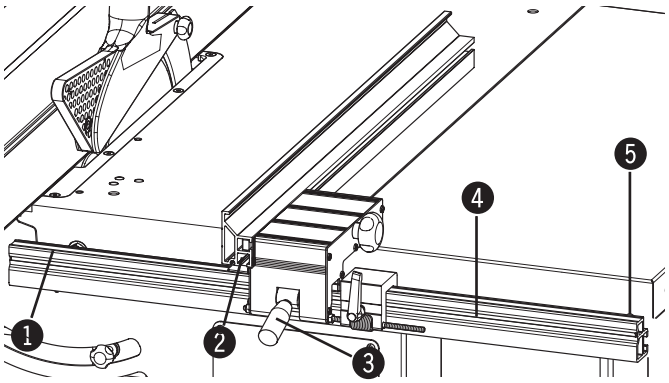


Fig.. 42: Parallel cutting fence K3 basic

K3 basic:

1. Loosen the clamping lever.
2. Read the dimension from the scale on the front edge of the indicator.
3. Move the scale by the measurement required to adapt the scale to the different widths of the saw blade:
   - Loosen the four flat nuts on the track.
   - Move the track.
   - Retighten the four flat nuts.
4. Clamp the clamping lever.

1 Scale
2 Indicator
3 Clamping lever
4 Track
5 Nuts

Attention! When using a table extension, the distance between the upper edge of the track and the upper edge of the table has to measure 17 mm exactly so that the position of the table extension is level with that of the table.

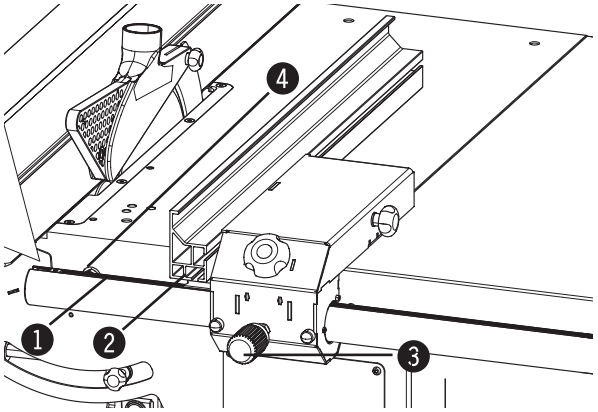


Fig. 43: Parallel cutting fence K3 winner

K3 winner:

1. Loosen the knurled handle.
2. Read the dimension from the scale on the front edge of the indicator.
3. Move the scale by the measurement required to adapt the scale to the different widths of the saw blade:
   -Loosen the locking plate.
   - Move the scale.
   - Tighten the locking plate.
4. Lock the knurled handle.

1 Scale
2 Indicator
3 Knurled handle
4 Locking plate

8.7.2 Fine adjustment

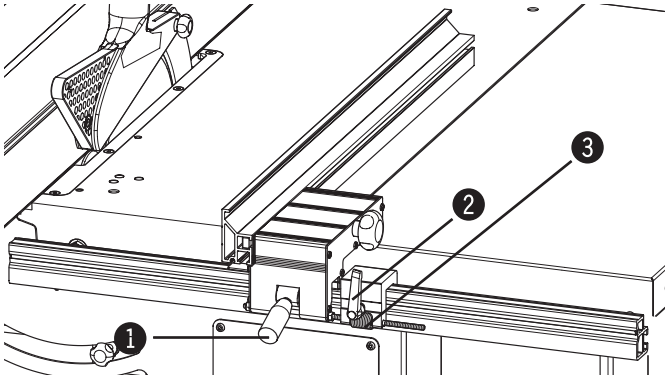


Fig. 44: Parallel cutting fence K3 basic

K3 basic (Optional):

1. Loosen the clamping lever.
2. Clamp the clamping lever.
3. Adjust finely with the thumb nut.

1 Clamping lever
2 Clamping lever
3 Thumb nut

Attention: Always carry out the adjustment towards the circular saw to be able to compensate for the thread clearance.

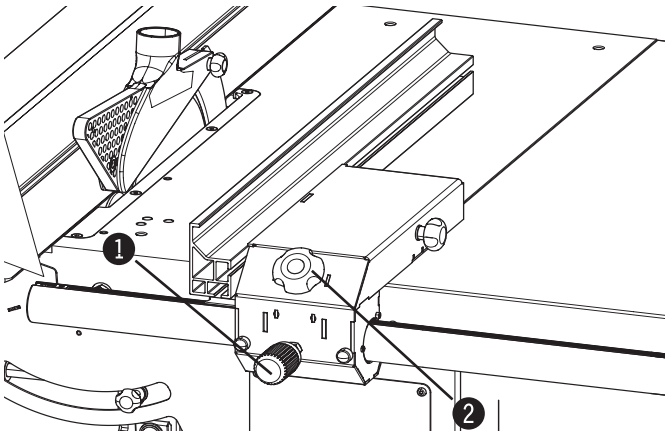


Fig. 45: Parallel cutting fence K3 winner

K3 winner:

1. Loosen the knurled handle.
2. Press the thumb nut inwards.
3. Adjust finely by turning the thumb nut.
4. Tighten the knurled handle following the fine adjustment.

1 Knurled handle
2 Thumb nut

8.7.3 Modifying the guide

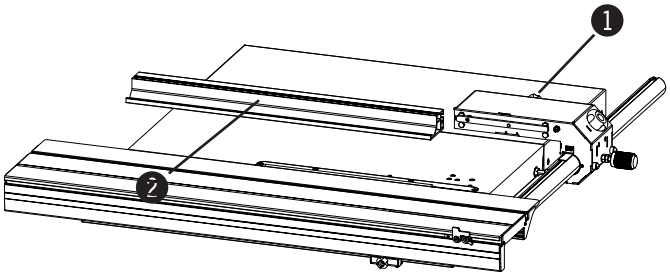


Fig. 46: Parallel cutting fence

1. Loosen the thumb screw.
2. Pull the guide backwards.
3. Place the guide flat onto the table and once again, thread through the appropriate groove.
4. Tighten the thumb screws.

1. Thumb screw
2. Guide

8.7.4 Removal

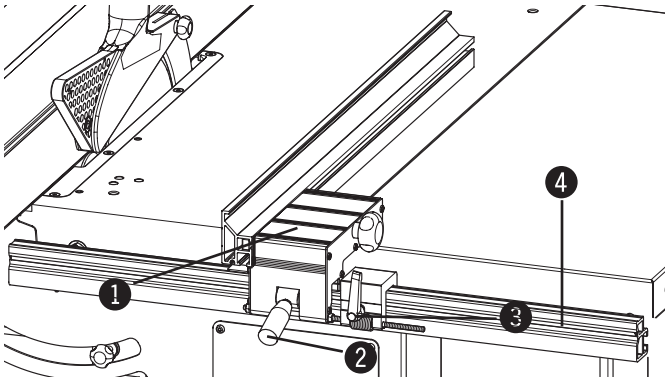


Fig. 47: Parallel cutting fence K3 basic

K3 basic:
It may be necessary to remove the parallel cutting fence when machining large panels.

1. Loosen the clamping lever.
2. If present: Loosen the fine adjustment clamping lever by 5-6 turns.
3. Remove the parallel cutting fence from the track from the top.

1. Parallel cutting fence
2. Clamping lever
3. Clamping lever
4. Track

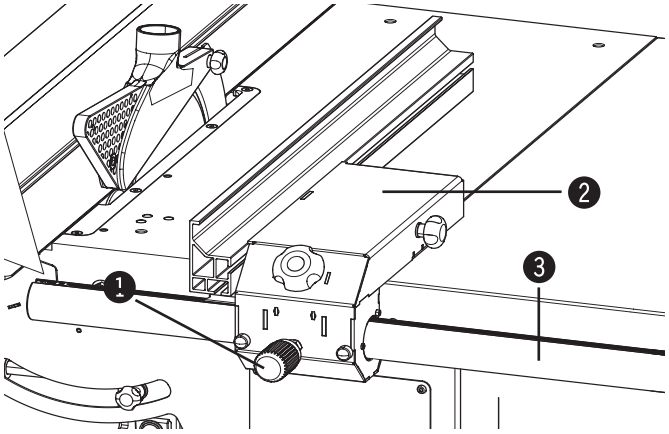


Fig. 48: Parallel cutting fence K3 winner

K3 winner:
It may be necessary to remove the parallel cutting fence when machining large panels.

1. Loosen the knurled handle.
2. Remove the parallel cutting fence from the back of the bar.

1. Knurled handle
2. Parallel cutting fence
3. Bar

8.7.5 Swinging out

Attention: Swinging out is only possible with the K3 winner circular saw.

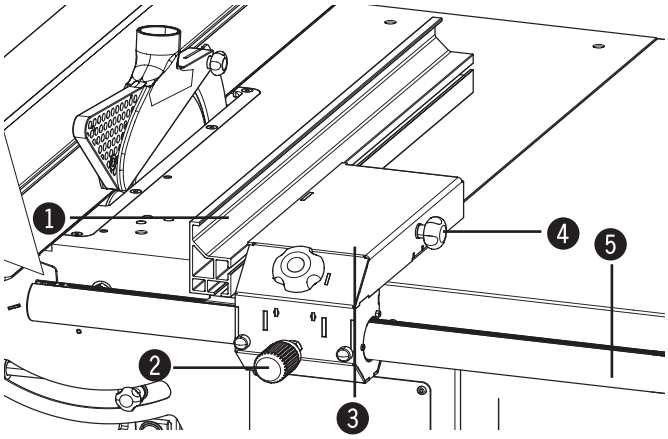


Fig. 49: Parallel cutting fence

Swinging the parallel cutting fence out may be necessary e.g. to machine large panels.

1. Loosen the thumb screw.
2. Place the guide in the centre.
3. Clamp the thumb screw.
4. Loosen the knurled handle.
5. Move the parallel cutting fence right up to the end of the bar.
6. Swing out the parallel cutting fence.

1 Guide
2 Knurled handle
3 Parallel cutting fence
4 Thumb screw
5 Bar

8.8 Changing the tool

8.8.1 Preparing to change tooling

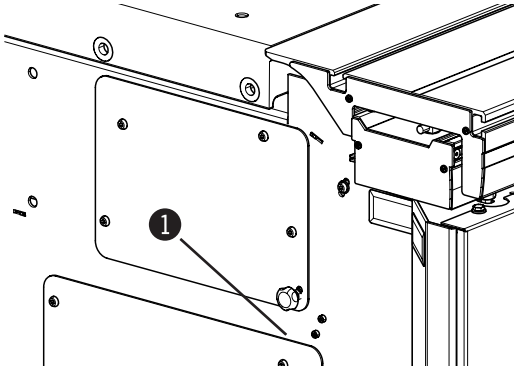


Fig. 50: Preparing to change tooling

1. Switch the machine off and ensure that it cannot be switched on again.
2. Push the lock downwards.

1 Safety system

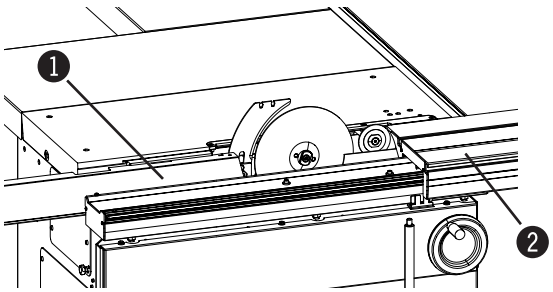


Fig. 51: Preparing to change tooling

3. Slide the sliding table to the right until it reaches its limit.
4. Slide the sliding table to the left until it reaches its limit.

1 Sliding cover
2 Sliding table

8.8.2 Prepare the machine to operate

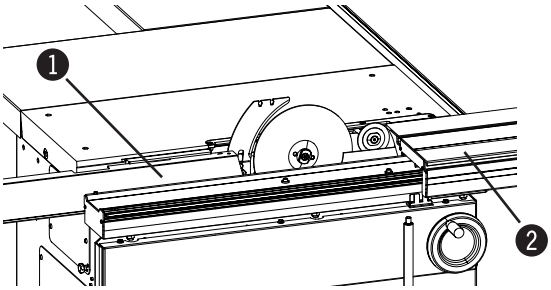


Fig. 52: Prepare the machine to operate

1. Slide the sliding table to the right until it reaches its limit.
2. Slide the sliding table to the left until it reaches its limit.

1 Sliding cover
2 Sliding table

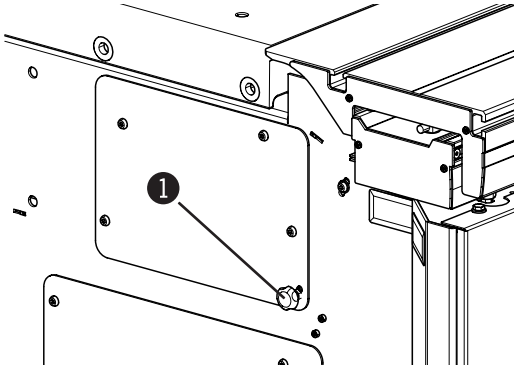


Fig. 53: Prepare the machine to operate

3. Push the lock to the top.
4. Switch on the machine.

1 Safety system

8.9 Saw blade

8.9.1 Tools

Warning! Risk of injury!

Only use saw blades ,
- which have an authorised speed higher than the speed of the saw arbor,
- which conform to DIN EN 847-1 standards and
- which are marked with „MAN"!

Only use original HAMMER tools (HAMMER-catalogue).

Only the following tools are allowed:

Circular saw blades	
Diameter	250 bis 315 mm
Chisel, without driver	30 mm
Speed (50 Hz)	4800 min-1
Cutting height max.	103 mm
Saw blade tiltable from	90 to 45°

8.9.2 Setting the height/angle of cut

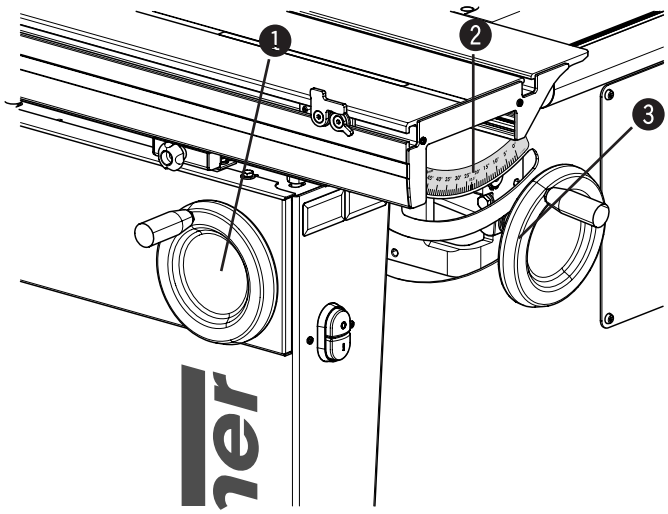


Fig. 54: Setting the height/angle of cut

The cutting height or alternatively the cutting angle are adjusted with one hand wheel.

