Hammer®

User Manual

Translation

Planer-Thicknesser
A3-26 / A3-26 e-classic / A3-31 / A3-41

Surface planer
A3-41-A

Keep this manual handy and in good condition for continual reference

Dok.ID: 504010-901_02 • Englisch • 2017-06-21

Note: Year of construction
The machine number of this machine will be printed on this operating manual
The final two digits of the machine number show the year of construction of this machine
e.g. XXX.XX.XXX.17 -> Year of manufacture 2017

Attention!
The machine must be inspected immediately upon arrival. If the machine has been 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. Also be sure to notify your supplier immediately.

For the safety of all personnel, it is necessary to conscientiously study this manual before assembly and operation. This manual must be kept in good condition, and should be considered as part of the machine. Furthermore, the manual must be kept to hand and within the vicinity of the machine so that it is accessible to operators when using, maintaining or repairing the machine.

Important Notices!
Please note, that depending on the model of the machine, not all described functions are present, or additional functions and buttons are available (e.g. machines with special functions).

Hammer | **A product of the FELDER GROUP!**

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1 General

1.1 Symbol legend

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.

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

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. All electrical repairs must be carried out by a qualified electrician.

Note:
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 regulations 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 be 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! Risk of material damage!**
Non genuine, counterfeit or faulty spare parts may result in damage, cause malfunction or complete breakdown of the machine.

If unauthorised spare parts are fitted into 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.

i **Note: 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 difficulties.
This material is also easy to dispose of and does not pollute the environment or jeopardise public health. Always comply with international environmental regulations and local disposal laws.

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, 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.
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 must not be removed.

2.1 Intended use

The machine described in this manual is intended solely for processing wood and similar machinable materials. Machining 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 the intended purposes.

Attention! Any use outside of the machine's intended purpose shall be considered improper and is therefore not permitted. All claims regarding damage resulting from improper use that are made against the manufacturer and its authorised 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 original manufacturer parts and accessories.

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 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 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. The general condition of the machine must be controlled and the machine must be inspected for visible defects every time before it is switched on.
All instructions in this manual must be strictly followed without reservation.
Further to the safety advice and instructions stated in this manual, it is necessary to consider and observe local accident prevention regulations, general safety regulations and 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 Personnel requirements

Only authorised 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 any irregularities with the machine that might compromise safety to the operator.

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 protective equipment

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!

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

Protective clothes
Sturdy, tight-fitting clothing (tear-resistant, no wide sleeves).

Protective footwear
that protect the feet from heavy falling objects and prevent sliding on slippery floors

Hearing protection
To protect against loss of hearing

2.8 Machine hazards

The machine has undergone a hazard 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 remaining 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 ensure that it can not be 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 prevent them from functioning correctly.

2.9 Other risks

Warning! Risk of injury!
Even if the safety measures are complied with, there are still certain associated risks that must be considered when working on the machine:

- Risk of injury when changing the planer knives
- Risk of injury through accidental contact with the rotating cutterblock
- Risk of injury due to ejected workpieces
- Risk of injury from workpiece kickback. (when surface planing)
- 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.

3 Declaration of Conformity

CE

EG-Declaration of Conformity
according to Machine Guidelines 2006/42/EG

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

Manufacturer:	**FELDER KG** **KR-FELDER-STR.1** **A-6060 Hall in Tirol**
Product designation: Model designation:	**Planer-Thicknesser:** **A3-26 / A3-26 e-classic / A3-31 / A3-41** **Surface planer:** **A3-41-A**
Make:	**Hammer**
The following EC guidelines were applied:	**2006/42/EG** **2006/95/EG**
The following harmonised norms were applied:	**EN 861 : A3-26 / A3-26 e-classic / A3-31 / A3-41** **EN 859 : A3-41-A**
The prototype test was carried out by:	**DGUV Test** **Prüf- und Zertifizierungsstelle Holz** **Fachbereich Holz und Metall** **Vollmoellerstraße 11** **D-70563 Stuttgart** **NB 0392**
Conformity with the EC Machine Guidelines certified by:	**Inspection certificate No.:** **111071: A3-26 / A3-26 e-classic / A3-31 / A3-41** **112001: A3-41-A**

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.

The signatory of this statement is the appointed agent for the compilation of the technical information

Johann Felder

Johann Felder, Managing Director FELDER KG
KR-FELDER-STR.1 • A-6060 Hall in Tirol

Hall in Tirol, 1.2.2012

4 Technical specifications

4.1 Dimensions and weight

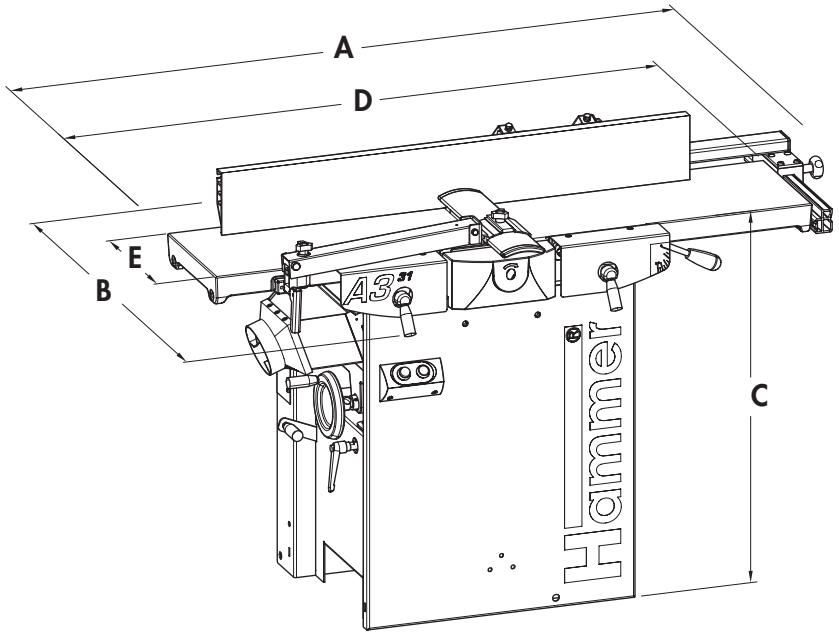


Fig. 4-1: Dimensions

Machine	A3-26 / A3-26 e-classic	A3-31	A3-41
Total length (A)	1255 mm	1535 mm	1933 mm
Overall width (B)	740 mm	790 mm	890 mm
Working height - Planer tables (C)	850 mm	850 mm	850 mm
Total planer table length (D))	1120 mm	1400 mm	1800 mm
Surface planing width (E)	260 mm	310 mm	410 mm
Weight	195 kg	240 kg	295 kg

Machine including packaging	A3-26 / A3-26 e-classic	A3-31	A3-41
Length	1160 mm	1410 mm	1810 mm
Width *)	540 mm	580 mm	770 mm
Height	1090 mm	1090 mm	1090 mm
Weight	245 kg	290 kg	400 kg

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

4.2 Electrical connection

Mains voltage (according to data plate)	±10%
Safeguarding	see circuit plan
Power supply cord (H07 RN-F)	3x2,5 mm²/5x1,5 mm²
Triggering characteristic	C

4.3 Drive motor

The actual values can be found on the data plate.

	Alternating-current motor	Three-phase current motor
Motor voltage	1x 230 V	3x 400 V
motor frequency	50/60 Hz	50/60 Hz
Motor power A3-26 S6-40 %*)	1,9 kW	–
Motor power A3-31 S6-40 %*)	3,0 kW	3,0 kW
Motor power A3-41 S6-40 %*)	3,0 kW	4,0 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 Chip extraction

	Planer/thicknesser unit	Drilling unit
Extractor port diameter	120 mm	120 mm
Air speed	20 m/s	20 m/s
Vacuum, min.	740 Pa	855 Pa
Volume flow, min. (at 20 m/s)	814 m³/h	814 m³/h

4.5 Operation and storage conditions

Operating/room temperature	+10° to +40°C
Storage temperature	–10° to +50 °C

! **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.

4.6 Particle emission

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".

4.7 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.

Note:
In order to keep noise emission to a minimum, be sure to always use sharpened planer knives.
Hearing protection must be worn, it is however, not a substitute for correctly sharpened planer knives.

All values in dB(A) and with a measurement uncertainty factor of 4 dB(A).

***) = Reduced noise emission with the Silent-POWER® cutterblock**

4.7.1 Surface planing

	Idle		Working	
Surface planing width -->	**260 I 310**	**410**	**260 I 310**	**410**
Sound power level (EN ISO 3746)	101 / 85*)	90 / 84*)	103 /91*)	99 / 91*)
Workplace emissions values (EN ISO 11202)	87 / 75*)	83 / 74*)	88 / 82	88 / 83*)

4.7.2 Thickness planing

	Idle		Working	
Planing width -->	**260 I 310**	**410**	**260 I 310**	**410**
Sound power level (EN ISO 3746)	99 / 84*)	97 / 83*)	101 / 92*)	101 / 91*)
Workplace emissions values (EN ISO 11202)				
Working position 1 (feeder-side)	89 / 69*)	82 / 69*)	90 / 79*)	87 /79*)
Working position 2 (receiver-side)	89 / 71*)	71 / 69*)	93 / 79*)	84 / 78*)

4.8 Cutterblock

Cutterblock diameter (knife flight)-Ø	72 mm
Number of knives	3/ Silent-POWER®
Speed 50/60 Hz	5000/6000 min^{-1}

4.9 Planer unit

	A3-26 / A3-26 e-classic	A3-31	A3-41
Maximum depth of cut	4 mm	4 mm	4 mm
Surface planing width	260 mm	310 mm	410 mm
Planer table length	540 mm	628/730 mm	880 mm
Total planer table length	1120 mm	1400 mm	1800 mm
Length of surface planer fence	150 x 750 mm	150 x 1100 mm	150 x 1100 mm
Planer fence, tiltable from	90° to -45°°	-	-

4.10 Thicknesser unit

	A3-26 / A3-26 e-classic	A3-31	A3-41
Thicknessing width	254 mm	304 mm	404 mm
Thicknesser table length	540 mm	540 mm	600 mm
Thicknessing height, min./max.	4/225 mm	4/225 mm	4/225 mm
Feeder	6,5 m/min	6,5 m/min	6,5 m/min

Note:
The maximum depth of cut is directly related to the following factors:

- **Panel width Panel intensity**
- **Type of wood (hardwood or softwood**
- **Wood dampness**
- **Feed rate**
- **Planer knives (SS, HS, HW)**
- **The motor power of your machine**

4.11 Drilling unit

2-jaw drilling chuck	1–16 mm
Mortising table	
Height adjustment*)	135 mm
Longitudinal adjustment*)	200 mm
Depth adjustment*)	130 mm

*) *Measured from the middle of the cutterblock/drilling tool and the front edge of the drilling chuck guard.*

5 Assembly

5.1 Overview

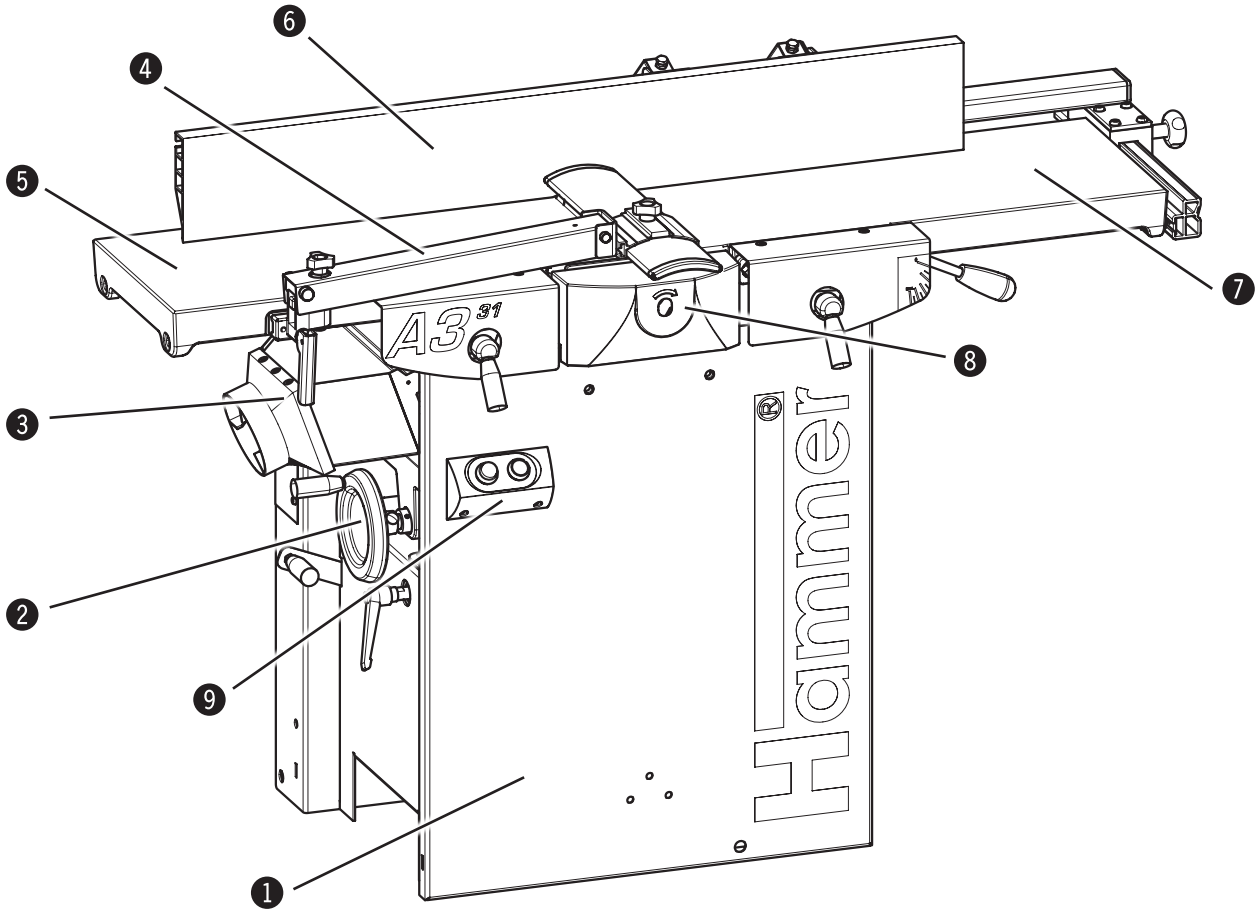


Fig. 5-1: Overview

1. Housing with drive motor and gearbox
2. Thicknesser unit
3. Vacuum hood with vacuum connector
4. Bridge guard
5. Planer table, receiver-side
6. Combination fence (with rear cover for the cutter-block)
7. Planer table, feeder-side
8. Cutterblock with thread for mortising chuck
9. Switching point