The machine is only equipped with a single hand wheel. Depending on the adjustment to be made, place the hand wheel on the appropriate shaft.

The cutting height is set using the hand wheel on the shaft:
- Clockwise: higher
- Anti-clockwise: lower

Only set the cutting height to the required height.

The cutting angle is set using the hand wheel on the arbor:
- Clockwise: towards 0°
- Anti-clockwise: towards 45°

The cutting angle is displayed on the scale.

1. Shaft
2. Scale
3. Shaft

8.9.3 Changing the saw blade

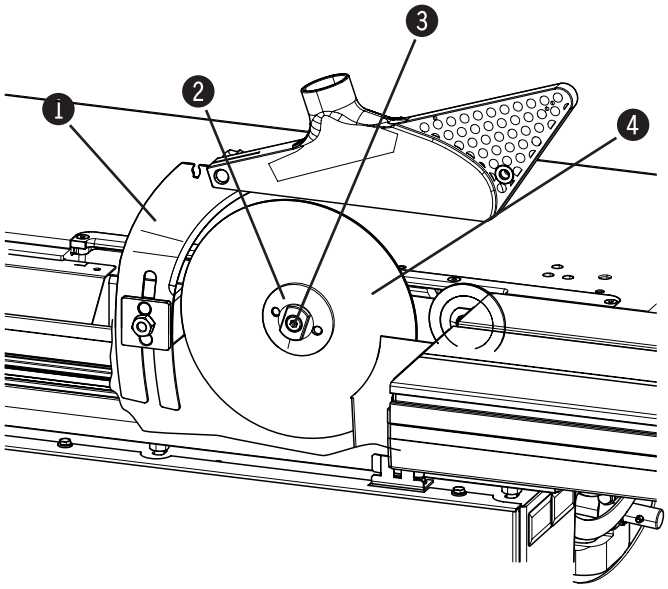


Fig. 55: Changing the saw blade

Required tools:
- Allen key 10 mm
- Spanner SW 22 mm

1. Prepare to change tooling.
2. Loosen the splitter to install a larger saw blade.
3. Hold the flange tight with the spanner.
4. Loosen the socket head cap screw with an Allen key.
5. Remove the socket head cap screw and flange.
6. Remove the old saw blade and place the new saw blade on the arbor.
7. Replace the flange (take note of the assembling position). Hold the flange tight with the spanner.
8. Screw in the socket head cap screw with the Allen key.
9. Adjust the splitter if a larger or smaller saw blade has been fitted in.

10. Prepare the machine to operate.
11. Adjust the saw guard according to the saw blade.

1. Splitter
2. Flange
3. Socket head cap screw
4. Saw blade

Attention: Only use original manufacturer tools!

Attention! Minimum tightening torque: 20 Nm!

8.10 Splitter

8.10.1 Loosening/adjusting the splitter

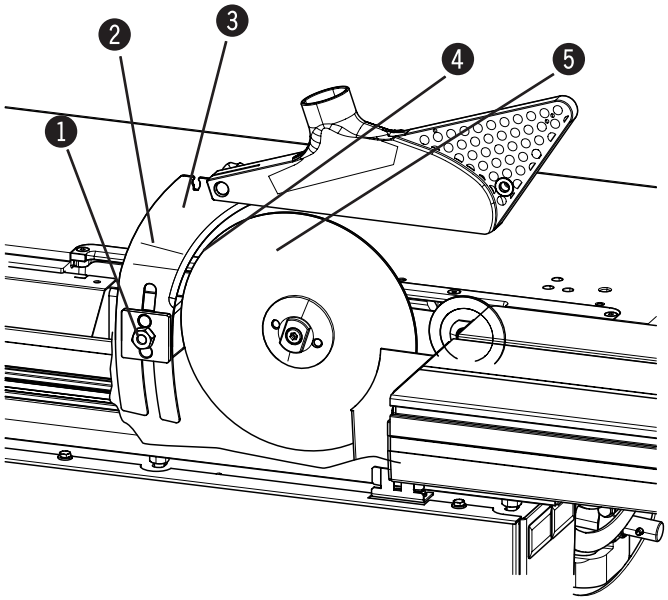


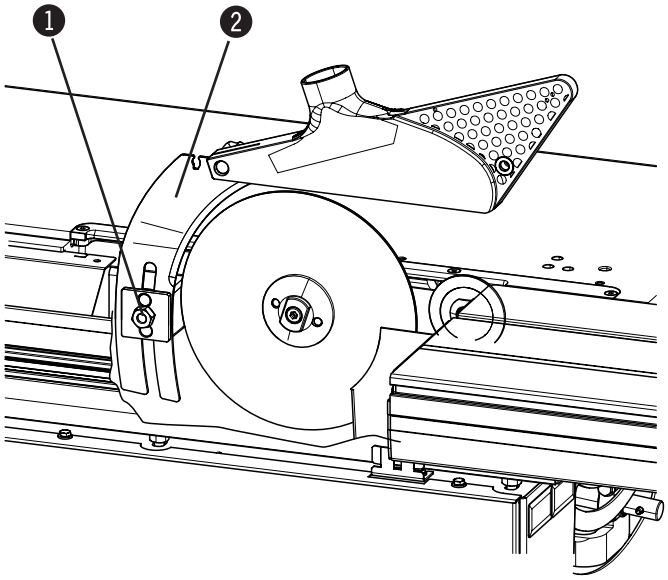
Fig. 56: Setting the splitter

1. Prepare to change tooling.
2. Loosen the nut.
3. Move the splitter so that there is always a space of 3 to 8 mm between the saw blade and the splitter.
4. The marking on the splitter must match the top edge of the sliding table at the max. cutting height (independently of the saw blade used).
5. Tighten the nut.

1. Nut
2. Marking
3. Splitter
4. Distance
5. Saw blade

Attention! Minimum tightening torque: 25 Nm!

8.10.2 Assembling/removing/changing the splitter



Removing the splitter:

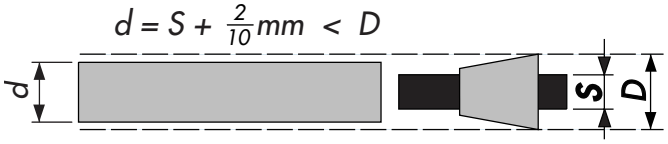
1. Loosen the nut.
2. Remove the splitter.
3. Tighten the nut.

1 Nut
2 Splitter

Fig. 57: Removing the splitter

Attention! Operation without the splitter is only allowed if dado tooling is used!

Attention! Minimum tightening torque: 25 Nm!



Fitting in/changing the splitter:
The splitter has to be adapted to the thickness of the saw blade. The splitter thickness has to be between that of the saw blade body and the width of the sawtooth.

Fig. 58: Splitter thickness (d), saw blade body (S), sawtooth width (D)

Attention! A splitter is required when working with circular saw blades!

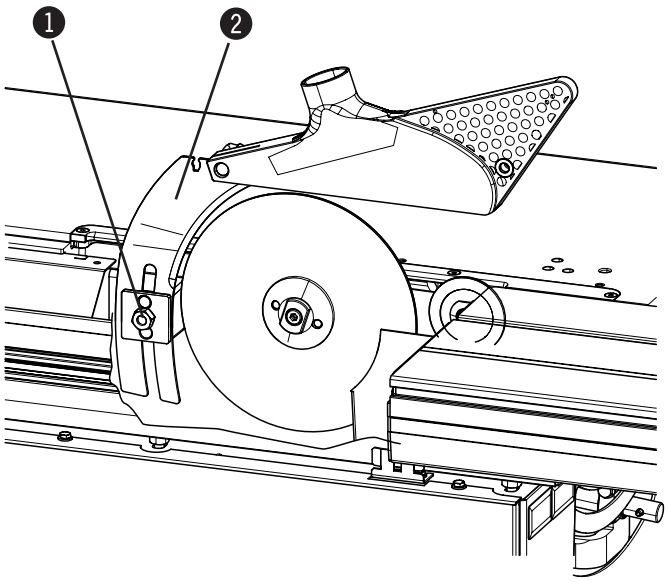


Fig. 59: Fitting the splitter in

1. Loosen the nut.
2. Remove the splitter if required.
3. Fit the splitter in.
   Take care that the splitter holder studs fit in the splitter groove.
4. Adjust the splitter.

1 Nut
2 Splitter

8.11 Circular saw guard

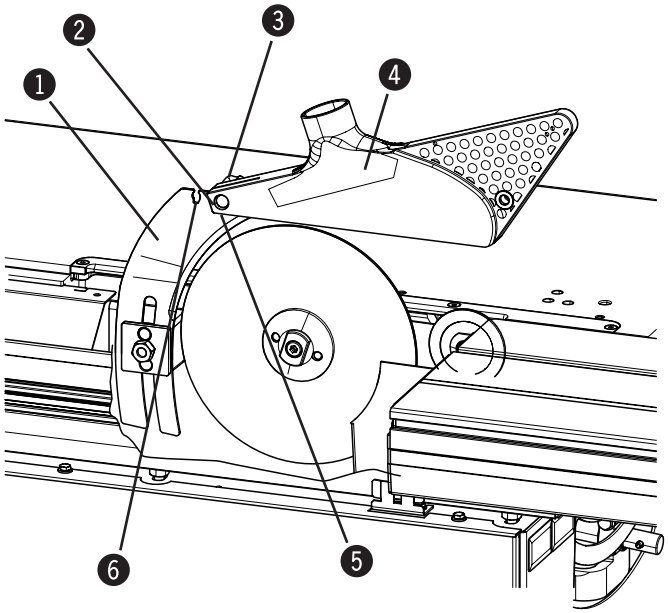


Fig. 60: Circular saw guard

The saw guard is mounted onto the splitter. The mounting depends on the diameter of the saw blade:
- Saw blade recess from 300 up to 315 mm
- Saw blade recess from 250

1. Loosen the thumb nut.
2. Push the hood stud to the back with the thumb nut.
3. Circular saw guard Remove the saw guard and insert it into the other recess.
4. Secure the thumb nut.

1 Splitter
2 Hood stud
3 Thumb nut
4 Circular saw guard
5 Saw blade recess 300–315 mm
6 Saw blade recess 250 mm

8.12 Scoring unit blades

8.12.1 Tools

Only use original HAMMER tools (HAMMER-catalogue).

Only the following tools are allowed:

Scoring unit blades	
Diameter, max.	80 mm
Chisel	20 mm
Speed	10000 min^{-1}
Cutting height, max.	4 mm

8.12.2 Scoring unit height adjustment

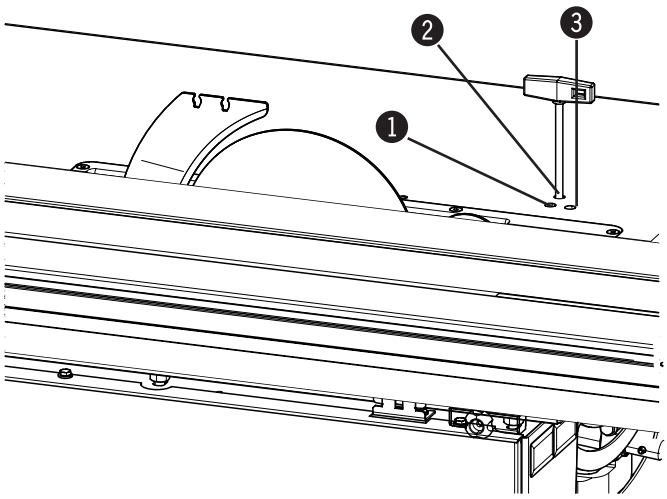


Fig. 61: Adjusting the scoring blade

1. Loosen the clamping screw.
2. Adjust the height manually with the set screw.
3. Tighten the clamping screw.

1 Clamping screw
2 Setscrew
3 Setscrew

8.12.3 Adjusting the side

1. Loosen the clamping screw.
2. Adjust the side manually with the set screw.
Set the scoring blade so that it is aligned with the saw blade.
3. Tighten the clamping screw.

8.12.4 Adjusting the width

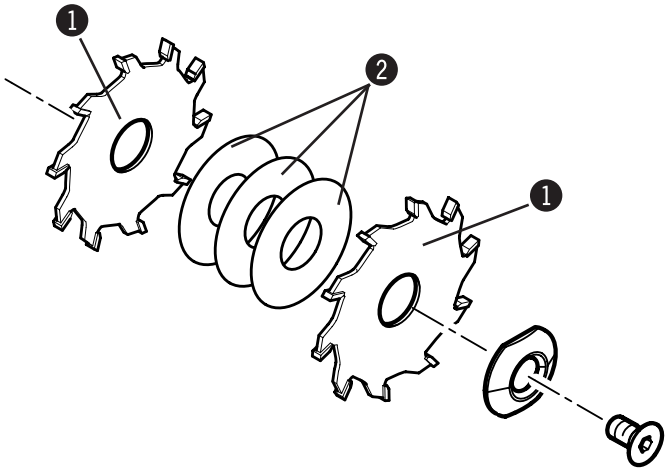


Fig. 62: Scoring blade „Classic“

The scoring blade consists of two saw blades discs and several spacer washers.

1. Use as many spacer washers as necessary so as to attain the required width.
2. Set the scoring blade so that it is centered to the saw blade.
3. Check the setting by making a sample cut.

1 Saw blade discs
2 Spacer washers

Attention: The scoring blade has to be 0.1 to 0.2 mm thicker than the saw blade!

8.12.5 Assembling the scoring blade

Required tools:
- Allen key 10 mm
- Special spanner

Attention: Remove the scoring flange and flat head screw if operating without a scoring unit.

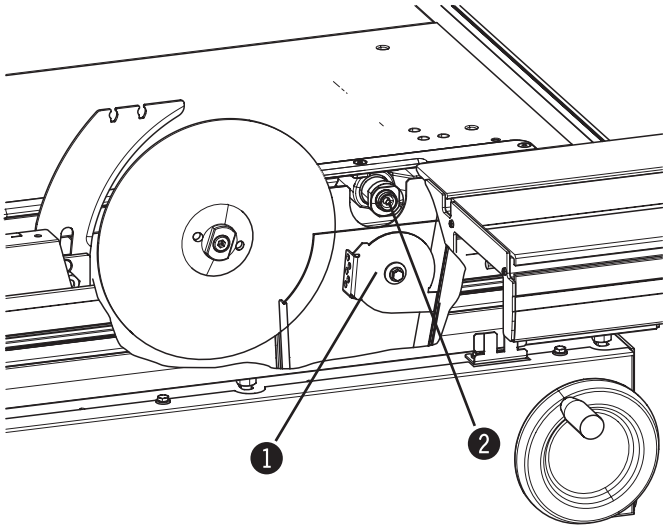


Fig. 63: Lock washer/Scoring arbor

1. Preparing to change tooling.
2. Turn the lock washer to the left as far as it goes.
3. Clean the scoring arbor thoroughly.
4. Place the scoring blade onto the scoring arbor.

1 Lock washer
2 Scoring arbor

Attention: Only use original manufacturer tools (HAMMER-catalogue)!

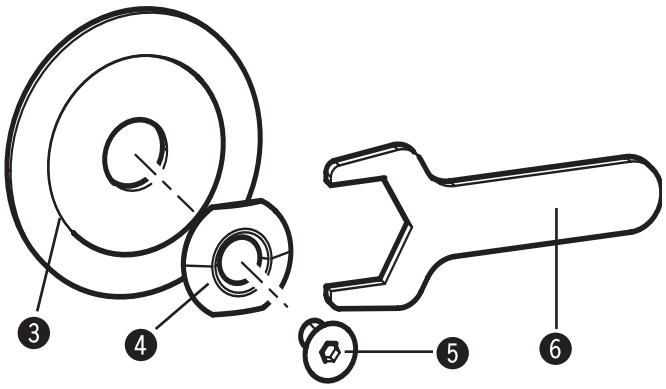


Fig. 64: Scoring blade/Scoring flange/Flat-head screw/Special spanner

5. Fit the scoring flange on and hold in place with the special spanner.
6. Tighten the flat-head screw clockwise with an Allen key.

3 Scoring blade
4 Scoring flange
5 Flat-head screw
6 Special spanner

Attention! Minimum tightening torque: 20 Nm!

8.12.6 Disassembling the scoring blade

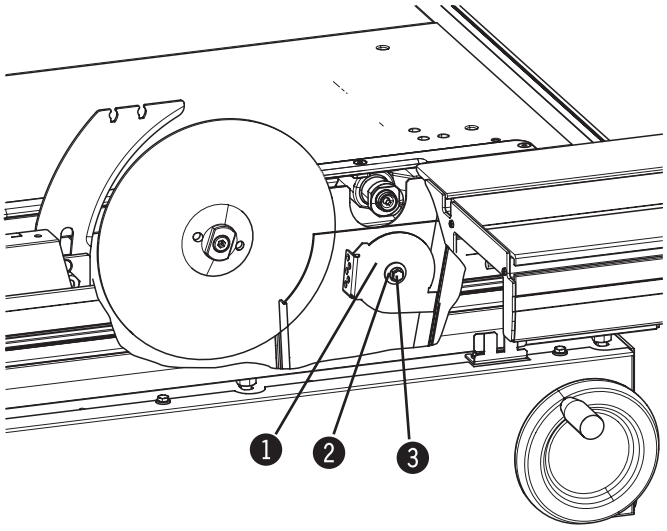


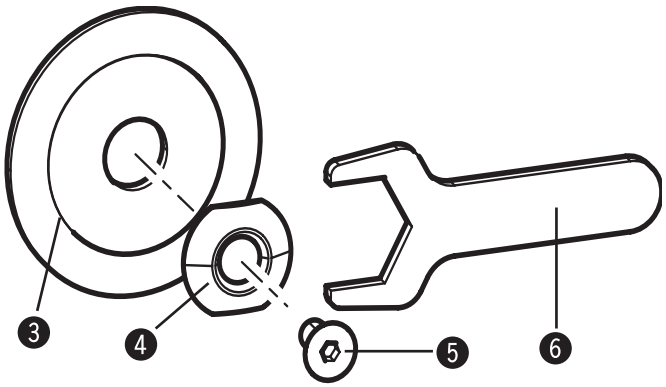
Fig. 65: Lock washer/Scoring flange/Flat-head screw

Required tools:
- Allen key 10 mm
- Special spanner

1. Preparing to change tooling.
2. Hold the scoring flange with the special spanner.
3. Loosen the flat-head screw anti-clockwise with an Allen key.
4. Remove the flat-head screw and scoring flange.
5. Pull the scoring blade from the arbor.

1 Scoring blade
2 Scoring flange
3 Flat-head screw

Attention! The scoring flange and flat-head screw have to be removed when operating without a scoring unit!



1 Scoring blade
2 Scoring flange
3 Flat-head screw
4 Special spanner

Fig. 66: Scoring blade/Scoring flange/Flat-head screw/Special spanner

8.13 Grooving tools

8.13.1 Tools

Warning: Risk of injury: Only use grooving tools, which are suited to manual operation!

Only use original HAMMER tools (HAMMER-catalogue).
Only the following left-hand cutting tools are authorised:

Slitting saw CE-Specifications	
Diameter, max.	180 mm
Width	5 bis 20 mm
Slotting Cutters US-Specifications	
Diameter, max.	7''
Width	max. 3/4''

8.13.2 Chucking the grooving tools

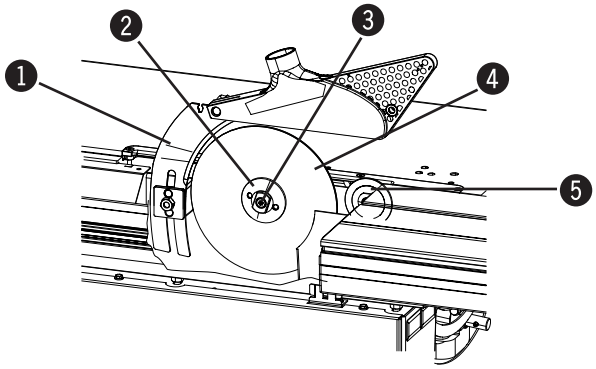


Fig. 67: Removing the saw blade

Required tools:
- Allen key 10 mm
- Spanner SW 24 mm
- Allen key 5 mm

1 Splitter
2 Flange
3 Socket head cap screw
4 Saw blade
5 Scoring blade

Making adjustments and preparations

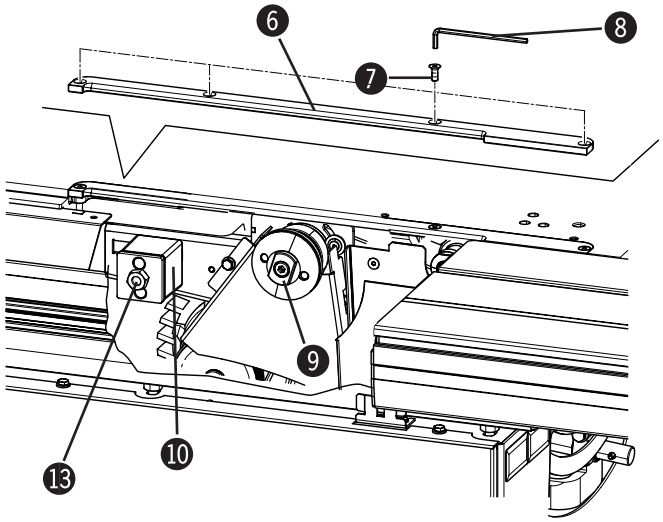


Fig. 68: Rear flange/Splitter holder/Loading board

1. Preparing to change tooling.
2. Move the saw blade to the lowest position.
3. Set the saw blade to a 90° angle.
4. Hold the circular saw flange with an open-end spanner.
5. Loosen the socket head cap screw with an Allen key.
6. Remove the socket head cap screw and flange.
7. Remove the saw blade.
8. Remove the rear flange.
9. Remove the splitter.
10. Clamp the splitter holder with a nut.
11. Remove the scoring blade if present and if required.
12. Unscrew the 4 screws with the Allen key.
13. Remove the loading board.

6 Loading board
7 Screws
8 Allen key
9 Flange
10 Splitter holder
11 Nut
12 Spacer ring
13 Saw arbor

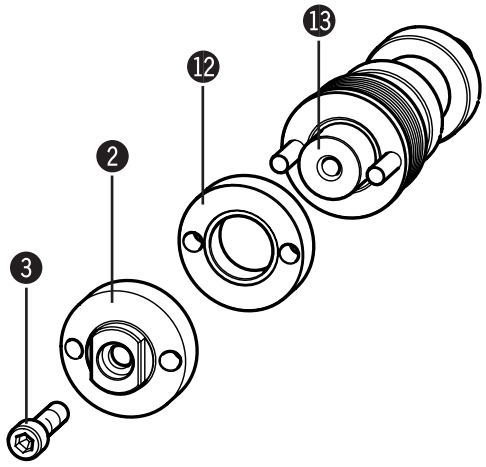


Fig. 69: Spacer ring/Saw arbor

Attention! A spacer ring has to be placed onto the saw blade arbor if using grooving tools with a width measuring less than 10 mm!

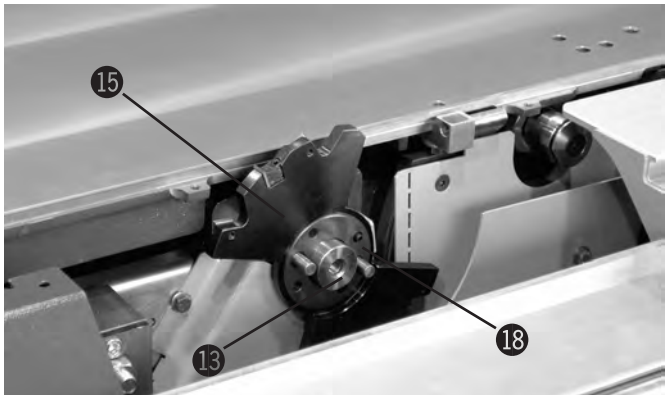


Fig. 70: First part of the grooving tool/Spacer washers

14. Place the first part of the grooving tool onto the saw blade arbor. Take note of the correct rotation direction!
15. Adjust the grooving width with spacer washers.
16. Place the second part of the grooving tool onto the saw blade arbor. Both tooling halves have to grip into each other!

14 Allen key
15 Grooving tool
16 Spanner

Attention: Only use original manufacturer tools (HAMMER-catalogue)!

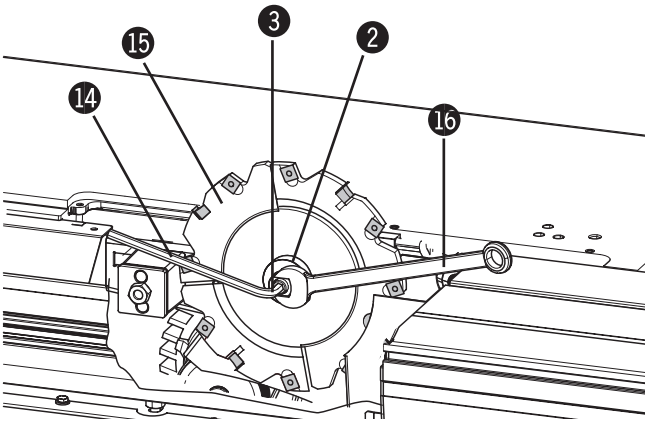


Fig. 71: Fit grooving tooling in

17. Replace the flange.
18. Hold the circular saw flange with an open-end spanner.
19. Screw in the socket head cap screw with the Allen key.

⑰ Wooden loading board
⑱ Spacer washers

Attention! Minimum tightening torque: 20 Nm!

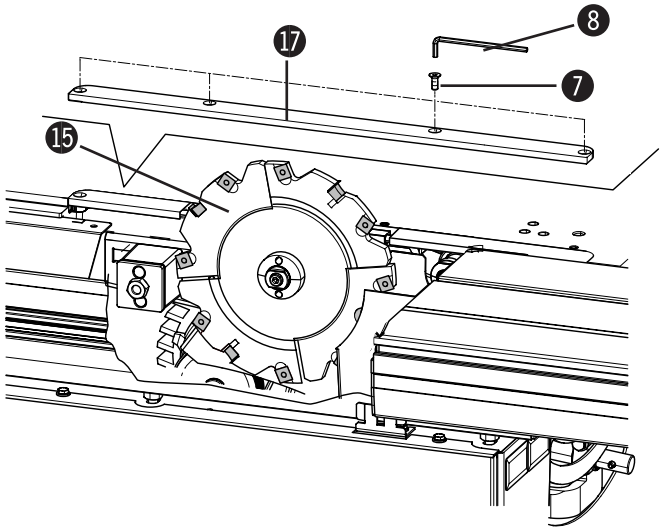


Fig. 72: Wooden loading board

Attention! Do not adjust the 90° angle when operating with grooving tooling!

8.13.3 Unchucking the grooving tools – Retool to a saw blade operation

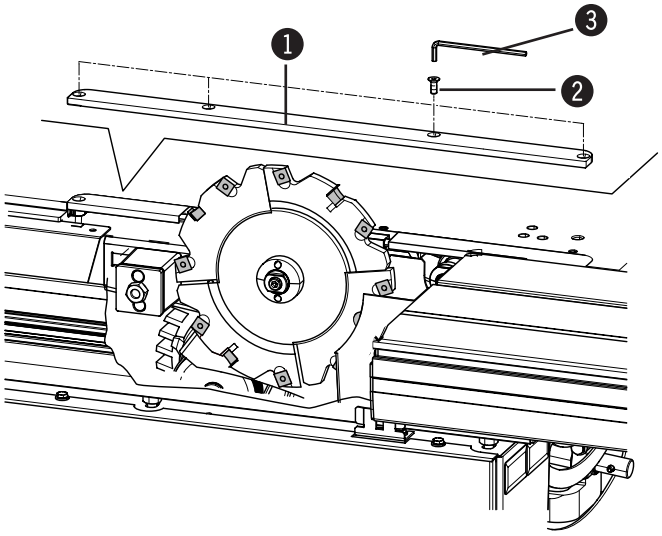


Fig. 73: Wooden loading board

Required tools:
- Allen key 10 mm
- Spanner SW 24 mm
- Allen key 4 mm

1 Wooden loading board
2 Screws
3 Allen key

1. Preparing to change tooling.
2. Move the grooving tool to the lowest position.
3. Unscrew the 4 screws with the Allen key.
4. Remove the wooden loading board.
5. Hold the circular saw flange with an open-end spanner.
6. Loosen the socket head cap screw with an Allen key.
7. Remove the socket head cap screw and flange.
8. Remove the grooving tooling.