5.2 Accessories

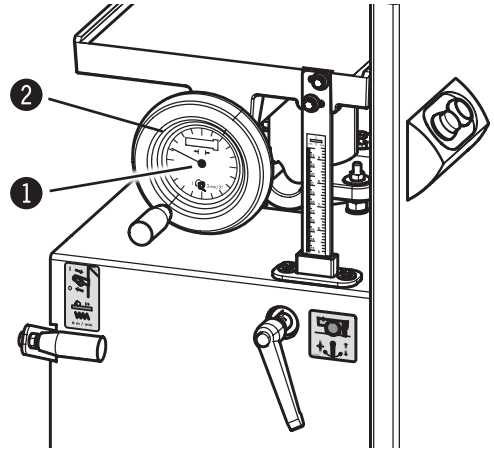


Fig. 5-2: Digital clock

System handwheel
Art. No. 12.1.311

Digital clock
Art. No. 01.1.202 (Display in "mm")
Art. No. 01.2.202 (Display in "inch")

The digital display is built into both the thicknessing height adjustment system handwheel and the drilling height adjustment system handwheel (drilling support is an add-on option).
Exact adjustments to one tenth of a millimeter are possible with the digital display
(See assembly instructions „Digital clock")

1. Digital clock
2. System handwheel

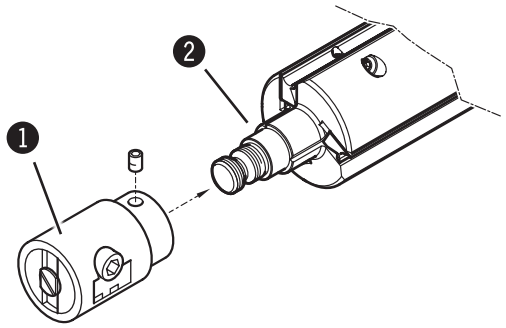


Fig. 5-3: 2-jaw drilling chuck

2-jaw drilling chuck
Art. No. 500-118

The drilling chuck is mounted onto the cutterblock. The mortising chuck holds the mortising tools
(See assembly instructions „Drilling chuck and coupler unit")

1. 2-jaw drilling chuck
2. Cutterblock

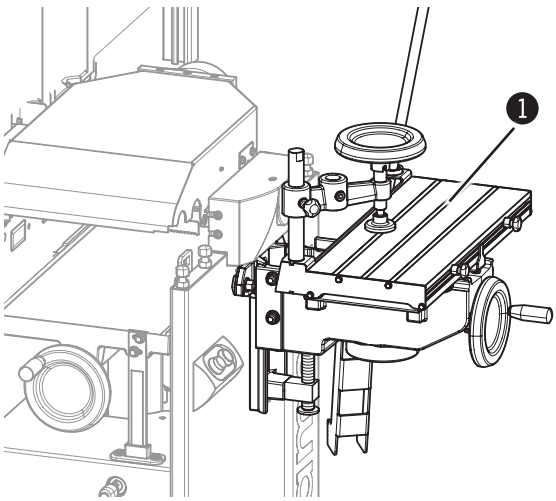


Fig. 5-4: Drilling chuck and coupler unit

Mortising table / Coupler unit
Art. No. 501-117

The coupler unit is mounted onto the machine frame. Hang the mortising support into the coupling device and secure it
(See assembly instructions „Drilling chuck and coupler unit" and „Mortising table")

1. Mortising table

Assembly

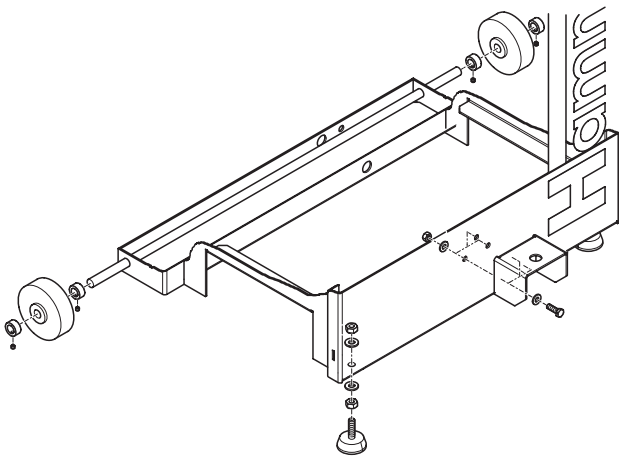


Fig. 5-5: Rolling carriage

Rolling carriage
Art. No. 503-134

Mount the rolling carriage onto the machine housing.
The rolling carriage facilitates the task of positioning the machine
(See assembly instructions „Rolling carriage“)

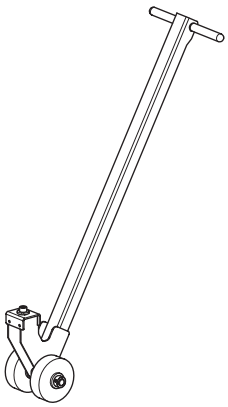


Fig. 5-6: Lifting bar

Lifting bar
Art. No. 500-149

Hook the lifting bar under the rolling carriage coupling (Accessory).
The lifting bar and the rolling carriage facilitate the task of maneouvring the machine in the most confined space.
(See assembly instructions „Lifting bar“)

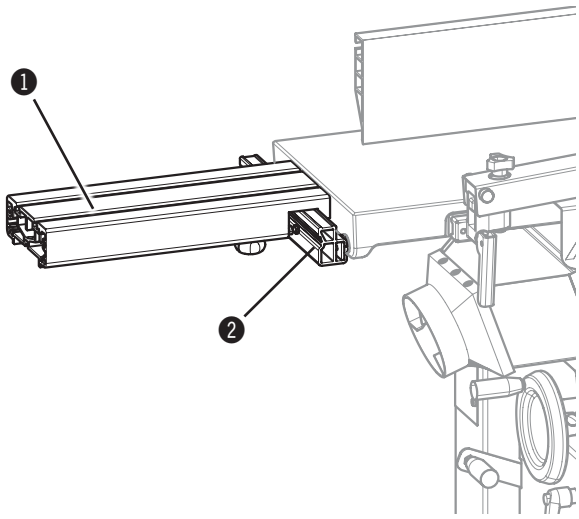


Fig. 5-7: Table extension

Hammer Mounting rail for table extension
Art. No. 500-157 (260 mm)
Art. No. 500-102 (310 mm)
Art. No. 500-151 (410 mm)

Table extension
500-101 (400x150 mm)
500-151 (800x150 mm)

Mount the table extension onto the planer tables. The table extension is a safe support for longer workpieces
The table can be extended by 400 or 800 mm
(See assembly instructions „Table extension“)

1. Table extension
2. Mounting Rail for Table Extension

5.3 Data plate

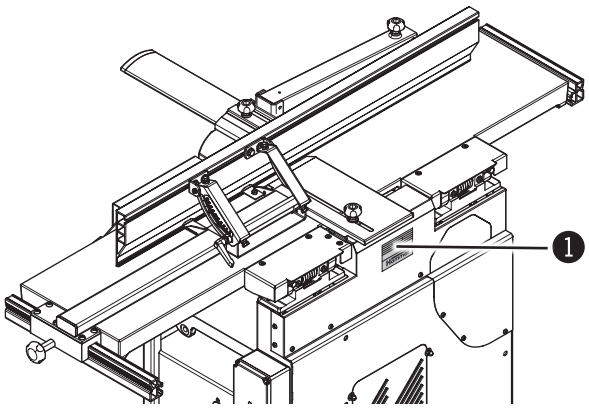


Fig. 5-8: Layout of the data plate

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

1 Data plate

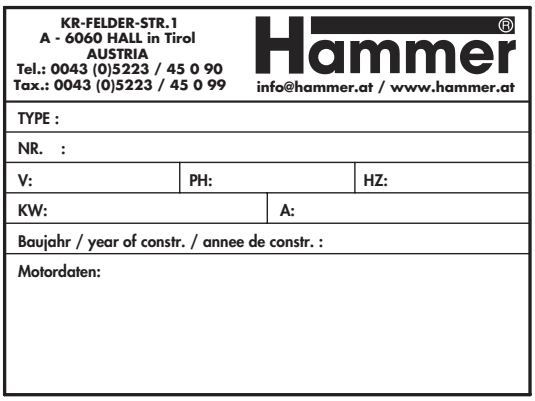


Fig. 5-9: Data plate

The data plate displays the following specifications:

- Model designation
- Machine number
- Voltage
- Phases
- Frequency
- Power
- Power supply
- Year of construction
- Manufacturer information

5.4 Safety devices

5.4.1 Safety break switches

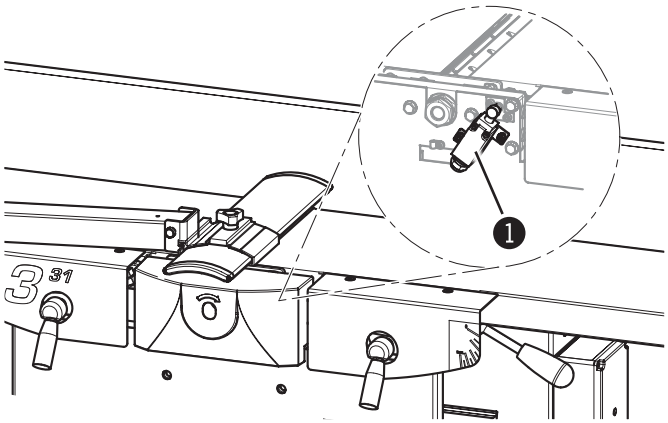


Fig. 5-10: Safety break switches

The cutter block will only run when the safety switch is deactivated by the planer tables or extraction hood.

1 Break switch for the planer tables

5.4.2 Bridge guard

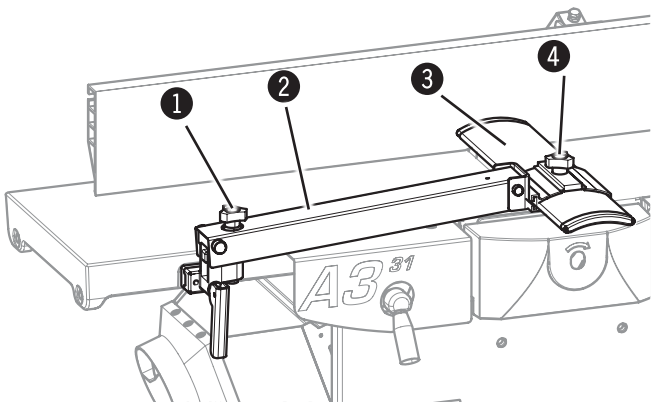


Fig. 5-11: Bridge guard

The bridge guard covers the cutterblock when surface planing.

1 Setscrew (Height adjustment)
2 Bridge guard arm
3 Protective rail
4 Clamping screw (Width adjustment)

Note: Instructions to adjust the bridge guard are given in the respective working techniques descriptions.