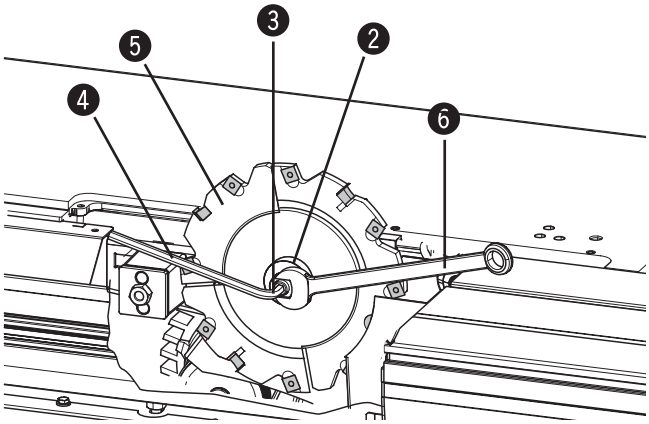


Fig. 74: Remove grooving tooling

4 Allen key
5 Grooving tool
6 Spanner

9. Remove the spacer ring from the saw blade arbor if present.

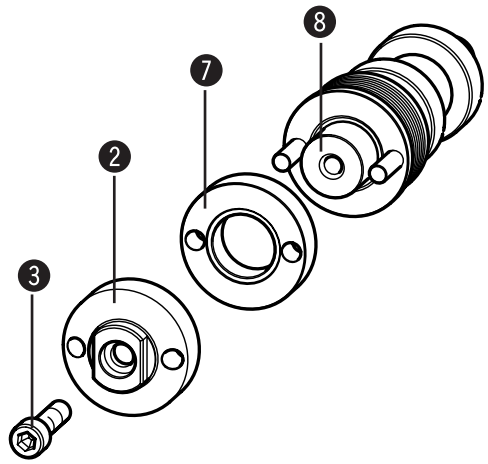


Fig. 75: Spacer ring/ Saw arbor

7 Spacer ring
8 Saw arbor

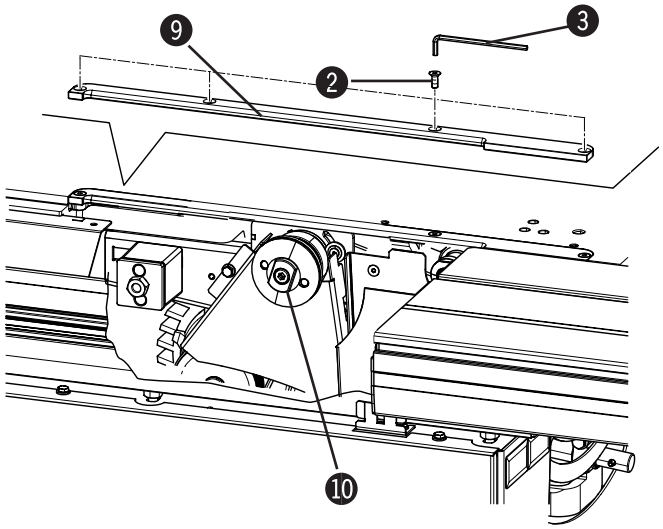


Fig. 76: Rear flange/Loading board

10. Place the loading board in position.
11. Screw in the 4 screws with the Allen key.
12. Mount the rear flange.
13. Mount the saw blade onto the saw blade arbor.

9 Loading board
10 Flange

Attention: Only use original manufacturer tools (HAMMER-catalogue)!

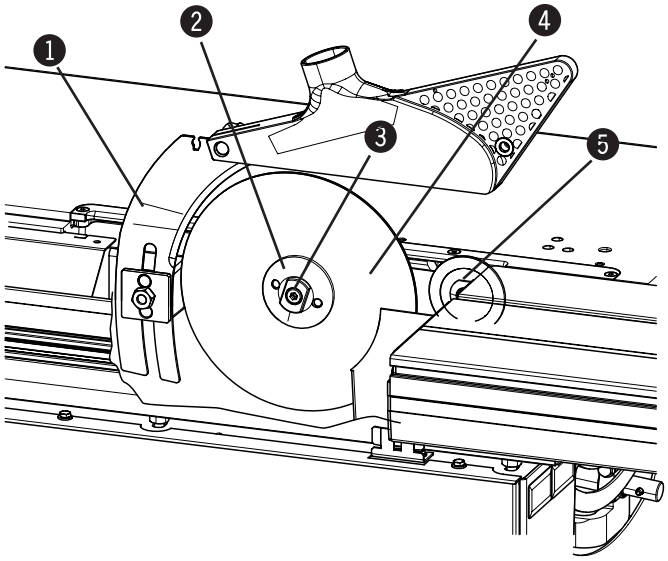


Fig. 77: Installing the saw blade

14. Replace the flange.
15. Hold the circular saw flange with an open-end spanner.
16. Screw in the socket head cap screw with the Allen key.
17. Fit splitter in.
18. Prepare the machine to operate.
19. Adjust the saw guard according to the saw blade.
20. Install the scoring blade, if required.

1 Splitter
2 Flange
3 Socket head cap screw
4 Saw blade
5 Scoring blade

Attention! Minimum tightening torque: 20 Nm!

8.14 Outrigger table

8.14.1 Assembling/disassembling the outrigger table

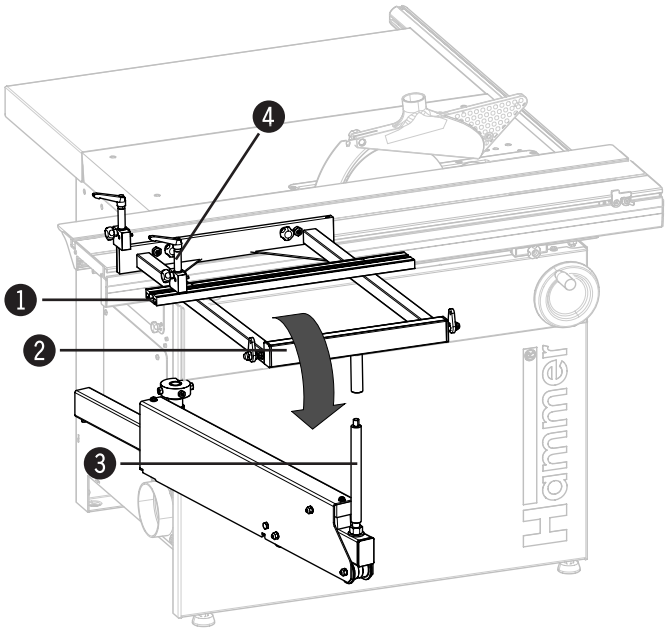


Fig. 78: Assembling the outrigger table

Assembling the outrigger table:

1. Place the outrigger table onto the support shaft.
2. Place the outrigger table onto the support shaft.
3. Fix with a thumb screw.

Disassemble the outrigger table:

1. Loosen the thumb screw.
2. Unhook the outrigger table from the support shaft and the sliding table.

1. Groove
2. Outrigger table
3. Support shaft
4. Thumb screws

9 Operation

9.1 Safety instructions

Warning: Risk of injury: Improper operation may lead to severe bodily injury or material damage. For this reason this work may only be carried out by authorised, trained personnel who are familiar with the operation of the machine and in strict observance of all safety instructions.

Before starting work:
- Before assembling and installing the machine, check to make sure it is complete and in good condition.
- Ensure that there is sufficient space for working around the machine.
- Keep the work area orderly and clean. Components and tools that are not put in their correct place or put away may be the cause of accidents!
- Ensure that all safety devices have been properly installed.
- Adjustments to the machine or tool replacement may only be conducted once the machine has stopped.
- Only clamp authorised tools to the machine.
- Tighten the saw blade and scoring blade clamping screws .
- Set the splitter correctly.
- Only work with sharp tools. This reduces the kick-back risk especially with slotted blades.
- Adapt the speed to the tooling.
- Install the vacuum system according to the instructions and test its function.
- Only process workpieces that can be safely placed on the machine and guided.
- Carefully inspect workpieces for foreign matter (nails, screws) which might impair processing.
- Support long work-pieces with additional surface equipment (e.g. Table extensions,Roll supports).
- Ensure that the tool turns freely.
- Ensure that each unit is rotating in the proper direction.
- Keep tools for handling short and narrow workpieces close at hand.
- Before switching on the machine, always check to make sure that there are no other persons in the immediate vicinity of the machine.

During operation:
- Never place your hands on the workpiece by leaning over the circular saw and/or the scoring unit.
- When changing to another workpiece or when there is a malfunction, first switch off the machine and then secure it against being switched on again accidentally.
- Do not switch off, circumvent or decommission protective and safety devices during operation.

When working on or with the machine, the following must be strictly observed:
- Persons with long hair who are not wearing a hairnet are not permitted to work on or with the machine.
- It is prohibited to wear gloves while working on or with the machine.
  All jewellery (rings, bracelets, necklaces, etc.) must be removed before starting work on or with the machine.

When working on or with the machine, the following must always be worn by personnel:
- Sturdy, tight-fitting clothing (tear-resistant, no wide sleeves).
- Protective footwear that protects the feet from heavy falling objects and prevents sliding on slippery floors.
- Ear protection to protect against loss of hearing.

Attention: Risk of material damage: Only operate the machine in ambient temperatures from +10° to +40° C. If the instructions are not followed, damage may occur during storage.

Warning: Danger – electric current: Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.

9.2 Switching on the machine

Warning: Risk of injury due to insufficient preparation!
It is only permitted to switch on the machine if, for the work at hand, the required preconditions are fulfilled and any preliminary work is completed. For this reason the instructions for adjusting, fitting and operating (see the corresponding chapters) must be read before switching on the machine.

9.2.1 Alternating-current motor

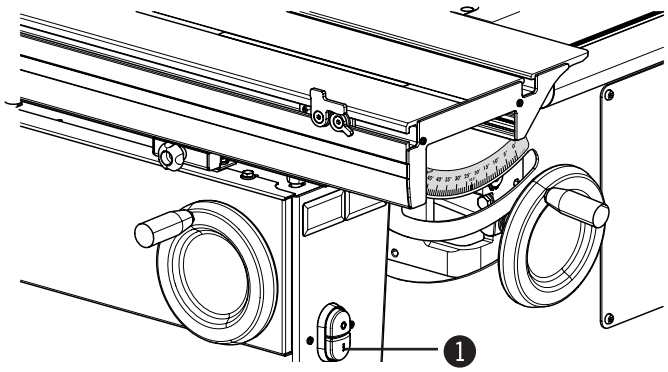


Fig. 79: Push button

1. Connect the machine to the mains power supply.
2. Press and hold down the green push button.
3. When the machine has reached the maximum rotational speed, release the push button.

1 Push button

Attention! Risk of material damage! Improper operation may cause damage to the machine.
Do not activate the green push button whilst the machine is in operation!

9.2.2 Three-phase alternating current motor

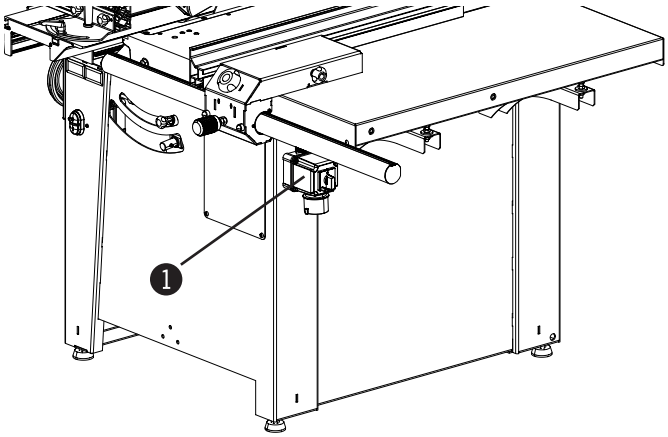


Fig. 80: Main switch

1. If available: unlock the main switch and switch on (position „I").

1 Main switch

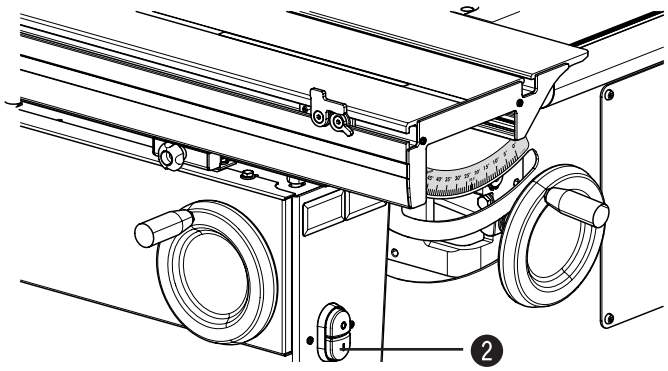


Fig. 81: Push button

2. Press down and then release the green push button.

❷ Push button

9.3 Switching off the machine

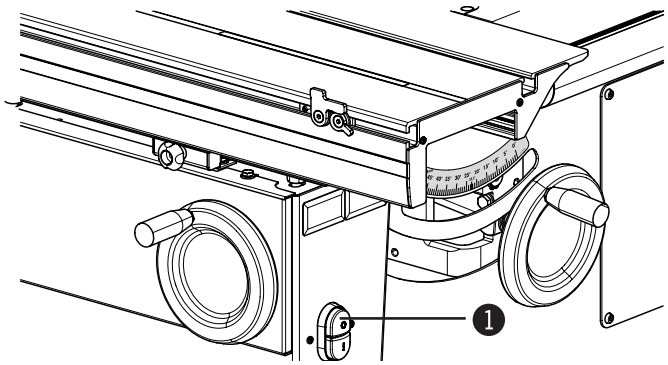


Fig. 82: Push button

1. Circular saw and scoring unit:
- Push and release the red push button.

❶ Push button

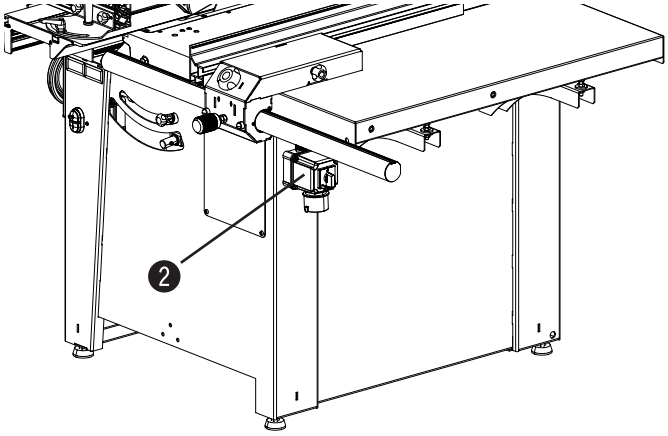


Fig. 83: Main switch

2. If available: switch off the main switch (position „0“) and secure.

❷ Main switch

9.4 Emergency stop

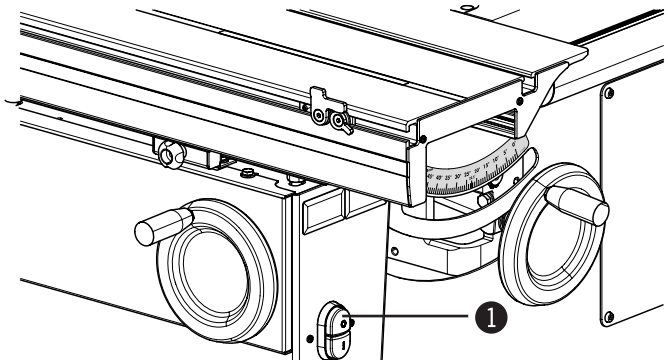


Fig. 84: Push button

1. Circular saw and scoring unit:
- Push and release the red push button.

❶ Push button

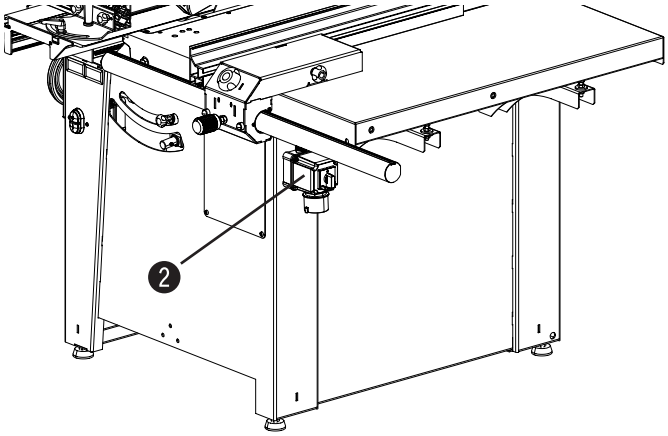


Fig. 85: Main switch

2. If available: switch off the main switch (position „0“) and secure.

❷ Main switch

9.5 Moving the sliding table

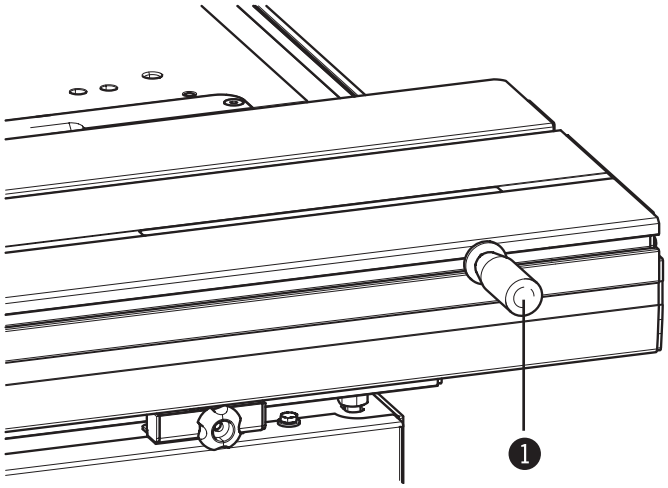


Fig. 86: Moving the sliding table

To move the sliding table, use:
- the side hand-lever or
- the crosscut fence.

❶ Side hand lever

9.6 Work stations

Warning: Risk of injury!

- Danger of injury due to ejected workpieces. (e.g. cutting tools, branches, trimmings).
- Risk of kickback from cut workpiece parts.

Therefore never stand directly in the cutting line of the saw blade whilst it is operating (whilst in cutting or idling mode)!

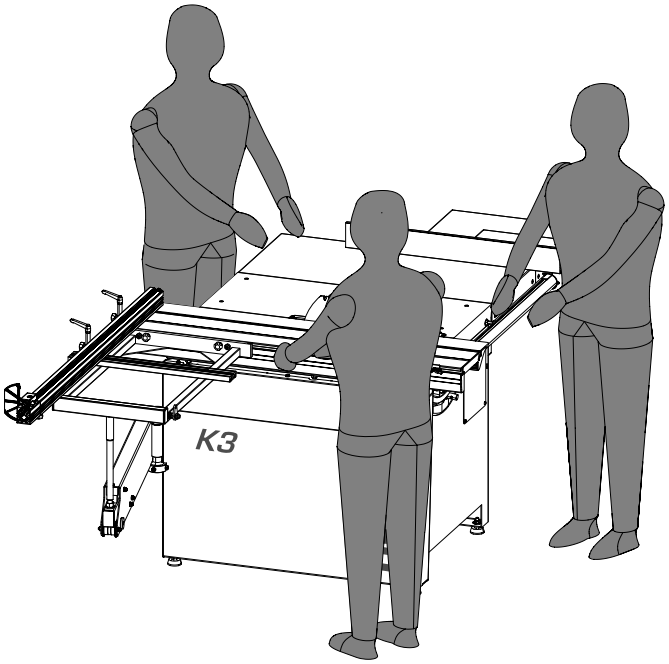


Fig. 87: Work stations/Work positions

AP1: Possible work position for an installed unloader.
AP2: Work position to operate with parallel cutting fence.
AP3: Main work position for all other operations.

9.7 Working techniques

9.7.1 Permitted working techniques

Only the following working techniques are allowed with the circular saw:

- Only trim if using a trimming shoe
- Only cross cut using a parallel cutting fence or cross stop
- Longitudinal cut 90° to 45°, with a parallel cutting fence and locked sliding table
- Longitudinal cut 90° to 45°, with a crosscut fence and sliding table
- Splitting large-sized panels

Only the following work techniques are allowed using the circular saw without a scoring unit:

- Groove cuts/Rabbeting at the parallel cutting fence
- Groove cuts/Grooving at the parallel cutting fence using dado tooling

9.7.2 Prohibited working techniques

The following work techniques are strictly forbidden when using the circular saw:

- All work techniques without the use of the parallel cutting fence, cross fence or outrigger
- Detaching the splitter for single cuts *)
- Groove cuts *)

9.7.3 General procedures for authorised working techniques

1. Switch the circular saw off prior to starting work.
2. Ensure there are sufficient extension options (accessories).
3. Keep handling auxiliaries at hand:
   - Push stick; wood with holding magnets (Order No. 11.2.012)
   - Push stick; plastic (Order No.: 11.0.010)
   - Pushing grip (Order No.: 11.1.009)
   - Deflector with holding magnets (Order No.: 420-260)
4. Setting the height/angle of cut.
5. Modify the overhead saw guard for angular cuts.
6. Adjusting the overhead saw guard: A max. of 5 mm higher than the thickness of the workpiece.
7. Set scoring blade if required.
8. Only switch the circular saw on, the scoring unit included, once the workpiece has been placed in its position to be cut.
9. Feed the workpiece constantly past the circular saw, keeping your fingers balled into a fist.
10. Use the push stick once at the end of the cut.
11. Once the cut is finished, switch the machine off.

9.7.4 Trimming

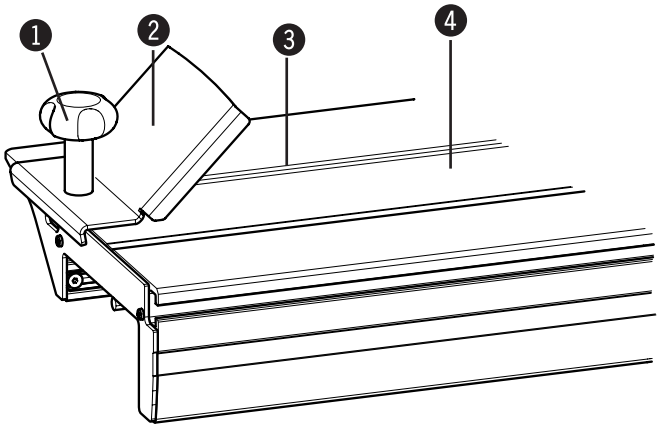


Fig. 87: Trimming shoe

1. Take note of general procedures for authorised working techniques.
2. Assembling the trimming shoe:
   - Thread the trimming shoe into the sliding table grooves using locking plates.
   - Clamp the trimming shoe onto the sliding table using thumb screws.
3. Undo the sliding table catch and pull the sliding table back completely.
4. Place the unfinished plank, with the hollow side facing downwards, onto the sliding table and clamp in the trimming shoe.
5. Switch on the circular saw.
6. Feed the workpiece constantly past the circular saw, keeping your fingers balled into a fist.

1. Thumb screws
2. Trimming shoe
3. Groove
4. Sliding table

*) The following departures are valid for the scope of the wood industry's employer liability and insurance in the Federal Republic of Germany: insert cuts and groove cuts are allowed if the appropriate operating regulations of the employer liability insurance are complied with (ZH.I/720).

Warning: Risk of injury: Trimming may only take place if using a trimming shoe!

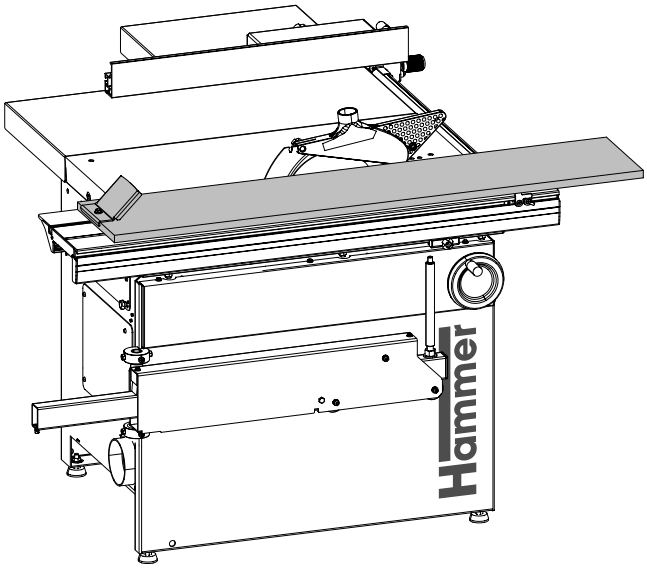


Fig. 89: Trimming with trimming equipment

Using trimming equipment:

1. Take note of general procedures for authorised working techniques.
2. Mount the trimming equipment (Assembly instructions „Trimming equipment").
3. Lock the sliding table.*)
4. Clamp the unfinished plank, with the hollow side facing upwards into the trimming equipment.
5. Switch on the circular saw.
6. Feed the trimming equipment and the workpiece together constantly past the saw blade, keeping fingers balled into a fist.*)

9.7.5 Longitudinal cut

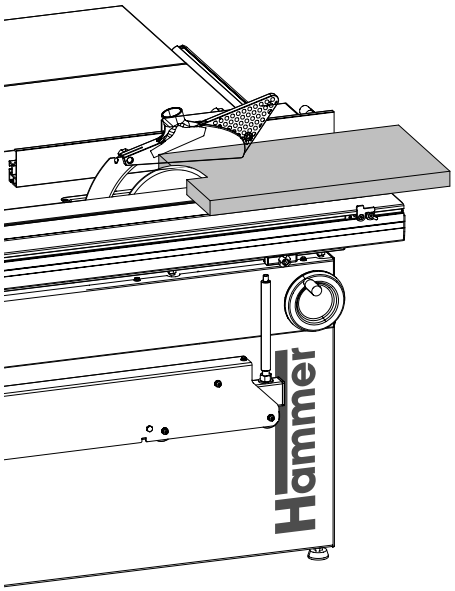


Fig. 90: Longitudinal cut

1. Take note of general procedures for authorised working techniques.
2. Adjust the parallel cutting fence to the desired measurement.
3. Lock the sliding table into a center position.
4. Place the workpiece against the parallel cutting fence.
5. Switch on the circular saw.
6. Switch the scoring unit on, if necessary.
7. Feed the workpiece constantly past the circular saw, keeping your fingers balled into a fist.

*) The trimming equipment is pushed along the sliding table's groove.

9.7.6 Cutting battens

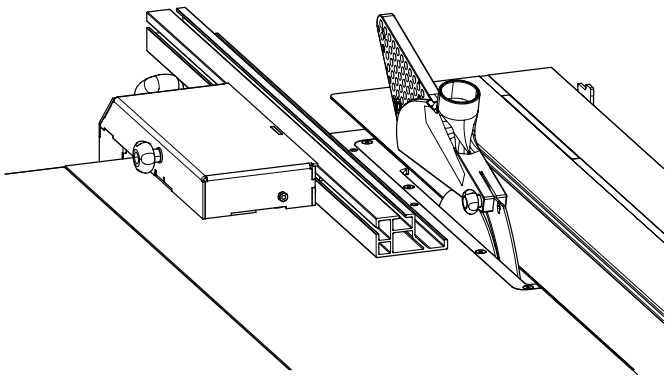


Fig. 91: Cutting battens

1. General procedures for authorised working techniques.
2. Convert the guide at the parallel cutting fence to a narrow guide edge.
3. Adjust the parallel cutting fence to the desired measurement.
4. Lock the sliding table into a center position.
5. Place the workpiece against the parallel cutting fence.
6. Switch on the circular saw.
7. Switch the scoring unit on, if necessary.
8. Feed the work-piece constantly past the circular saw, keeping your fingers balled into a fist.

9.7.7 Cross-cutting at the crosscut fence (sliding table)

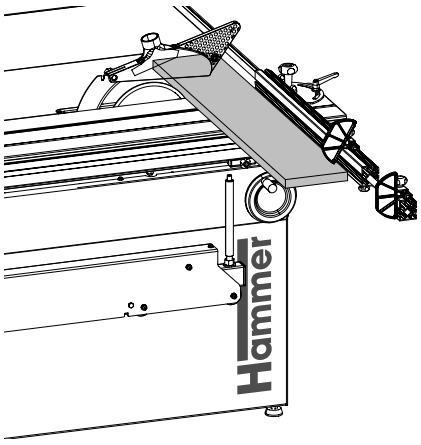


Fig. 92: Cross-cutting at the crosscut fence

Rough cut

1. Take note of general procedures for authorised working techniques.
2. Move the parallel cutting fence as far away as possible from the saw blade.
3. Set the cross fence to the desired dimensions.
4. Undo the sliding table catch.
5. Place the work-piece against the crosscut fence.
6. Lift the end stop up and place it onto the workpiece (Fig.).
7. Using your left hand, press the work-piece hard onto the crosscut fence.
8. Switch on the circular saw.
9. Switch the scoring unit on, if necessary.
10. Feed the work-piece constantly past the circular saw, keeping your fingers balled into a fist.
11. Pull the work-piece a few millimeters away from the saw blade and move the sliding table into the initial position.