5.4.3 Rear cutterblock cover

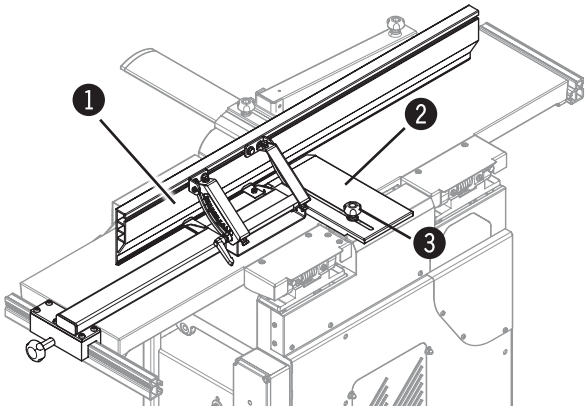


Fig. 5-12 Rear cutterblock cover

When surface planing, the rear cutterblock cover screens the part of the cutterblock that remains exposed behind the fence. Attach the rear cutterblock cover to the back of the combination fence.

The rear cutter block guard is fitted with an additional mount to stabilise the fence.

1. Planer fence
2. Cover
3. Clamping screw

5.4.4 Kickback guards

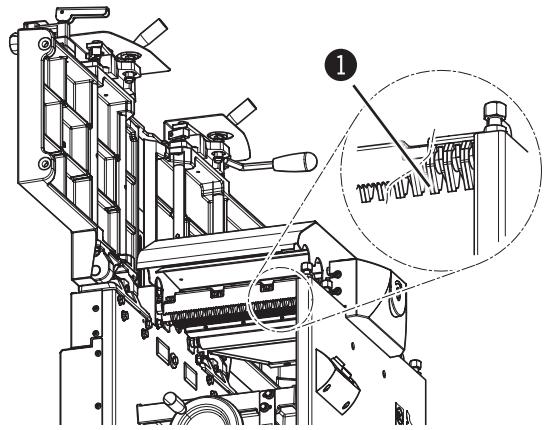


Fig. 5-13: Kickback guards

When thicknessing, the kickback guards prevent the workpiece from kicking back.

1. Kickback guards

Note: Only properly adjusted (smoothly operating and sharp) kickback guards will perform this protective function! See Chapter >10.3.1 Checking/cleaning the kickback guards<

5.4.5 Drilling chuck guard

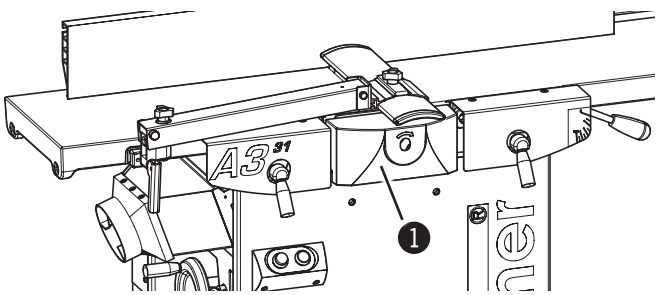


Fig. 5-14: Drilling chuck guard

The drilling chuck guard covers the 2-jaw drilling chuck on the cutterblock.

1. Drilling chuck guard

5.5 Operation and display elements

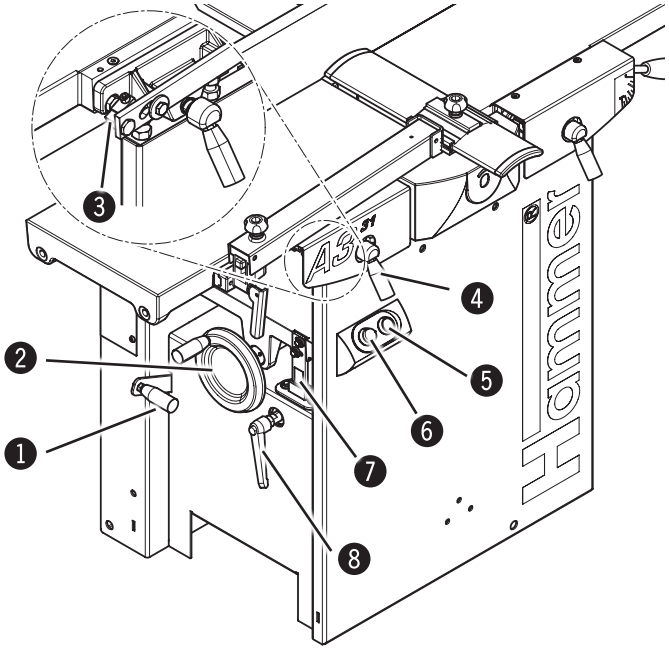


Fig. 5-15: Operation and display elements

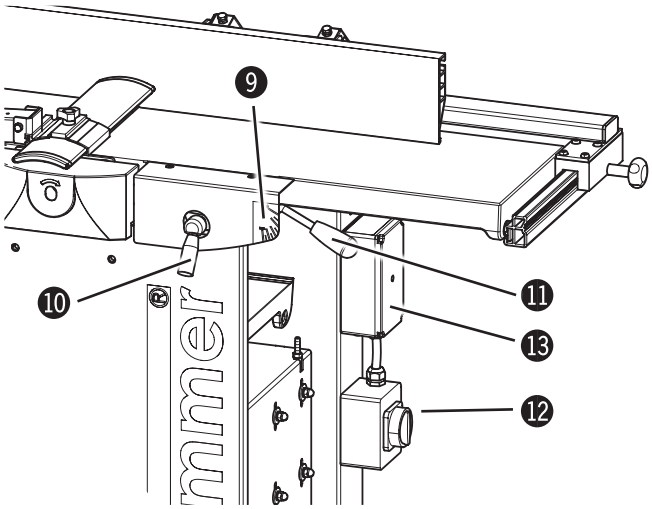


Fig. 5-16: Operation and display elements

❶ **Gear lever**
- Position O: (pull out)
  Surface planing, Premilling, Bevelling/Tapering, mortising and idle machine for a longer period of time
- Position I: Thickness planing

❷ **System handwheel**
Adjusting the height on the thicknessing unit (Thickness planing height)

❸ **Eccentric** (Surface planing)
Adjusting the height of the receiver side of the planer table

❹ **Single-hand clamping lever**
Clamping the outfeed-side of the planer table

❺ **Green push button**
Switching on the machine

❻ **Red push button**
Emergency stop and switching off the machine

❼ **Scale** (Thickness planing)
Specifying the thicknessing height

❽ **Single-hand clamping lever**
Clamping the planer table

❾ **Scale** (Surface planing)
Specifying the chip thickness on the feeder-side of the planer table

❿ **Single-hand clamping lever**
Clamping the infeed-side of the planer table

⓫ **Adjustment handle** (Surface planing)
Adjusting the height of the feeder-side of the planer table

⓬ **Main switch (if available)**
- Position 0: Mains voltage off
- Position I: Mains voltage on

⓭ **Phase inverter**
depending on the equipment

6 Transport, packaging and storage

6.1 Safety instructions

Warning! Danger! Electric current:
There is a risk of injury as a result of 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 airtight and that a desiccant is added to protect the metal parts against corrosion.

6.2 Transport

Attention! Risk of material damage!
Transport the machine 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 of the machine.

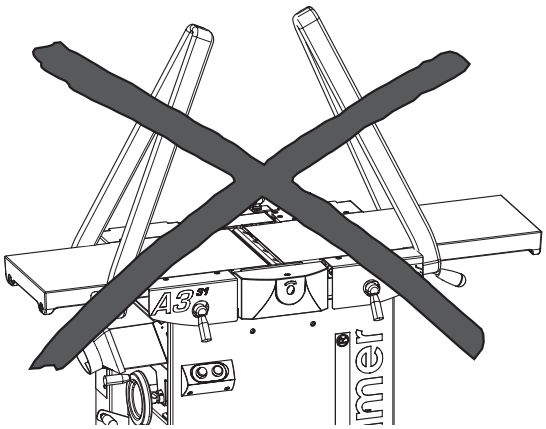


Fig. 6-1: It is prohibited to lift the machine by its planer tables!

Unless otherwise agreed, the machine is delivered in a partly dismantled state on a pallet.
The machine is dispatched with its joiner tables closed and secured.

Transport, packaging and storage

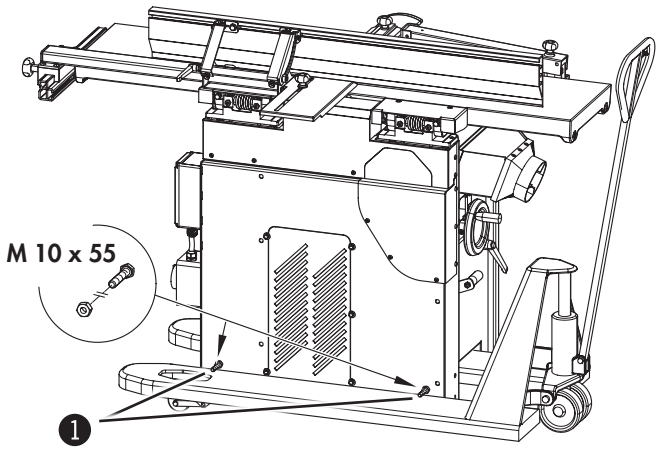


Fig. 6-2: Transport with a pallet jack

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

When moving the machine with a forklift or pallet jack, bolt the transportation device (option) onto the housing (See assembly instructions „Transport device").

1 Transport device

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

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

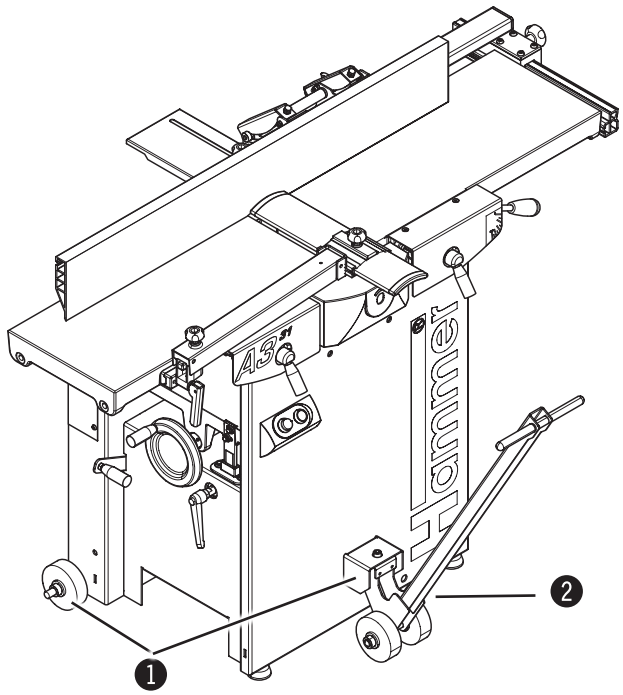


Fig. 6-3: Transport with a rolling carriage

Mount the rolling carriage onto the machine housing. (See assembly instructions „Rolling carriage" and „Lifting bar")

1 Rolling carriage
2 Lifting bar

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 only accept it 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.

Note: 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 machine parts open to possible rusting (corrosion protection)
- When storing for a period longer than 3 months, apply a coat of oil to all machine parts open to rusting (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 airtight packaging and protected against corrosion (desiccant)
- If the machine will not be used for a longer period of time, ensure that the gear lever is positioned on the „0“ setting.

7 Setup and installation

7.1 Safety instructions

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

- Ensure that there is sufficient space to work around the machine. It is very hazardous to thickness plane rail-guided workpieces when there is insufficient clearance to neighbouring machines, to walls or to other fixed equipment.
- 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 physical injury or equipment damage. Only assemble and install the machine if the machine and its parts are complete and intact.

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 Setup

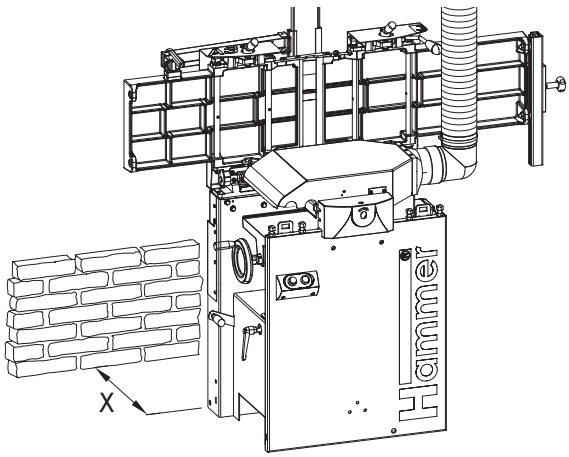


Fig. 7-1: Space requirements

Installation site requirements:
- Operating/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 to maintain and operate the machine properly, it must be set up at least 500 mm away from the wall, parallel to the work direction (measurement X) (Scale „X“)

Setup and installation

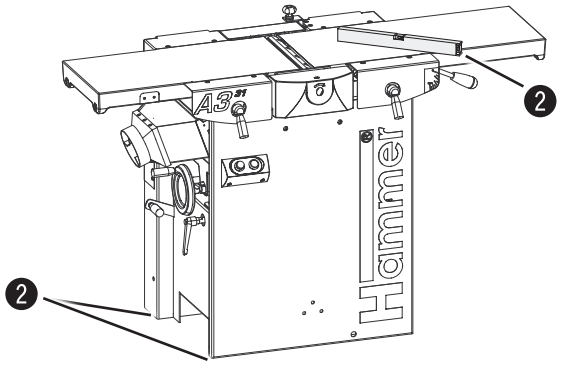


Fig. 7-2: Positioning the machine

1. The machine will be transported to the installation location according to the specifications stated in the „Transport" chapter and in the enclosed transport and assembly instructions..

2. Position the machine with the aid of a spirit level to ensure that the machine functions precisely and operates smoothly.

If the floor is uneven, use blocks to level the machine.

1 Spirit levels

2 blocks

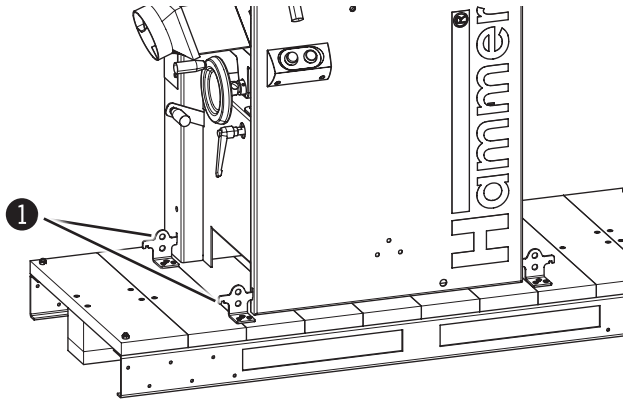


Fig. 7-3: Floor mounting

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

4. Remove the oxidation protective layer from all blank machine parts.

1 Transport brackets

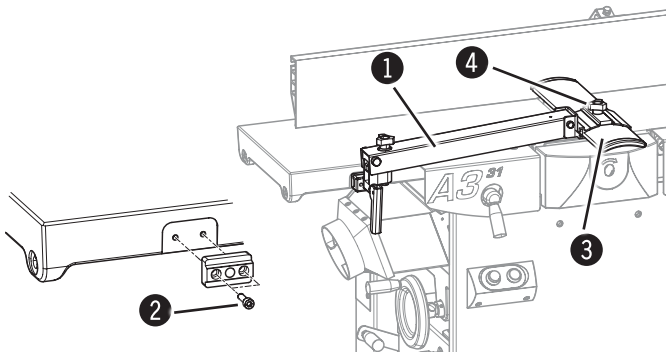


Fig. 7-4: Bridge guard

5. Assemble the guard rail and bridge guard:
- Bridge guard arm: fasten with allen screws on the planer table.
- Loosen the clamping screw.
- Protective rail: thread into the arm of the bridge guard
- Tighten the clamping screw.

1 Bridge guard arm

2 Allen screws

3 Protective rail

4 Clamping screw

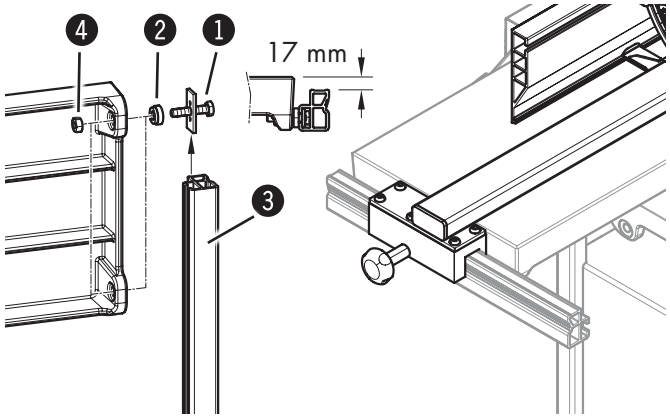


Fig. 7-5: Mount the planer fence

6. Mount the planer fence
- Fasten guide rail to the machine table with screws, turn locks and spacing washers
- Adjust the distance: 17 mm
  (This setting has to be exact.)
- Tighten the nuts.

1 Screws

2 Spacer washers

3 Track

4 Nuts

7.3 Chip extraction

Attention!
The machine has to be connected to a dust extractor.
Vacuum hose must be flame-resistant and must conduct electricity! Be sure to use only genuine Hammer vacuum hoses!

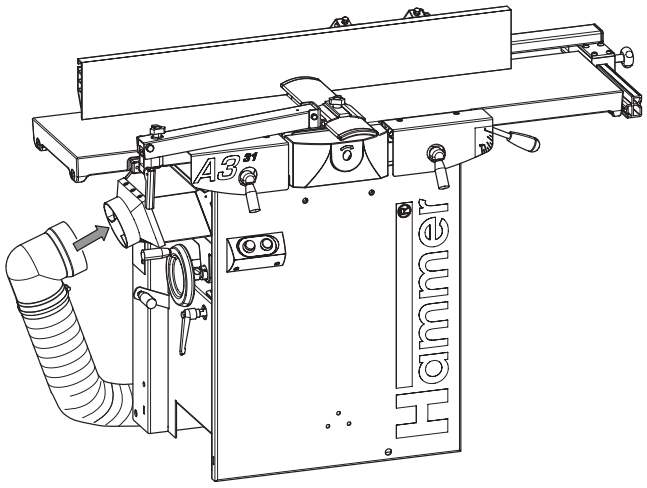


Fig. 7-6: Extractor port diameter

In order to hinder the build-up of dust, it is necessary to have a vacuum system with sufficient capacity.
Before operating the machine for the first time, inspect it for defects.

Requirements for the dust extraction system and hoses:

- The extraction capacity has to generate the required low pressure and the required air speed (See technical data)
- Connect the dust extraction system to the machine in such a way so as to operate in unison with the machine.
- The dust extraction hoses must be electrically conductive and grounded to prevent electrostatic build up.

7.4 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.
Checking the loop impedance and the suitability of the overcurrent protective device must take place at the location where the machine is to be commissioned!

Note: It is prohibited to open the switch box on the machine without the express authorization from the Hammer Service Department. Violating this stipulation shall render the right to make claims under the warranty null and void.

- The machine must be earthed with electrical conductors.
- The voltage fluctuations in the mains supply may not exceed ±10 %.
- The power supply cable must be protected against damage (e.g. armoured conduit)
- The power supply cable must be laid in such a way so it does not overbend or chafe and there is no risk of tripping over it.
- Safeguarding: triggering characteristic C
  Three-phase current motor: 16 A,
  Alternating-current motor: 25 A,
- Power supply cable at least
  Three-phase current motor: 5x 2,5
  Alternating-current motor: 3x 2,5

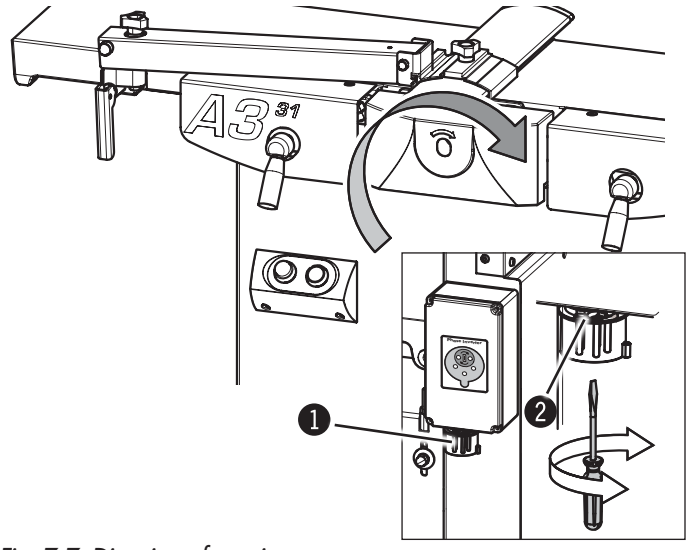
Warning! Danger! Electric current: Before hooking up the machine to the power supply, compare the specifications on the data plate with those of the electrical network. Only hook up the machine if the two sets of data correspond to each other. The electrical outlet must have the appropriate socket (for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

7.4.1 Alternating-current motor

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's specific regulations.

7.4.2 Three-phase alternating current motor



- Connect the plug to the power supply.
- Switch on and let the machine run briefly.
- While the motor is running, check its direction of rotation.
- The machine is equipped with a CEE plug with phase inverter
- To change the direction of rotation,turn the phase inverter with a screwdriver by 180°.

1 CEE-Plug
2 Phase inverter (optional)

Fig. 7-7: Direction of rotation

8 Making adjustments and preparations

8.1 Safety instructions

Warning! Risk of injury! Improper adjustment and setup work can lead to serious physical injury or material damage. For this reason, this work may only be carried out by authorised, trained personnel who are familiar with how to operate 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 switched 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 to work 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 Adjusting the depth of cut

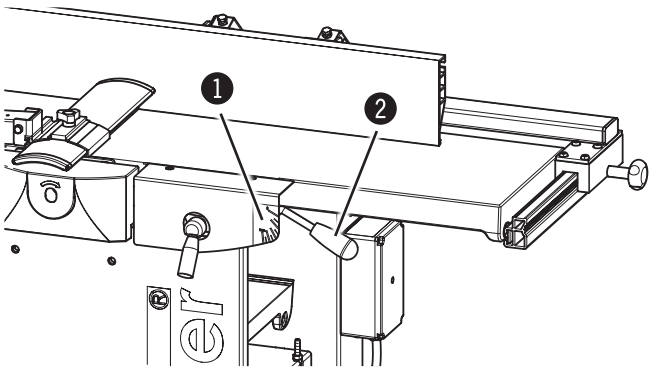


Fig. 8-1: Adjusting the depth of cut

The depth of cut is adjusted with the adjustment wheel on the feeder-side of the planer table

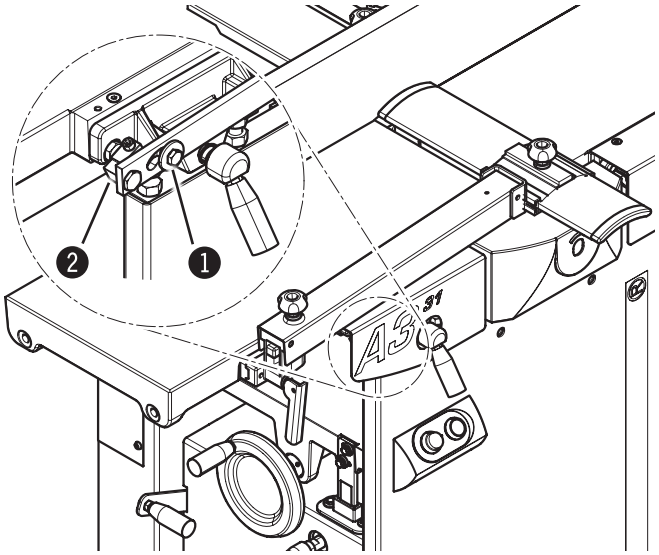
Move the lever until the desired value has been achieved on the scale

1 Scale
2 Lever

Note:
The maximum depth of cut is directly related to the following factors:
- **Panel width Panel intensity**
- **Type of wood (hardwood or softwood**
- **Wood dampness**
- **Feed rate**
- **Planer knives (SS, HS, HW)**
- **The motor power of your machine**

8.3 Adjusting the height of the receiver side of the planer table

Note: The machine is set by the manufacturer so as to produce an open joint of 0.2 to 0.5 mm with a workpiece length of 2 m (Standard setting). The position of the in-feed planer table must be adjusted with regards to the flight of the knife to achieve particular requirements (extremely splayed, open or straight joints): Contact service technician

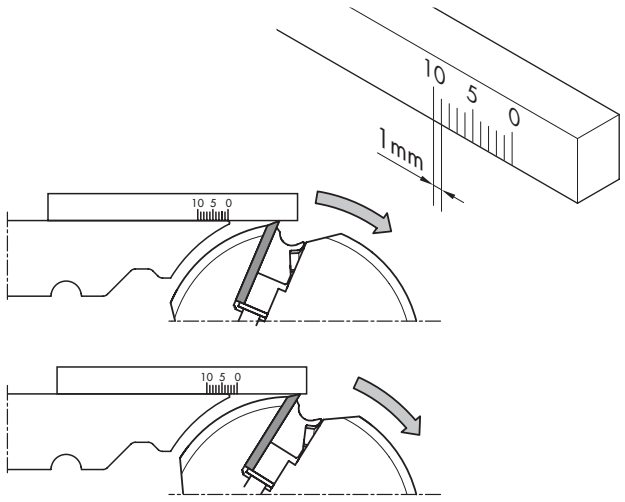


1. Switch the machine off and ensure that it cannot be switched on again
2. Loosen the clamping screw.
   (Spanner 10 mm)
3. Eccentric: turn until the desired height of the planer table is reached
   (Spanner 17 mm)
4. Tighten the clamping screw.
   (Spanner 10 mm)
5. Check the adjustment with a gauge

1 Clamping screw
2 Eccentric

Fig. 8-2: Adjusting the joint

Attention! Risk of injury!
The planer knives are razor sharp. Handle the planer knives with the utmost care.
especially when turning the cutterblock by hand.