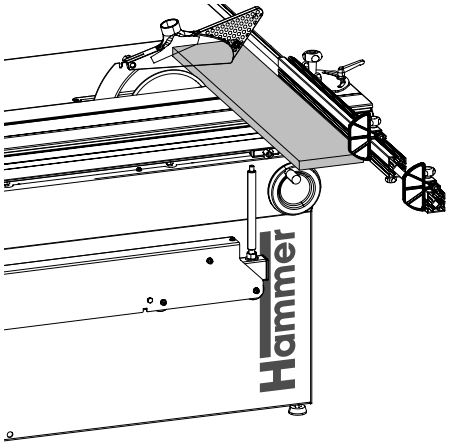


Fig. 93: Cross-cutting at the crosscut fence

Precise cut:

1. Lower the end stop.
2. Place the work-piece against the crosscut fence and the end stop.
3. Using your left hand, press the work-piece hard onto the crosscut fence.
4. Feed the work-piece constantly past the circular saw, keeping your fingers balled into a fist.

9.7.8 Cross-cutting at the parallel cutting fence

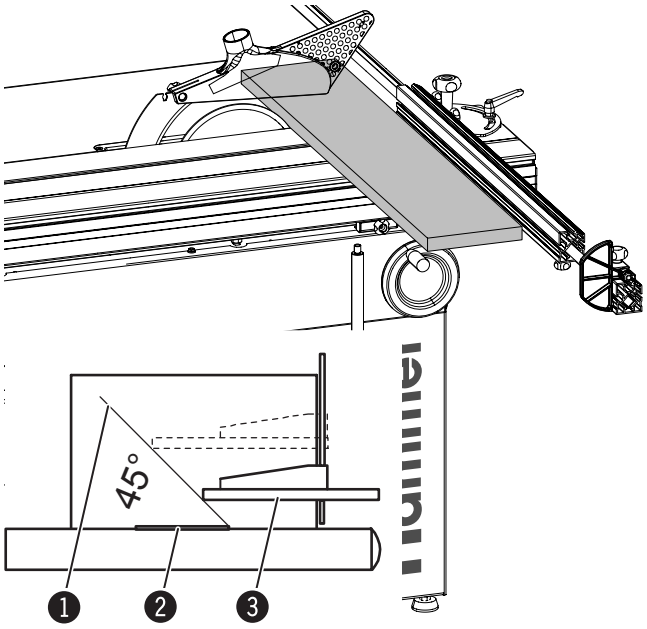


Fig. 94: Cross-cutting at the parallel cutting fence

1. Take note of general procedures for authorised working techniques.
2. Adjust the parallel cutting fence to the desired measurement.
3. Set the fence plate (guide):
   The rear end of the guide is abutting an axis which starts at the leading edge of the saw blade and runs at an 45° angle to the rear.
   The work-piece can not, as a result, be clamped in-between the fence and the saw blade.
4. Undo the sliding table catch.
5. Place the work-piece against the crosscut fence.
6. Switch on the circular saw.
7. Switch the scoring unit on, if necessary.
8. Feed the work-piece constantly past the circular saw, keeping your fingers balled into a fist.

1. Line
2. Saw blade
3. Guide

9.7.9 Cutting smaller, narrower workpieces

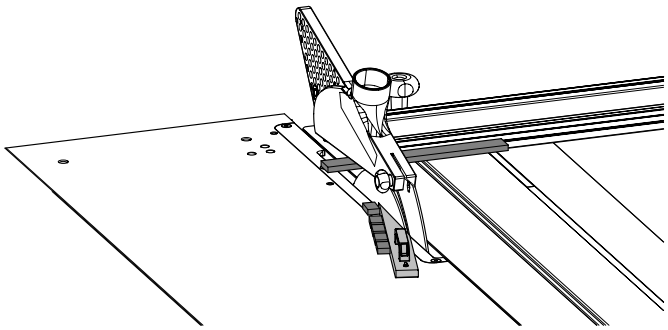


Fig. 95: Cutting smaller, narrower workpieces

1. Take note of general procedures for authorised working techniques.
2. Move the parallel cutting fence as far away as possible from the saw blade.
3. Attach the off-cut deflector to the machine in such a way that the sawed off pieces do not collide with the rising part of the saw blade.
4. Undo the sliding table catch.
5. Place the work-piece against the crosscut fence.
6. Switch on the circular saw.
7. Using your left hand, press the work-piece hard onto the crosscut fence.
8. Feed the work-piece constantly past the circular saw, keeping your fingers balled into a fist.
9. Pull the work-piece a few millimeters away from the saw blade and move the sliding table into the initial position.

9.7.10 Cutting with an outrigger

Warning! Risk of injury: An outrigger with an outrigger table is required when working with heavy work-pieces and especially when working with large panels!

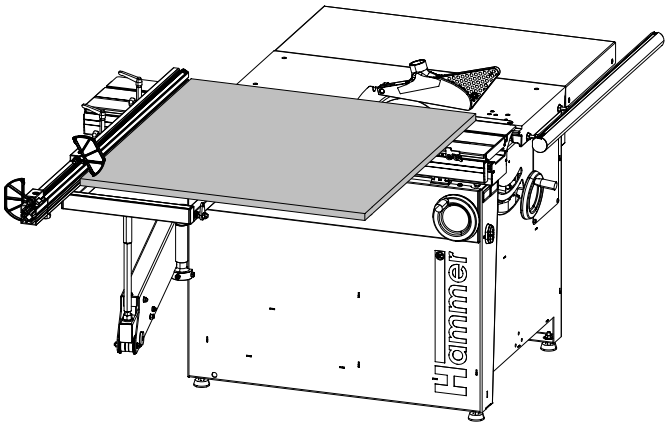


Fig. 96: Cutting with an outrigger

Rough cut:

1. Take note of general procedures for authorised working techniques.
2. Move the parallel cutting fence as far away as possible from the saw blade.
3. Set the cross fence to the desired dimensions.
4. Undo the sliding table catch.
5. Place the work-piece against the crosscut fence.
6. Lift the end stop up and place it onto the workpiece (Fig.).
7. Place the work-piece against the crosscut fence.
8. Switch on the circular saw.
9. Switch the scoring unit on, if necessary.
10. Feed the work-piece constantly past the circular saw, keeping your fingers balled into a fist.
11. Pull the work-piece a few millimeters away from the saw blade and move the sliding table into the initial position.

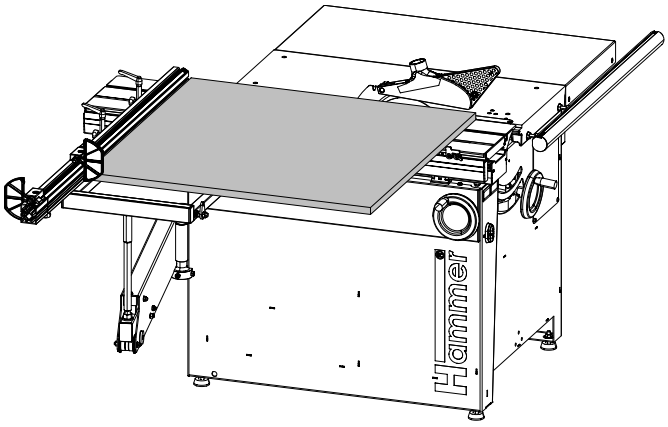


Fig. 97: Cutting with an outrigger

Precise cut:

1. Lower the end stop.
2. Place the work-piece against the crosscut fence and the end stop.
3. Press the work-piece against the crosscut fence.
4. Feed the work-piece constantly past the circular saw, keeping your fingers balled into a fist.

9.7.11 Groove cuts

Warning: Risk of injury!

- Groove cuts may only be carried out with an overhead saw guard! Do not use a saw guard!
- Do not pull back the parallel cutting fence's guide!
- Do not remove the splitter!
- If the saw blade protrudes from the upper edge of the parallel cutting fence guide, guiding the work-piece safely is not guaranteed. A higher auxiliary fence must be used to ensure that the work-piece is guided safely.
- When working on small work-pieces, use a wooden push stick, a push stick or a load feeding accessory.

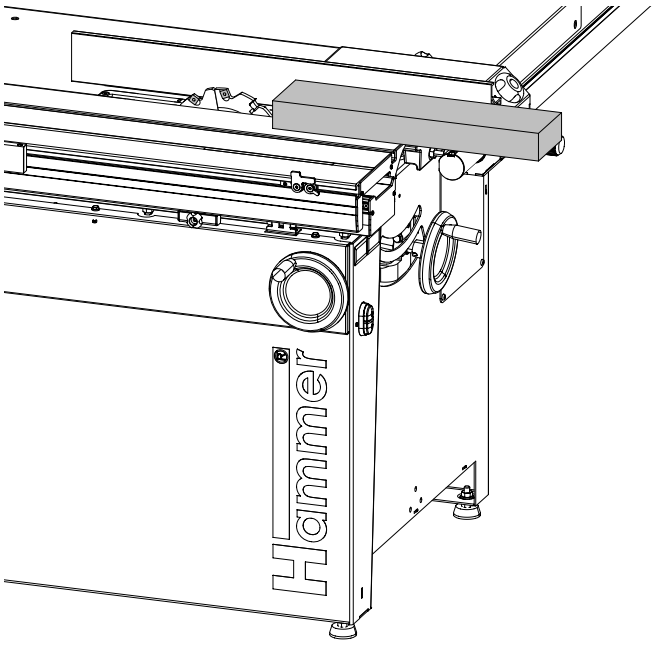


Fig. 98: Groove cuts

1. Take note of general procedures for authorised working techniques.
2. Adjust the parallel cutting fence to the desired measurement.
3. Lock the sliding table into a center position.
4. Set the cutting height to a maximum of half that of the workpiece thickness!
5. Select the cut sequence so that the cut batten falls onto the sliding table side.
   Should the cut batten fall to the right side of the circular saw, a wooden push stick has to be used due to the high kickback risk!

X Work-piece thickness
X/2 Cutting height

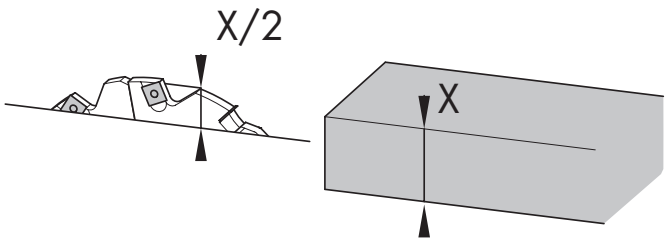


Fig. 99: Groove cuts

9.7.12 Working with grooving tools

Warning: Risk of injury!

- Groove cuts may only be carried out with an overhead saw guard! Do not use a saw guard!
- Do not pull back the parallel cutting fence's guide!

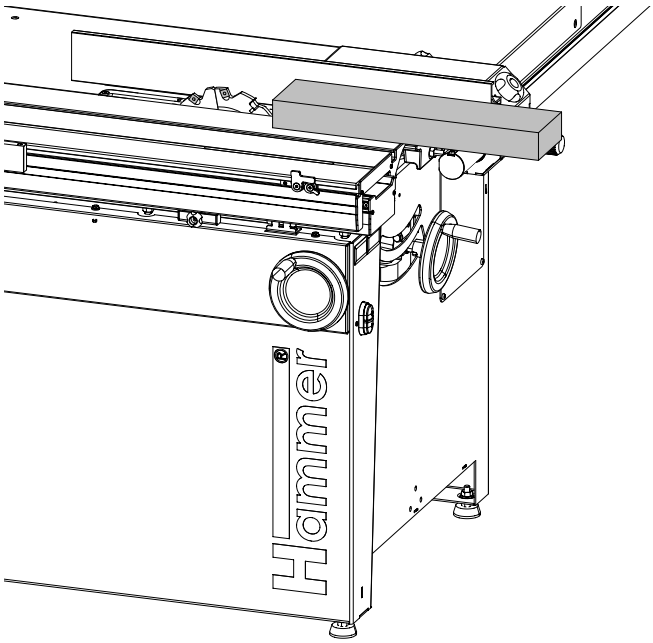


Fig. 100: Working with grooving tools

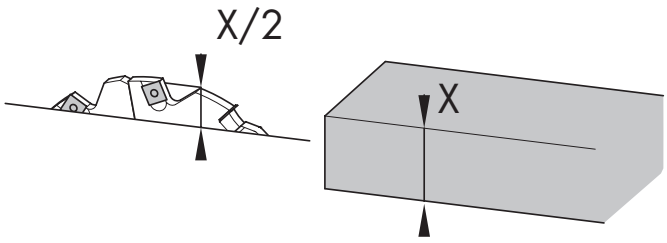


Fig. 101: Working with grooving tools

- Remove the splitter.

1. Take note of general procedures for authorised working techniques.
2. Adjust the parallel cutting fence to the desired measurement.
3. Lock the sliding table into a center position.
4. Set the cutting height to a maximum of half that of the workpiece thickness!
5. Always use the crosscut fence and the sliding table for transverse grooves (see „Cross-cutting at the parallel cutting fence".
6. When feeding the work-piece forward, press it hard onto the sliding table.
   Use an eccentric clamp if required. If an eccentric clamp is used, shape the groove using the sliding table.

10 Maintenance

10.1 Safety instructions

Warning! Risk of injury: Improper maintenance can cause serious injury or damage. For this reason this work may only be carried out by authorised, trained personnel who are familiar with the operation of the machine and in strict observance of all safety instructions.

- Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being turned on again.
- Ensure that there is sufficient space for working around the machine.
- Keep the work area orderly and clean. Components and tools that are not put in their correct place or put away may be the cause of accidents!
- Following the maintenance work, re-install the guards and check that they are functioning properly.

Warning! Danger – electric current: Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.

10.2 Maintenance schedule

Interval	Component	Task to accomplish
Daily	Machine	Remove dust and shavings.
	Table surfaces	Remove dust and shavings. Remove any resin residue.
	Bearing tracks	Remove dust and shavings. Remove any resin residue.
	Dust Extractor	Check for defects .
Weekly	Machine	Clean thoroughly.
Every 40 operating hours, at least once a month	Height spindle and tilting spindle (circular saw)	Lubrication.
Monthly	Drive belt	Check and if required, retension or change.
	Scoring belt	Check.
	Dust Extractor	Check efficiency.
Every 6 months	Dust brush (outrigger arm)	Clean and if necessary, renew.
After wear and tear	Scraper (Ball cage)	Renew.

Attention: Cleaning and care products are available as accessories (HAMMER-catalogue).