Check the adjustment with a gauge:
1. Prepare the gauge as shown in the illustration opposite.
2. Set the gauge on the receiver-side of the planer table edge to "0".
3. Turn the cutterblock manually.
4. The planing knives should move the gauge
   2 to 3 mm. (usual setting)

Fig. 8-3: Checking the joint adjustment

8.4 Adjusting the planer fence

8.4.1 Adjusting the angle

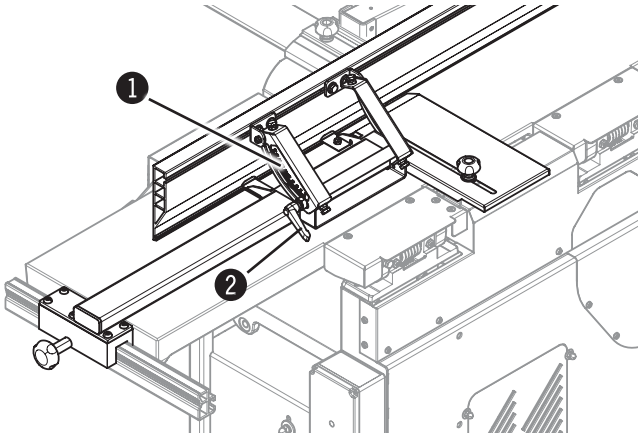


Fig. 8-4: Adjusting the planer fence

1. Switch off the machine
2. Loosen the clamping lever.
3. Set the angle between 90° and 45° on the scale.
4. Clamp the clamping lever.

1 Scale
2 Clamping lever

8.4.2 Sliding

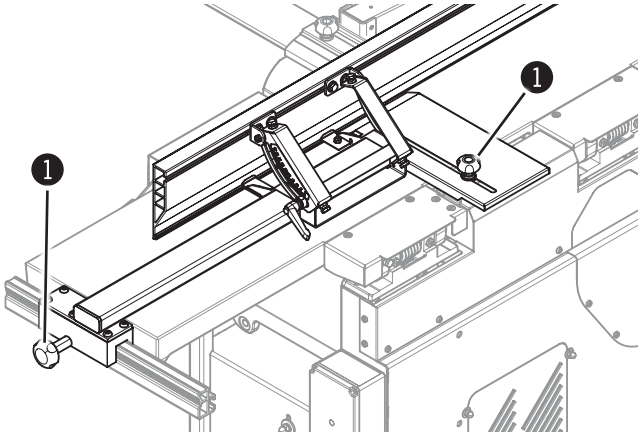


Fig. 8-5: Move the planer fence

Adjusting the settings to the width of the workpiece:

1. Switch off the machine
2. Loosen the thumb screws.
3. Move the combination fence into the desired position.
4. Tighten the thumb screws.

1 Thumb screws

8.5 Adjust the thicknessing height

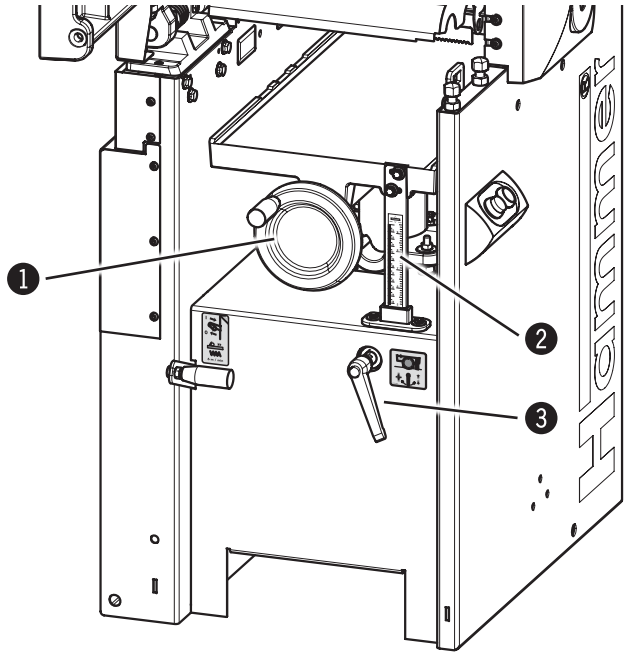


Fig. 8-6: Adjust the thicknessing height

The cutting depth is adjusted by means of the thicknessing table:

1. Switch off the machine
2. Measure the thickness of the workpiece.
3. Loosen the clamping lever.
4. Use the system handwheel to set the desired measurement: thickness of the workpiece minus cutting depth
5. Clamp the clamping lever.

1. System handwheel
2. Scale
3. Clamping lever

Note:

To compensate for the thread clearance, adjust the thicknessing table from bottom to top.

Use the digital display (accessory) to adjust the thicknessing height exactly.
(See assembly instructions „Digital clock“).

Note:

The maximum chip thickness per work cycle is 4 mm.

When smooth planing, the maximum cutting depth is 1 mm.

The maximum depth of cut is directly related to the following factors:

- **Panel width Panel intensity**
- **Type of wood (hardwood or softwood**
- **Wood dampness**
- **Feed rate**
- **Planer knives (SS, HS, HW)**
- **The motor power of your machine**

8.6 Adjusting the drilling support

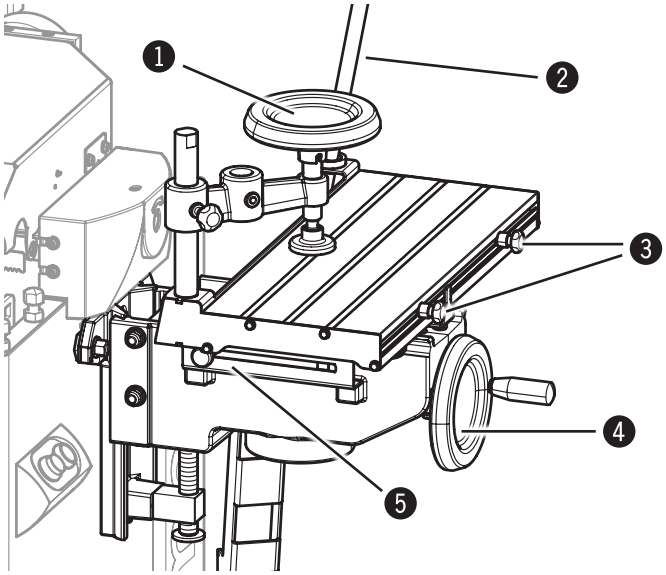


Fig. 8-7: Adjusting the drilling support

- **Height adjustment** – Infinitely variable with system handwheel
- **Longitudinal adjustment** – With the one-hand lever
- **Depth adjustment** – With the one-hand lever
- **Mortising depth limit stop** – With depth stop
- **Mortising length limit stop** – With the two lateral stops
- **Stabilising the workpiece on the table** – With the rotating clamp

1. Rotating clamp
2. Single-hand lever
3. Longitudinal stops
4. System handwheel
5. Depth stop

Note: Use the digital display (accessory) to adjust the drilling height precisely (See assembly instructions „Digital clock“).

8.7 Retooling from a planer to a thicknesser

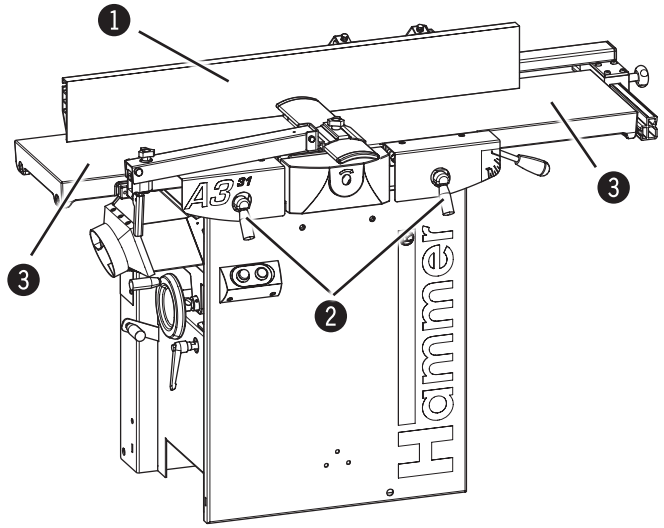


Fig. 8-8: Open planer table

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Push the planer fence right to the front.
   See Chapter >8.4 Adjusting the planer fence<
3. Loosen and pull out the clamping lever.
4. Open the planer table and ensure that the fall lock engages correctly.

1 Planer fence
2 Clamping lever
3 Planer tables
4 Safety catch

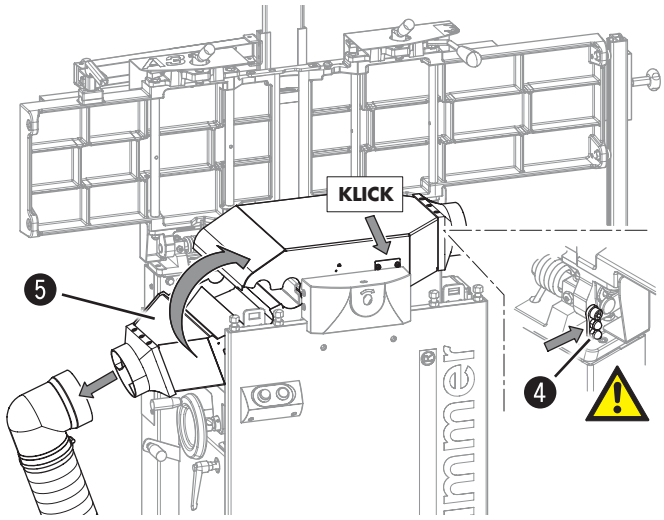


Fig. 8-9: Tilt up the vacuum hood

5. Remove the vacuum hose from the vacuum hood
6. Tilt up the vacuum hood
   Ensure the extraction hood slots into place correctly
7. Attach the vacuum hood by means of the connector to a suitable vacuum system.
   See Chapter >7.3 Chip extraction<

5 Vacuum hood

Note:
Safety break switches are breaking the electric circuit.
The planer arbor can only run when the joiner tables are closed or the extractor hood is tilted up.

8.8 Retooling from a thicknesser to a planer

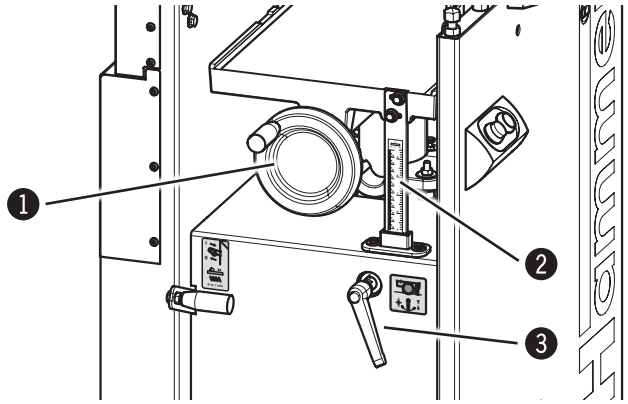


Fig. 8-10: Thicknesser table

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Loosen the clamping lever.
3. Using the system handwheel, position the thicknessing table at least 200 mm below the cutterblock.
4. Clamp the clamping lever.

1 System handwheel
2 Scale
3 Clamping lever

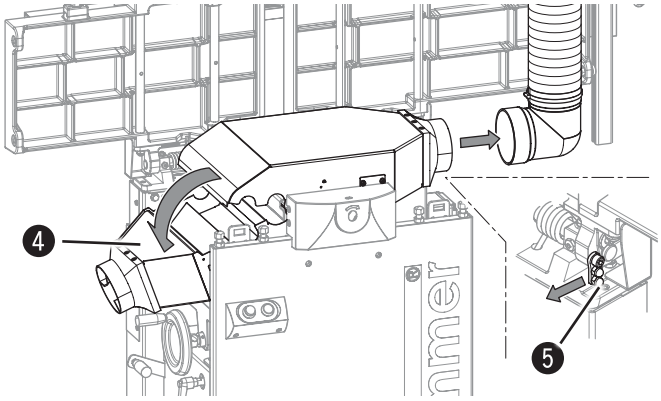


Fig. 8-11: Tilt the vacuum hood downwards

5. Remove the vacuum hose from the vacuum hood
6. Tilt the vacuum hood downwards
7. Release fall lock/tilt the planer table to you.

4 Vacuum hood
5 Safety catch

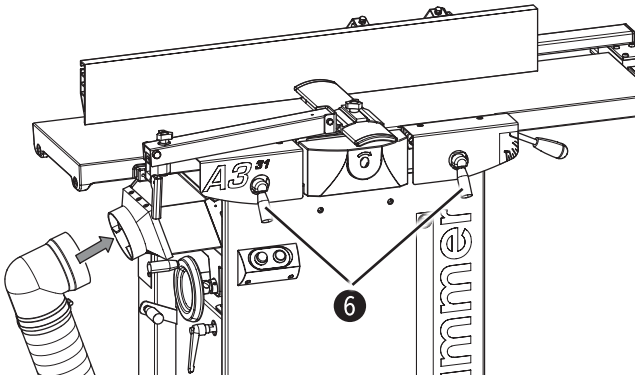


Fig. 8-12: Planer tables

8. Press the clamping lever inwards and lock in place.
7. Attach the vacuum hood by means of the connector to a suitable vacuum system.
See Chapter >7.3 Chip extraction<

6 Clamping lever

Note:
Safety break switches are breaking the electric circuit.
The planer arbor can only run when the joiner tables are closed or the extractor hood is tilted up.

8.9 Retooling to the drilling unit

8.9.1 Mounting the mortising support

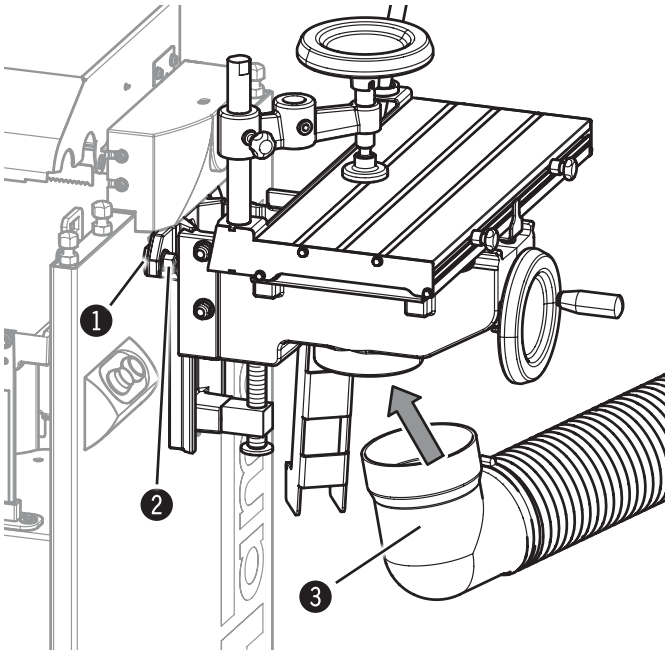


Fig. 8-13: Mounting the mortising support

1. Prior to starting to work with the machine, switch it off and secure it against being switched on again.
2. If necessary, mount the coupler unit (accessory). If necessary, mount the 2-jaw drilling chuck (accessory). (See assembly instructions „Drilling chuck and coupler unit")
3. Both planer tables must be tilted up and secured with the fall locks
   (Position „Thickness planing")
4. Affix the drilling table:
   • Depth adjustment in the hindmost position and
   • Adjust the length in the middle position
5. Hook the mortising table into the seating bolt
6. Attach the drilling support with the nuts.
7. Connect the drilling support by means of the extractor port to a suitable extraction system
   See Chapter >7.3 Chip extraction<

1 Seating bolt
2 Nuts
3 Vacuum connector

8.9.2 Clamp the drilling tool

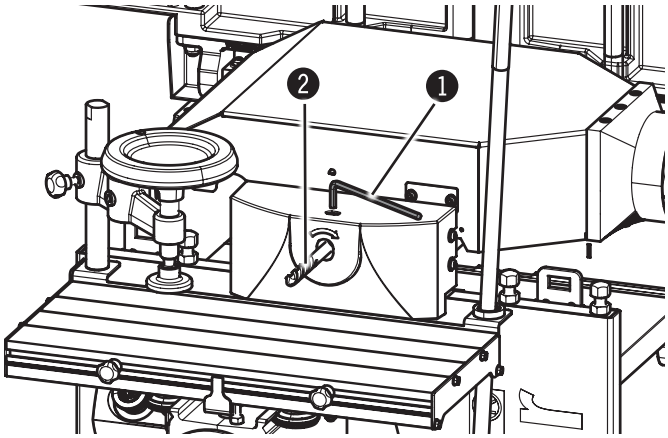


Fig. 8-14: Clamp the drilling tool

1. Prior to starting to work with the machine, switch it off and secure it against being switched on again.
2. Open the 2-jaw chuck with an 8 mm Allen key.
3. Clamp the authorised drilling tool along the entire length of the chuck
   See Chapter >9.6 Drilling<
4. Clamp the 2-jaw chuck with an 8 mm Allen key (minimum torque 20 Nm).

1 Allen key 8 mm
2 Drilling tool

8.10 Retooling from a drilling operation to a planer or a thicknesser operation

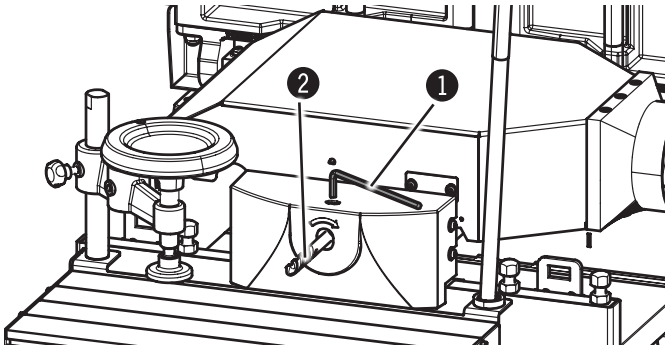


Fig. 8-15: Unchuck the drilling tool

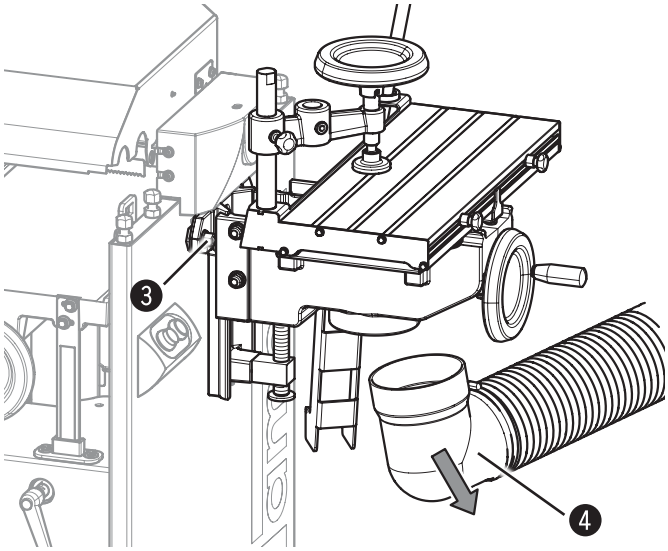


Fig. 8-16: Removing the drilling support

1. Prior to starting to work with the machine, switch it off and secure it against being switched on again.

2. Unchuck the drilling tool:
- Open the 2-jaw chuck with an 8 mm Allen key
- Remove the drilling tool from the drilling chuck

1 Drilling tool
2 Hex key

3. Removing the drilling support:
- Release the extractor hose from the extraction port
- Affix the drilling table:
  - Depth adjustment in the hindmost position and
  - Adjust the length in the middle position
- Loosen the nuts.
- Detach the drilling table

4. If required, change the tooling to surface planing or thickness planing.

3 Nuts
4 Vacuum connector

9 Operation

9.1 Safety instructions

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

Before starting work:
- 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 to work 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!
- Properly adjust both planer tables.
- Adjust the combination fence to the workpiece width and lock.
- Install the bridge guard and rear cutterblock cover as directed and test their function.
- Ensure that all the planer knives are sharp (minimises the kickback risk)
- Ensure that all clamping screws on the knife holders are securely tightened (minimum tightening torque 15 Nm)
- Ensure that the individual kickback guards are free to move and that they fall back into their initial position after having been raised.
- Install the dust extraction system according to the instructions and test its function.
- Only machine workpieces that can be safely placed on the machine and guided.
- Carefully inspect workpieces for foreign matter (nails, screws) which might impair processing.
- When planing, additionally support workpieces that are longer than the feeder- and receiver-sides (by using e.g. table extensions, roller supports)
- Ensure that the tool turns freely.
- Ensure the cutterblock direction of rotation is correct
- Keep tools for handling short and narrow workpieces close at hand (e.g.: wooden pushing stick, push block; See HAMMER-Accessory catalogue)
- Before switching on the machine, always check to make sure that there are no other persons in the immediate vicinity of 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 protect the feet from heavy falling objects and prevent sliding on slippery floors
- Hearing protection – To protect against loss of hearing

During operation:
- Never place your hands on the workpiece over the cutterblock.
- When changing to another workpiece or if a malfunction occurs, 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!

9.2 Switching on the machine

Note: 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. Therefore, the adjusting, fitting and operating instructions (see the corresponding chapters) must be read before switching on the machine.

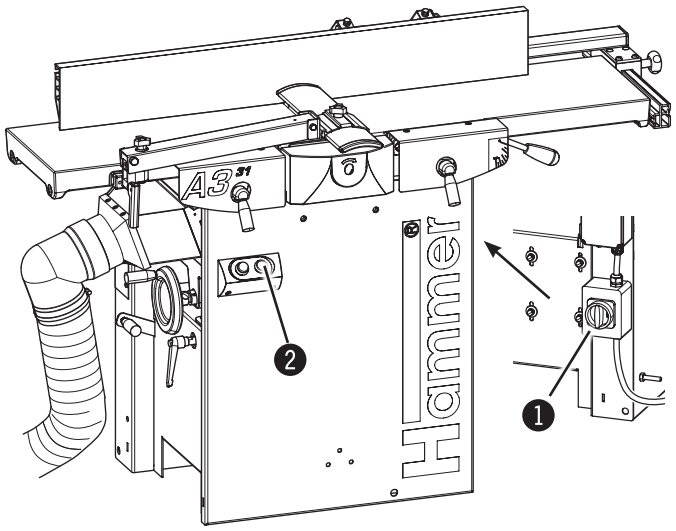


Fig. 9-1: Switching on the machine

1. Connect the machine to the main power supply.
2. If available: unlock the main switch and switch on (position "I").

3. **Only with alternating current:**
   - Press the green button on the control panel and hold it pressed down.
   - Release the push button once the machine has reached the maximum rotational speed.

   With a three-phase current motor
   - Press green push button on the control panel and release.

1 Main switch
2 Green push button - ON

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!

9.3 Switching off the machine / EMERGENCY-STOP

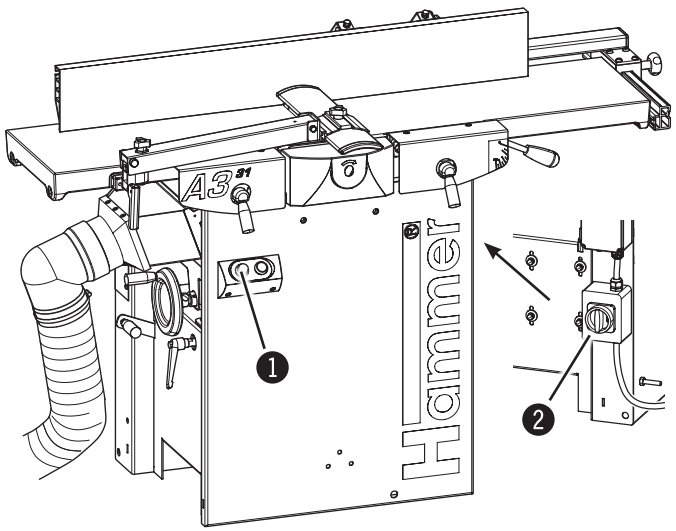


Fig. 9-2: Switching off the machine

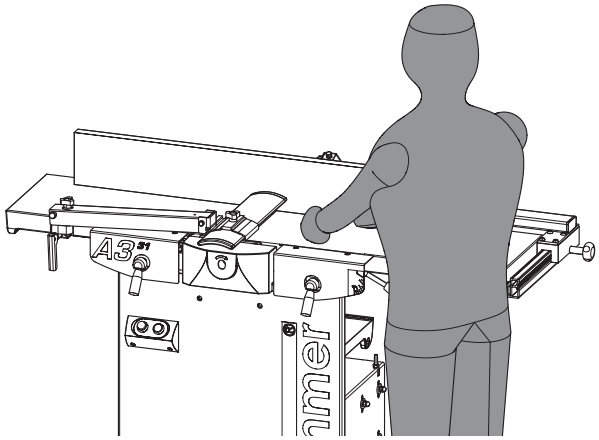
1. Push and release the red push button.
   The machine is stopped automatically.
2. If available: switch off the main switch (position "0") and secure.
3. Disconnect the machine from the main power supply.

1 Red push button - OFF
2 Main switch

9.4 Surface planing

Note: Surface planing evens irregular workpiece surfaces.
The workpieces are guided over the cutterblock and only their undersides are machined.
The direction of cutterblock rotation is opposite to the feed direction of the workpiece.

9.4.1 Working position



Take up the position as shown in the opposite picture when working with the machine

Fig. 9-3: Work place/work position

9.4.2 Workpiece dimensions

Length	under 250 mm:	only work with special devices (e.g.: wooden pushing stick)
	over 1500 mm	only work with table extensions or with a second person
Width	max. 260 mm / 310 mm / 410 mm (depending on the equipment)	
Thickness	min. 10 mm	

Attention! Risk of injury!
If a workpiece is smaller than 10 mm, it may split if the depth of cut is too large (4 mm).
The finished planed workpiece must not be thinner than 6 mm!