10.3 Cleaning the bearing tracks

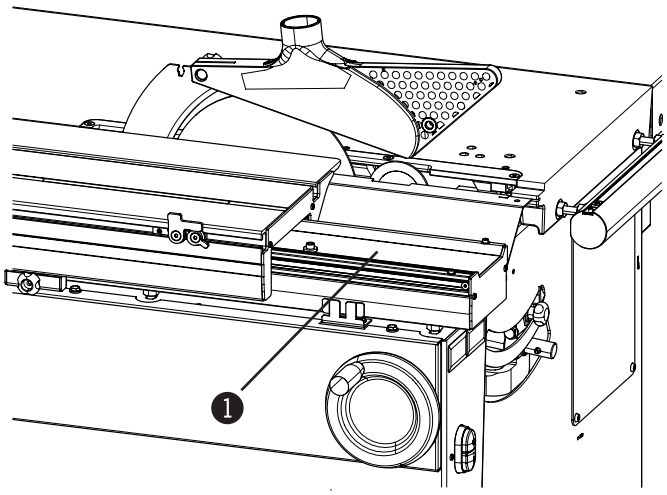


Fig. 102: Cleaning the bearing tracks

1. Switch the machine off and ensure that it cannot be switched on again.
2. Remove dust and shavings from the bearing tracks.
3. Remove any resin residue: resin remover Order No. 10.0.022 (0,5 l) or 10.0.023 (1,0 l).

❶ Bearing tracks

10.4 Lubricating the height spindle and tilting spindle circular saw

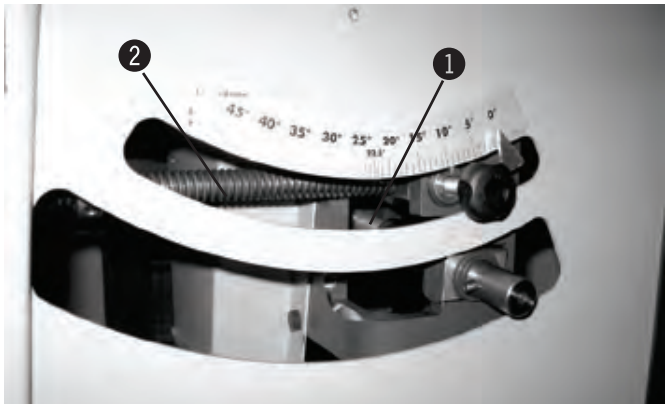


Fig. 103: Height spindle/Tilting spindle

1. Switch the machine off and ensure that it cannot be switched on again.

Lubricating the height spindle:

2. Turn the circular saw into the topmost position.
3. Through the frame opening, lubricate the height spindle with regular machine grease.
4. Turn the circular saw into the lowest and back into the topmost position.

Lubricating the tilting spindle:

5. Tilt the circular saw to a 45° position.
6. Through the frame opening, lubricate the tilting spindle with regular machine grease.
7. Tilt the circular saw to a 90° position and then back to a 45° position.

❶ Height spindle
❷ Tilting spindle

10.5 Tightening/replacing the drive belt

10.5.1 Tensioning the drive belt

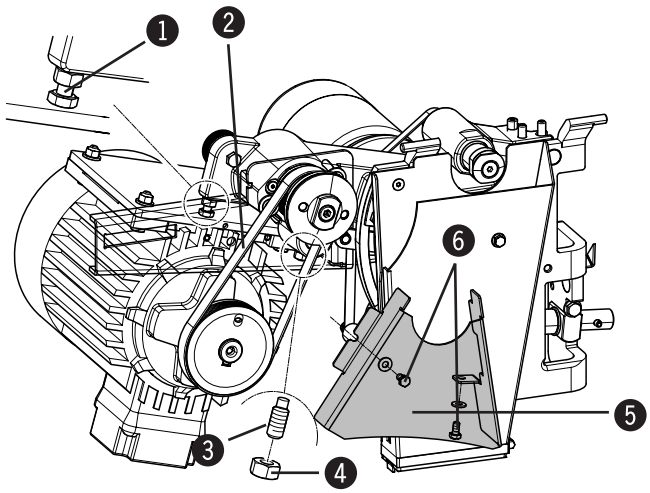


Fig. 104: Tensioning the drive belt

1. Switch the machine off and ensure that it cannot be switched on again.
2. Loosen the screw and remove the guard plate.
3. Loosen the nut and setscrew.
4. Use the belt-tensioning screw to tension the drive belt.
5. Tighten the setscrew and lock with the nut.
6. Place the guard plate and screw on.

1. Belt-tensioning screw
2. Drive belt
3. Setscrew
4. Nut
5. Guard plate
6. Screws

Attention! Risk of material damage! Do not over-tension the drive belt. Turn the belt-tightening screw only until the drive belt is sufficiently tensioned to transmit power effectively.

10.5.2 Replacing the drive belt

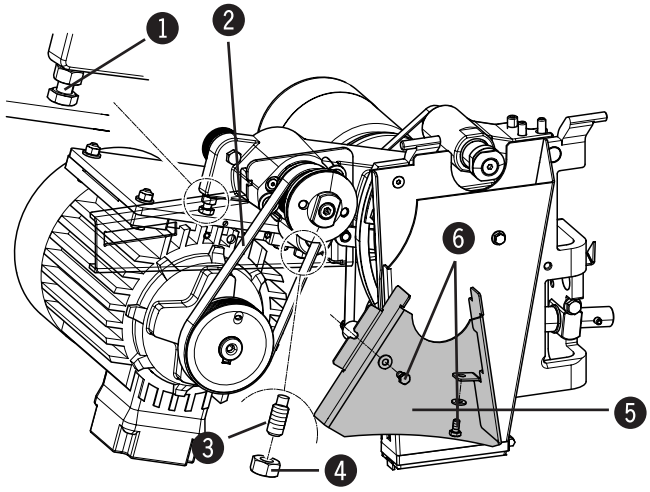


Fig. 105: Replacing the drive belt

1. Switch the machine off and ensure that it cannot be switched on again.
2. Loosen the screw and remove the guard plate.
3. Loosen the nut and setscrew.
4. Loosen the old drive belt using the belt-tightening screw.
5. Remove the old drive belt.
6. Hook the new drive belt into place:
   a) Hook around the drive motor first.
   b) Pull the drive motor and the drive belt up.
   c) Hook the drive belt around the circular saw shaft.
7. Use the belt-tensioning screw to tension the drive belt.
9. Place the guard plate and screw on.

1. Belt-tensioning screw
2. Drive belt
3. Setscrew
4. Nut
5. Guard plate
6. Screws

Attention! Risk of material damage! Do not over-tension the drive belt. Turn the belt-tightening screw only until the drive belt is sufficiently tensioned to transmit power effectively.

10.6 Checking the scoring belt

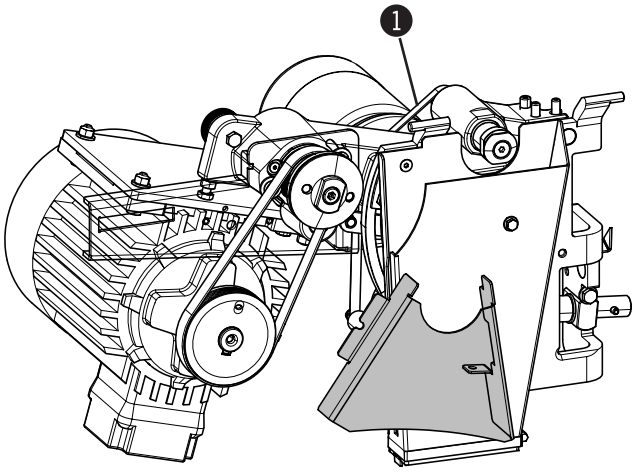


Fig. 106: Scoring belt

The scoring belt is tensioned elastically and thus maintenance free.

Replace the scoring belt, should tears or side tears appear during the monthly check (Assembly instructions „Scoring unit").

1 Scoring belt

10.7 Cleaning/changing the dust brush of the outrigger arm

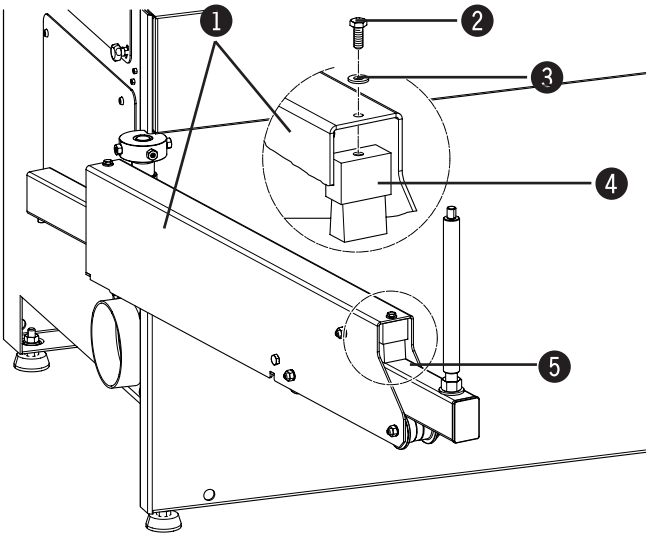


Fig. 107: Dust brush (outrigger arm)

1. Clean the dust brush and check if in good condition.
2. Renew the dust brush if it is worn out, that is if the outer slider is no longer cleaned:
   a) Loosen the socket head cap screw and washer from bracket arm.
   b) Remove the worn out dust brush.
   c) Insert a new dust brush.
   d) Screw the dust brush onto the outrigger arm with a socket head cap screw and washer.

1 Outrigger arm
2 Socket head cap screw
3 Washer
4 Dust brush
5 Outer slider

10.8 Renewing the sliding table scraper blade (ball cage)

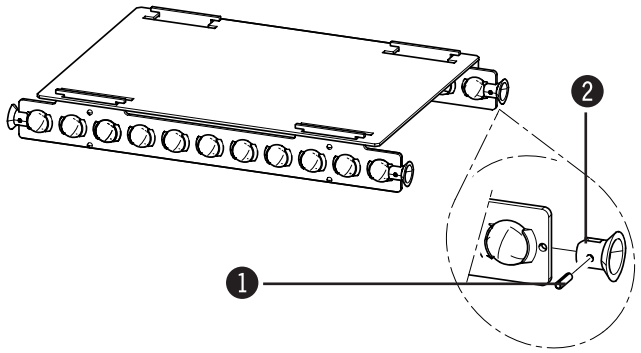


Fig. 108: Scraper

1. Switch the machine off and ensure that it cannot be switched on again.
2. Disassemble the sliding table.
3. Remove wheel bolts and worn scrapers.
4. Mount new scrapers and tighten with wheel bolts.
5. Assemble the sliding table.

1 Bolts
2 Scraper

10.9 Dismantling the sliding table

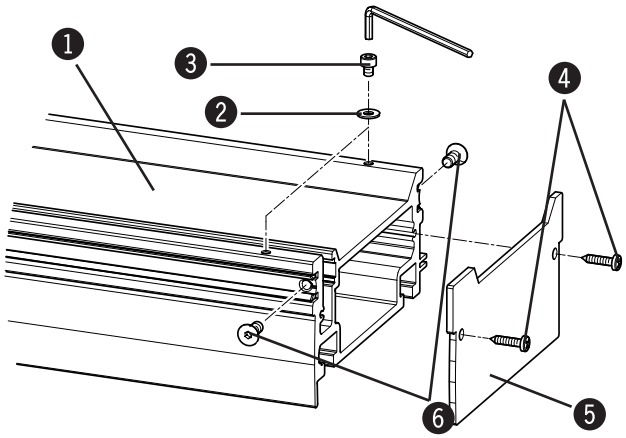


Fig. 109: Base

On the base, on the side from which the sliding table should be pushed from the base:

1. Remove fillister head screws and the base cover.
2. Remove socket head cap screws and washers.
3. Remove flat head screws.

1 Base
2 Discs
3 Socket head cap screws
4 Fillister head screws
5 Base cover
6 Sunken screws

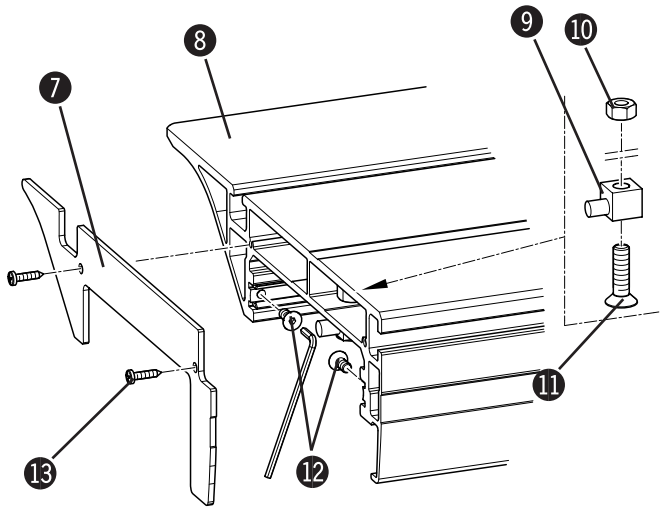


Fig. 110: Sliding table length

On the opposite side on the sliding table:

4. Remove fillister head screws and the sliding table cover.
5. Remove flat head screws.
6. Counter hold the hexagon nut and loosen the flat head screw.
7. Remove the hexagon nut, flat head screw and bearing shaft.