9.4.3 Authorised and prohibited work techniques

Only the following working techniques are permitted with the planer unit:

- Planing the wide side of a workpiece
- Jointing the narrow side of a workpiece
- Bevelling the narrow side of a workpiece
- Bevelling the edges of a workpiece

The following working techniques are absolutely forbidden with the planer unit:

- Down-cut planing (direction of cutterblock rotation is the same as feed direction)
- Insertion cuts (the workpiece is not worked over its entire length)
- Planing workpieces that are very warped
- Rabbet planing at the end of the cutterblock

9.4.4 Surface planing - Workpieces up to 75 mm thick

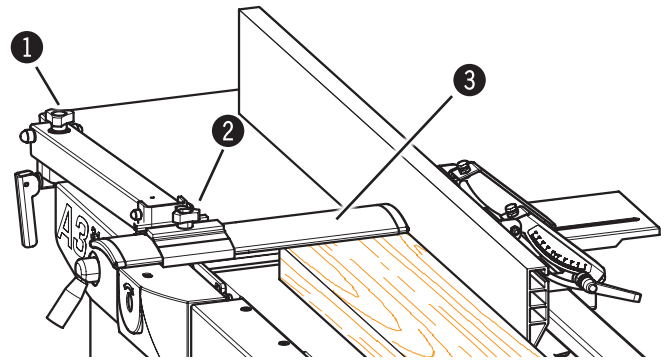


Fig. 9-4: Bridge guard

1. Setscrew
2. Clamping screw
3. Protective rail

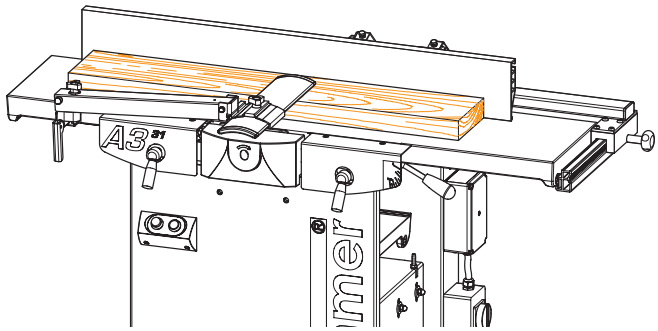


Fig. 9-5: Guiding the workpiece

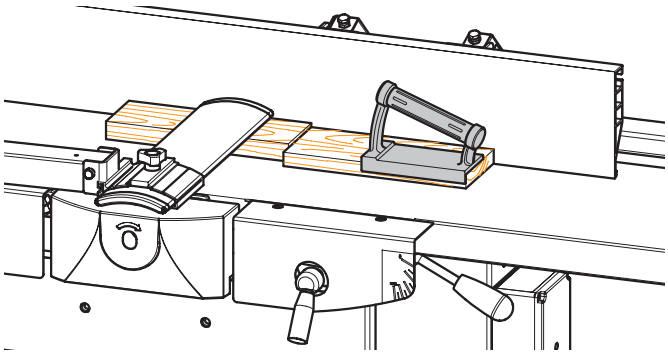


Fig. 9-6: Wooden push stick and push block

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Both planer tables must be shut and fixed with the clamping levers.
3. Set the gear lever to the "0" setting.
4. Extraction system must be connected
5. Planer fence: set at 90°.
6. Adjusting the depth of cut.
7. Adjust the joint, if necessary.

8. **Adjust the bridge guard:**
   - Use the setscrew to fix the guard rail approx. 2 mm over the workpiece.
   - Place the workpiece against the planer fence and push it slightly under the guard rail (not over the cutterblock!).
   - Loosen the clamping screw.
   - Move the guard rail right up to the planer fence.
   - Tighten the clamping screw.

9. Switch the machine on
10. Take up work position.

11. **Machining the workpiece:**
    - Lay your hands flat on the workpiece, ensuring that your fingers are balled into a fist and thumbs are pressed against the workpiece.
    - Push the workpiece straight over the feeder-side of the planer table.
    - Then let your hands glide one after the other over the bridge guard.
    - As soon as it is possible, use both hands to continuously push the workpiece on the receiver-side of the planer table.
    - The pushing stick must not be thicker than the workpiece after it is cut.

12. If you are not going to continue working, switch off the machine and secure it against being turned on again accidentally

Attention! Risk of injury!
When planing smaller workpieces, use a pushing stick or pushing block.

9.4.5 Surface planing - Workpieces over 75 mm thick

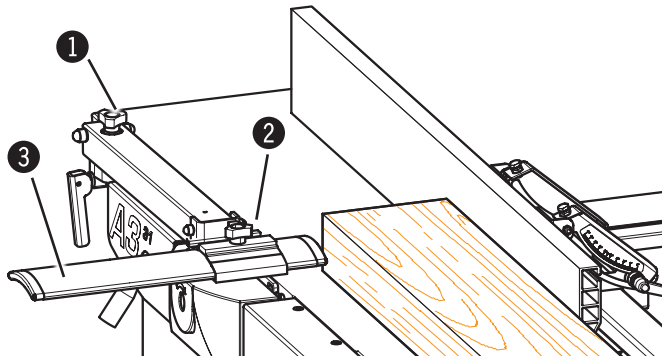


Fig. 9-7: Bridge guard

1. Setscrew
2. Clamping screw
3. Protective rail

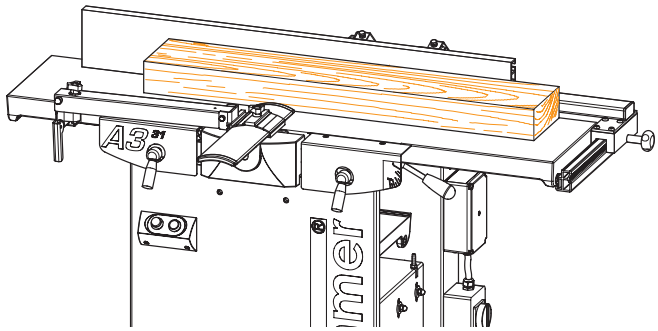


Fig. 9-8: Guiding the workpiece

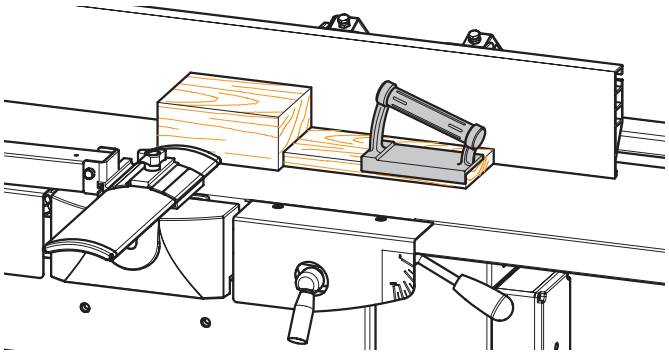


Fig. 9-9: Wooden push stick and push block

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Both planer tables must be shut and fixed with the clamping levers.
3. Set the gear lever to the "0" setting.
4. Extraction system must be connected
5. Planer fence: set at 90°.
6. Adjusting the depth of cut.
7. Adjust the joint, if necessary.

8. **Adjust the bridge guard**
   - Loosen the clamping screw.
   - Pull out the guard rail (slightly more than the workpiece width).
   - Place the workpiece against the planer fence and push it to the front edge of the feeder planer table (not over the cutterblock!).
   - Bring the guard rail right up to the workpiece
   - Tighten the clamping screw.
   - Use the setscrew to lower the guard rail to the planer table.

9. Switch the machine on
10. Take up work position.

11. **Machining the workpiece:**
    - Lay your hands flat on the workpiece, ensuring that your fingers are balled into a fist and thumbs are pressed against the workpiece.
    - Guide the workpiece straight along the fence over the feeder-side of the planer table.
    - As soon as it is possible, use both hands to continuously push the workpiece on the receiver-side of the planer table.
    - The pushing stick should not be thicker than the workpiece.

12. If you are not going to continue working, switch off the machine and secure it against being turned on again accidentally

Attention! Risk of injury!
When planing smaller workpieces, use a pushing stick or pushing block.

9.4.6 Jointing

Note: To obtain exact joints, use only evenly grown wood without any knots.

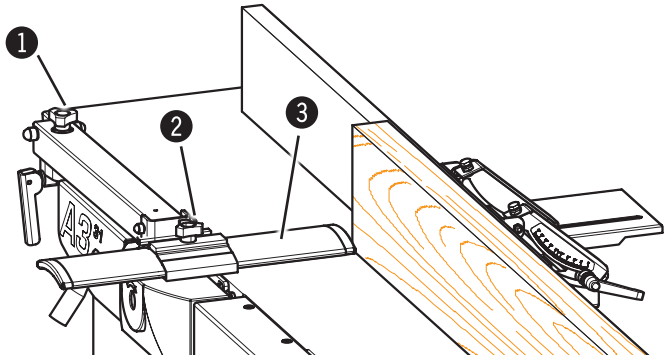


Fig. 9-10: Bridge guard

1. Setscrew
2. Clamping screw
3. Protective rail

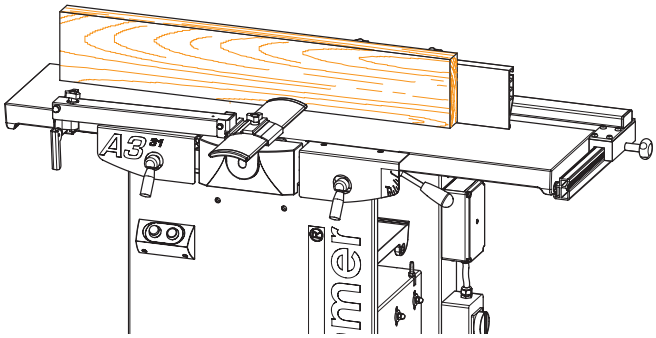


Fig. 9-11: Guiding a workpiece

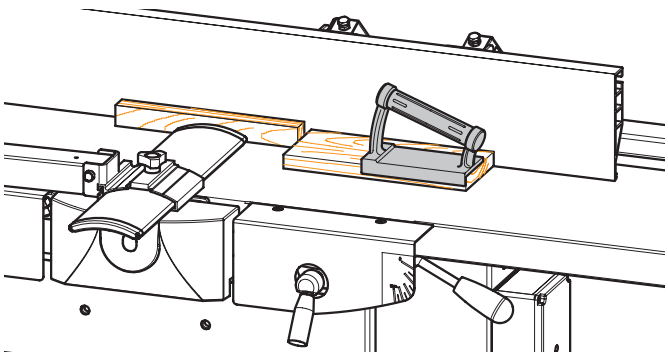


Fig. 9-12: Wooden push stick and push block

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Both planer tables must be shut and fixed with the clamping levers.
3. Set the gear lever to the "0" setting.
4. Extraction system must be connected
5. Planer fence: set at 90°.
6. Adjusting the depth of cut.
7. Adjust the joint, if necessary.

8. **Adjust the bridge guard**
   - Loosen the clamping screw.
   - Pull out the guard rail. (somewhat more than the width of the workpiece).
   - Place the workpiece against the planer fence and push it to the front edge of the feeder planer table (not over the cutterblock).
   - Bring the guard rail right up to the workpiece
   - Tighten the clamping screw.
   - Use the setscrew to lower the guard rail to the planer table.

9. Switch the machine on
10. Take up work position.

11. **Machining the workpiece:**
    - With your left hand (balled into a fist and the thumbs placed onto the workpiece), press the workpiece against the combination fence and the receiver-side of the planer table.
    - With your right hand (balled into a fist and the thumbs placed onto the workpiece), push the workpiece smoothly over the cutterblock
    - The pushing stick should not be thicker than the workpiece.

12. If you are not going to continue working, switch off the machine and secure it against being turned on again accidentally

Attention! Risk of injury!
When jointing smaller workpieces, use a pushing stick or pushing block.

9.4.7 Bevelling/Chamfering

Note: With this procedure, the edges of a workpiece can be bevelled or tapered to any desired angle (max. –45°).