7 Sliding table cover
8 Sliding table length
9 Bearing shaft
10 Six sided nut
11 Flat-head screw
12 Sunken screws
13 Fillister head screws

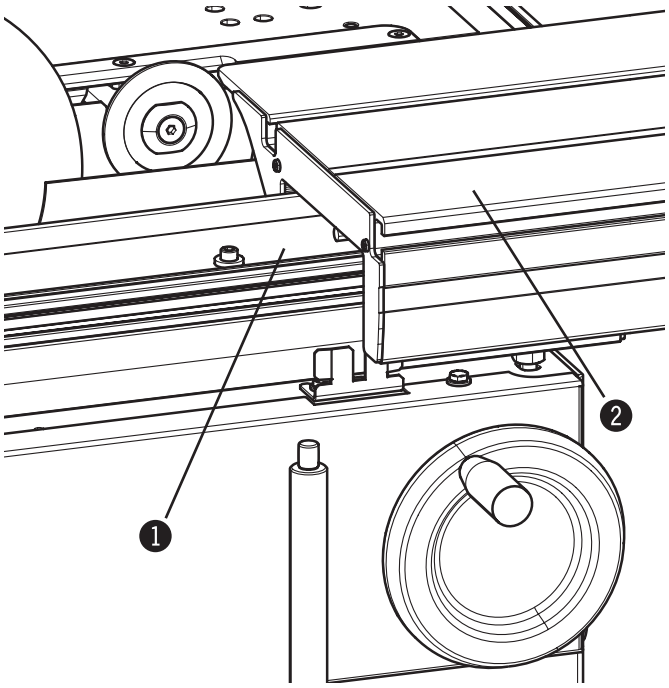


Fig. 111: Base/Sliding table length

On the side from which the sliding table should be pushed from the base:

8. Pull the sliding table from the base.

1. Base
2. Sliding table length

10.10 Assembling the sliding table

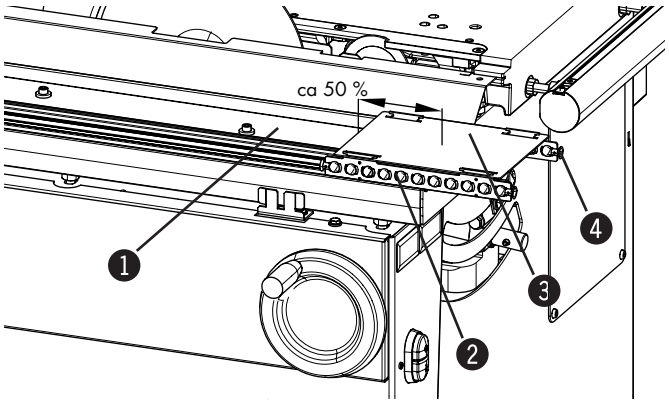


Fig. 112: Ball cage

1. Ensure that the ball cage scrapers sit tightly.
2. Ensure that the balls in the ball cage are complete.
3. Move the cage plate with the ball cages in the middle on the guides of the base.
4. Thread the sliding table onto the ball cages.
5. Slide the sliding table a few centimeters over the guidings of the base.
6. Push the sliding table further onto the base; make sure that the following ball cages are threaded cleanly between the base and the sliding table.
7. Slide the sliding table completely onto the base.

1. Base
2. Ball cages
3. Cage plate
4. Scraper

Attention: The number of ball cages and the length of the cage plate depend on the dismantled sliding table.

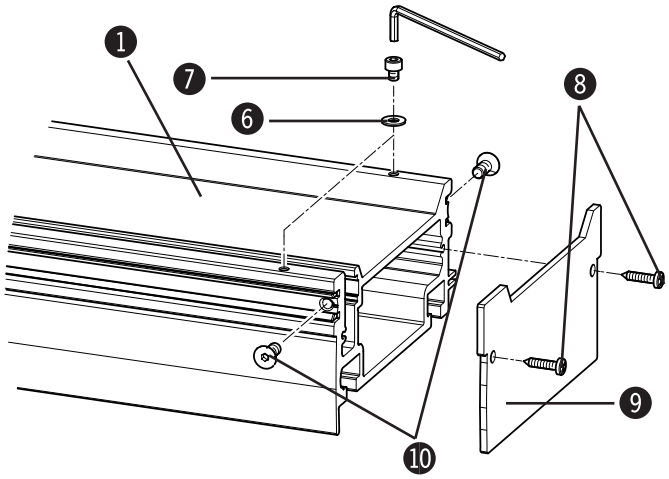


Fig. 113: Base

On the base:

8. Screw flat head screws in.
9. Screw in the socket head cap screws with washers.
10. Screw the base cover on with fillister head screws.

6 Washers
7 Socket head cap screws
8 Fillister head screws
9 Base cover
10 Sunken screws

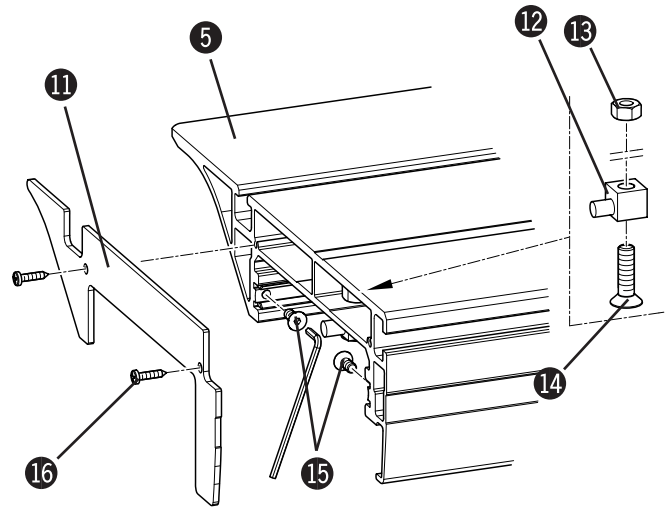


Fig. 114: Sliding table length

On the opposite side on the sliding table:

11. Screw the bearing shaft on with flat head screw and hexagon nut.
12. Screw flat head screws in.
13. Screw the sliding table cover on with fillister head screws.

11 Sliding table cover
12 Bearing shaft
13 Six sided nut.
14 Flat-head screw
15 Sunken screws
16 Fillister head screws

11 Faults

11.1 Safety instructions

Warning! Risk of injury: Repairing faults incorrectly can result in personal injury or damage the machine. For this reason this work may only be carried out by authorised, trained personnel who are familiar with the operation of the machine and in strict observance of all safety instructions.

Warning! Danger – electric current: Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.

11.2 What to do if a fault develops

Stricktly speaking:

- In the event of a breakdown which creates danger for either personnel or equipment the machine should be stopped immediately, by activating the emergency stop.
- Also disconnect machine from the mains and secure it from being switched on again.
- Inform those responsible for machine faults immediately.
- Type and extent of fault should be determined by an authorised professional, as well as the cause and repair.

11.3 What to do after rectifying the fault

Warning! Risk of injury!

Before switching the machine back on:

- the fault and its cause are professionally repaired,
- all safety equipment has been assembled according to regulations and is working correctly,
- individuals are not located in the danger area of the machine.

11.4 Faults, causes and repairs

Problem	Cause	Repair
Machine does not start.	Sliding cover open/Safety break switches activated.	Prepare the machine to operate.
	Error in the electrical contact.	Check the electrical connection (connecting lead, fuses).
	The main switch is off („0" position).	Switch on the main switch („I" position).
The belts squeal when switched on or started.	The belt tension is too slack.	Tensioning the drive belt.
	The drive belt is worn out.	Replace the drive belt.
	The scoring belt is attrited.	Replace the scoring belt.
Motor is running but the saw blade is not turning.	The drive belt is torn.	Replace the drive belt.
The parallel cutting fence clamping force is not sufficient.	The clamping force has slackened.	Readjust the clamping force.
The height guide of the parallel cutting fence is not positioned correctly.	The height adjustment is misadjusted.	Readjust the height of the guide.
The parallel cutting fence angle is incorrect.	The angle adjustment is misadjusted.	Adjusting/correcting the parallel cutting fence angle.
The full cutting length of the sliding table is not achieved.	The sliding table ball cage is misaligned.	Realign the sliding table ball cage.

11.5 Align the sliding table ball cage

The ball cage can, over time, become misaligned due to small sliding table travelling distances. The full cutting length will, thus, not be achieved.

Repair:

1. Move the sliding table past the resistance into the dead-centre position and up to the stop.
2. Then, move the sliding table continuously in the other direction to the dead-centre position and up to the stop.

11.6 Adjust the parallel cutting fence guide height

Required tools:
- 2 pieces Spanner 13 mm

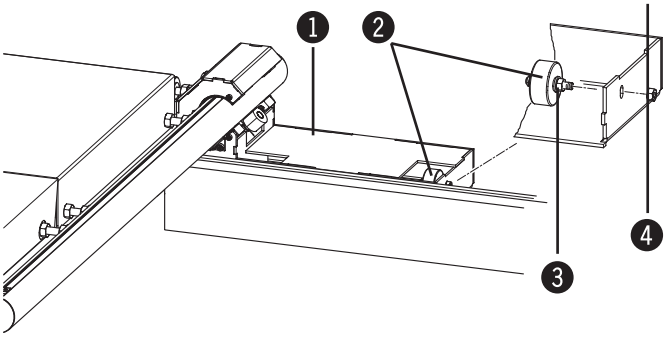


Fig. 115: Adjust the parallel cutting fence guide height

1. Switch the machine off and ensure that it cannot be switched on again.
2. Swivel out the parallel cutting fence.
3. Hold the inside nut with a spanner.
4. Loosen the outer nut with a spanner.
5. Move the rollers in the mortise.
6. Tighten the outer nut.
7. Tilt the parallel cutting fence back.
8. Check the height adjustment and readjust if required.

1 Parallel cutting fence
2 Rollers
3 Nut (inside)
4 Nut (outer)

Attention: Readjusting the height is only possible with the K3 winner circular saw.

11.7 Adjusting/correcting the parallel cutting fence angle

Attention: Readjusting the angle is only possible with the K3 winner circular saw.

Required tools
- 2 pcs. Spanner 13 mm

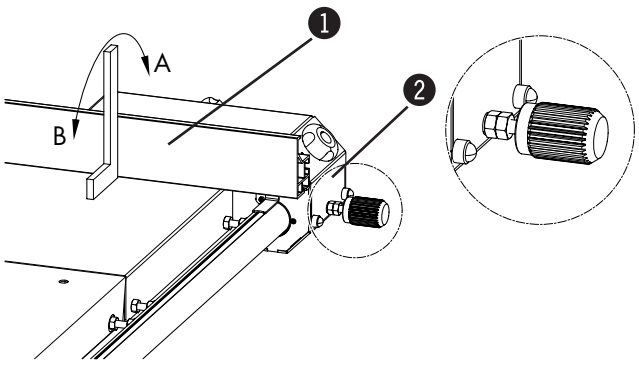


Fig. 116: Check the parallel cutting fence guide angle

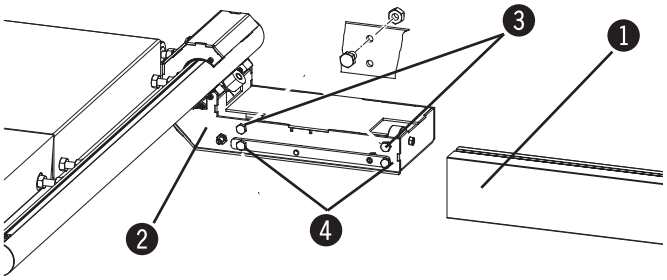


Fig. 117: Readjust the parallel cutting fence guide angle

1. Switch the machine off and ensure that it cannot be switched on again.
2. Check the guide angle and readjust if required.
3. Remove the guide.
4. Tilt out the parallel cutting fence.
5. Adjusting in the „A“ direction:
   a) Hold the screw tight with the spanner.
   b) Loosen the inner nut with a spanner.
   c) Unscrew the screw by half a turn.
   d) Tighten the inner nut.
6. Adjusting in the „B“ direction:
   a) Hold the screw tight with the spanner.
   b) Loosen the inner nut with a spanner.
   c) Unscrew the screw by half a turn.
   d) Tighten the inner nut.
7. Assemble the guide.
8. Tilt the parallel cutting fence back.
9. Check the adjustment of the angle with a bevelled steel square and readjust if required.

1. Guide
2. Parallel cutting fence
3. Screw
4. Screw

11.8 Adjusting the locking force of the parallel cutting fence

Attention: Adjusting the clamping force is only possible with the K3 winner circular saw.

Attention! Risk of material damage! Only adjust if the clamping force of the parallel cutting fence is not sufficient. If the clamping force is too great, it will damage the parallel cutting fence and the fence housing.

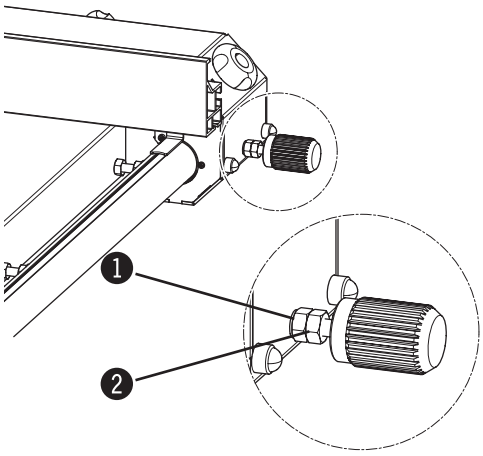


Fig. 118: Adjusting the locking force of the parallel cutting fence

1. Switch the machine off and ensure that it cannot be switched on again.
2. Hold the inner nut tight with a spanner.
3. Loosen the counter nut with a spanner.
4. Turn the inner nut half a turn anti-clockwise.
5. Tighten the counter nut.
6. Check the clamping force and adjust if necessary.

1 Nut
2 Counter nut

12 Index

R

S

T

U

W

Hammer®

KR-FELDER-STR. 1
A-6060 Hall in Tirol
Tel.: +43 (0) 52 23 / 45 0 90
Fax.: +43 (0) 52 23 / 45 0 99
E-mail: info@hammer.at
Internet: www.hammer.at

ORDER-FAX
+43 5223 45 0 99

Tel. hotline +43 5223 45 0 90

E-mail info@hammer.at

Order No.	Article Description	Pcs.

☐ **YES,** send me the new HAMMER-catalog.

First Name

Name/Company Name

Important: For company orders - please provide the VAT registration number!

Street + House-No.

Post Code/City

Phone No. (Area Code)

Fax No. (Area Code)

Mobile No. (Code)

Availability (time)

☐ Yes, please send me your Newsletter.

Email Address @

Send to my address, subject to your delivery and payment conditions:

Date:

Signature:

Hammer®

WARRANTY

This is your warranty card!

Once you have returned this warranty card, you will receive:

A certificate of the expanded HAMMER warranty!

HAMMER-Info-Zentrum
Tel.: (A) 0 52 23 / 45 0 90
Fax: (A) 0 52 23 / 45 0 99
Email: info@hammer.at
http://www.hammer.at

Business hours:
Mo. - Fr.: 09^{00} - 12^{00}
13^{00} - 17^{00}
Sa.: 09^{00} - 11^{30}

Please stamp

Hammer-Info-Zentrum

KR-FELDER-STR. 1

A-6060 HALL in Tirol
Austria

First Name	Name/Company Name
	Important: For company orders - please provide the VAT registration number!
Street + House-No.	Post Code/City
Phone No. (Area Code)	Fax No. (Area Code)
Mobile No. (Code)	Availability (time)

☐ Yes, please send me your Newsletter.

Email Address @

Please fill in the following information from your data plate on your machine:

Machine Type:	Machine Number:
Electrical Equipment: V PH Hz KW A	Year of Manufacture
Received on:	Machine was bought from:
Machine placed: ☐ Cellar / Basement ☐ First / Ground floor ☐ Loft / Attic	
Machine set-up and training was completed by: ☐ HAMMER Qualified personnel ☐ HAMMER Operation manual	

☐ **YES,** **send me the new HAMMER-catalog.**