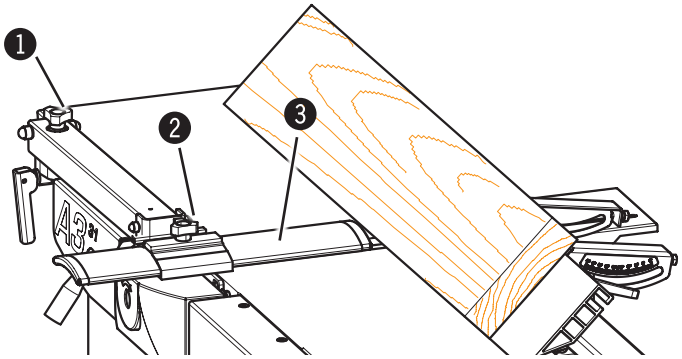


Fig. 9-13: Bridge guard

1. Setscrew
2. Clamping screw
3. Protective rail

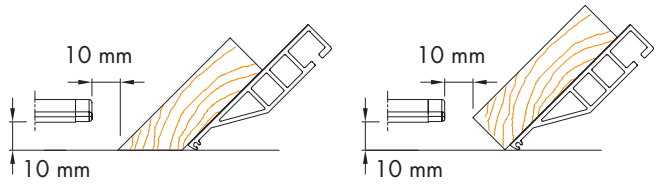


Fig. 9-14: Bridge guard

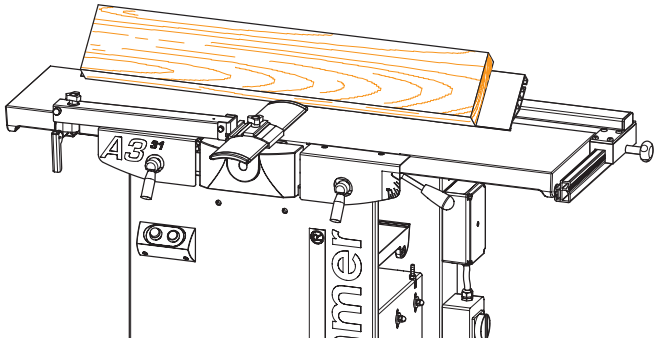


Fig. 9-15: Guiding a workpiece

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Both planer tables must be shut and fixed with the clamping levers.
3. Set the gear lever to the "0" setting.
4. Extraction system must be connected
5. Planer fence: Adjusting the angle
6. Adjusting the depth of cut.
7. Adjust the joint, if necessary.

8. **Adjust the bridge guard:**
   - Loosen the clamping screw.
   - Pull out the guard rail.
     (somewhat more than the width of the workpiece).
   - Place the workpiece against the planer fence and push it to the front edge of the feeder planer table (not over the cutterblock).
   - Bring the guard rail up to 10 mm of the workpiece.
   - Tighten the clamping screw.
   - Use the setscrew to fix the guard rail 10 mm over the planer tables.

9. Switch the machine on
10. Take up work position.

11. **Machining the workpiece:**
    - To avoid the workpiece sliding down the inclined surface, using the left hand, press the workpiece mainly against the planer fence and only slightly against the feeder side of the planer table.
    - With your right hand (balled into a fist and the thumbs placed onto the workpiece), push the workpiece smoothly over the cutterblock

12. If you are not going to continue working, switch off the machine and secure it against being turned on again accidentally

9.4.8 Tapering/beveling small workpieces

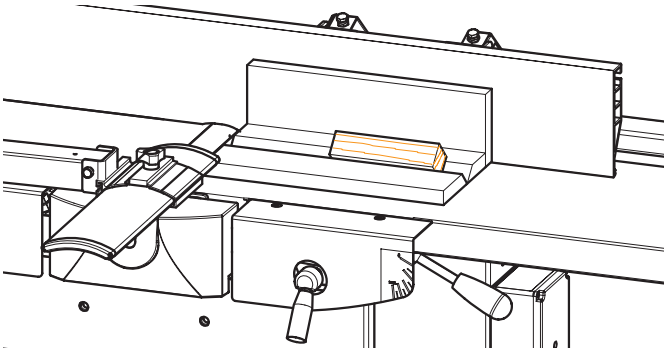


Fig. 9-16: Jig

See Chapter:
>9.4.7 Bevelling/Tapering<

- When bevelling or tapering small, narrow workpieces, always use a special power feeder.
- The power feeder is mounted onto the planer fence.
- Set the bridge guard all the way down and let the protective bridge rest against the power feeder.

Attention! Risk of injury!
When bevelling or tapering small, narrow workpieces, always use a special power feeder.

9.5 Thickness planing

Note: Workpieces that already have a planed surface can be made thinner by being thicknessed. The workpieces are guided through the planer. The workpiece lies with its planed surface on the thicknessing table, and only the upper side is machined.

9.5.1 Workpiece dimensions

Width	max. 206 mm / 306 mm / 406 mm (depending on the equipment)
Thickness	min. 4 mm / max. 250 mm

9.5.2 Authorised and prohibited work techniques

Only the following working technique is permitted on the thicknessing unit:
- A maximum of 2 workpieces can be thickness-planed simultaneously.

It is absolutely forbidden to perform the following working technique on the thicknessing unit:
- Thicknessing several workpieces of varying thicknesses

Attention! Risk of material damage!
When working on 2 workpieces simultaneously, their thickness may not differ by more than 1 mm.

9.5.3 Work place/work position

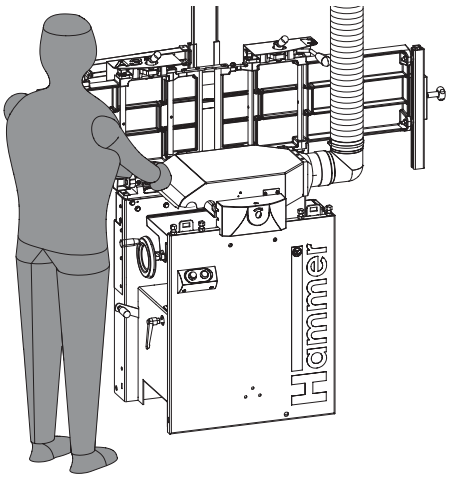


Fig. 9-17: Working position

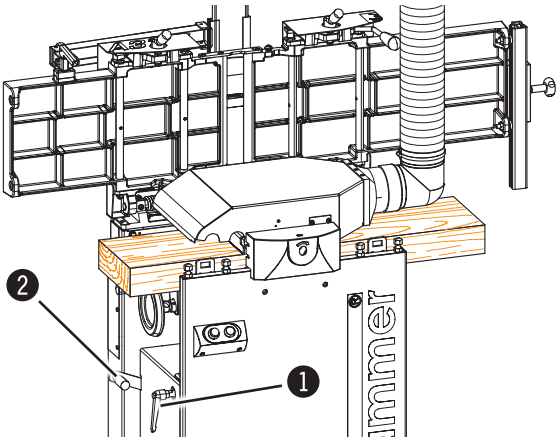


Fig. 9-18: Working a single workpiece

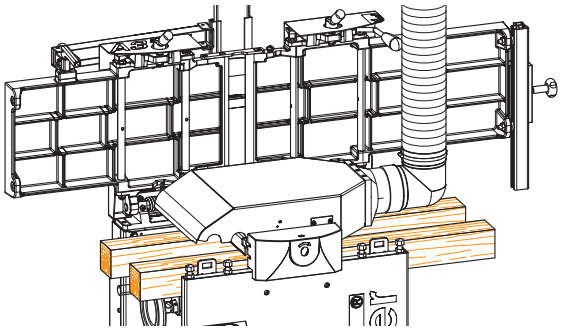


Fig. 9-19: Working two workpieces

When working, adopt the working position displayed in the diagram opposite.

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. If required, retool from surface planing to thickness planing.
3. Extraction system must be connected.
4. Every time the machine is put into operation, test the kickback guards to ensure that they are functioning properly.
5. Adjust the thicknessing height.
   Use the system handwheel to set the desired measurement.
   Clamp the clamping lever.

6. Switch machine on
7. Lift and then release the gear lever
8. Take up work position.

9. **Machining the workpiece:**
   - Push the workpiece into the machine until it is pulled in by the feed rollers.
   - When the workpiece exits on the other side, support it so it does not tip down.

10. If you are not going to continue working, switch off the machine and secure it against being turned on again accidentally
11. Set the gear lever to the “0” setting.

❶ Clamping lever
❷ Gear lever

Note: For easy handling, use the table extensions (See Assembly instructions „Table extension“).

Note: A maximum of 2 workpieces may be worked simultaneously. The thickness of the workpieces may not differ by more than 1 mm. The workpieces must each be inserted at the end of the feed roller.

9.6 Drilling

Note: A workpiece lying on the mortising table is held in place by an eccentric clamp and can only be machined on the front side.

Attention! Risk of injury!
The drill bit can bore all the way through the workpiece. Do not place your hand on the workpiece in the vicinity of the bore.

9.6.1 Work place/work position

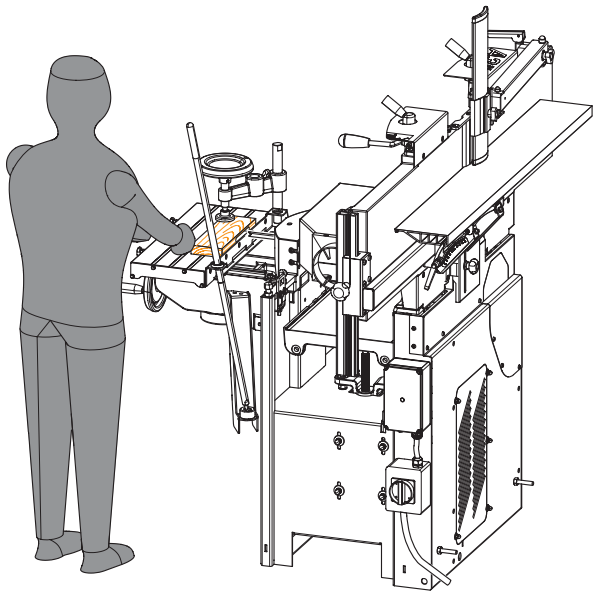


Fig. 9-20: Work place/work position

When working, adopt the working position displayed in the diagram opposite.

Use only original Hammer mortising tools (See Accessory catalogue) Only the following left-hand cutting tools are authorised:

Dowel bit	Ø 4–6 mm
Router bit	Ø 4–6 mm
Forstner drill	Ø 15–35 mm
Plug cutters	Ø 10–35 mm

9.6.2 Workpiece dimensions

Length	max. 1500 mm
Width	max. 200 mm
Thickness	max. 100 mm

9.6.3 Authorised and prohibited work techniques

Only the following working techniques are permitted on the drilling unit:
- Drilling holes with or without a depth stop
- Removing knots
- Creating dowel holes
- Producing slots and deep holes

It is absolutely forbidden to perform the following working techniques on the drilling unit:
- Using abrasive wheels of any kind
- Moulding with moulding tools

9.6.4 Drilling with/without a depth fence

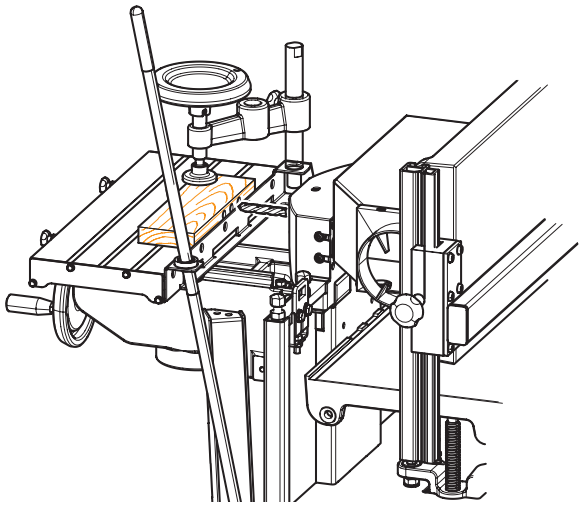


Fig. 9-21: Drilling a hole

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Retooling to a drilling operation.
3. Set the gear lever to the "0" setting.
4. Extraction system must be connected.
5. Clamp the drilling tool.
6. Lay the workpiece against the workpiece stop edge and clamp.
7. Set the desired drilling depth with the depth stop if required.
8. Switch machine on
9. Take up work position.
10. In addition, support the workpiece with your left hand and drill a hole.
11. If you are not going to continue working, switch off the machine and secure it against being turned on again accidentally

9.6.5 Mortising

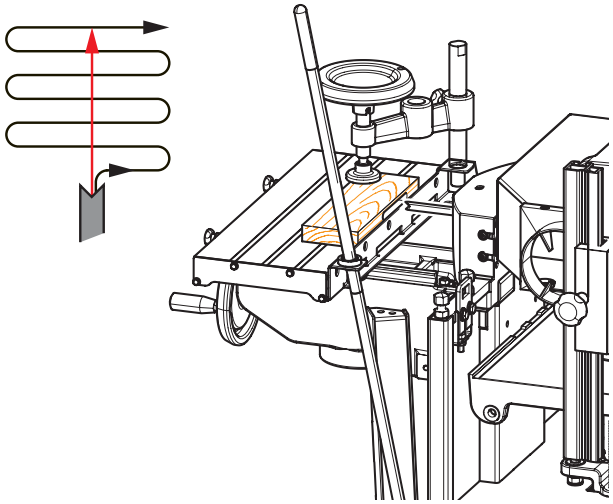


Fig. 9-22: Mortising

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Retooling to a drilling operation.
3. Set the gear lever to the "0" setting.
4. Extraction system must be connected.
5. Clamp the drilling tool.
6. Lay the workpiece against the workpiece stop edge and clamp.
7. Set the desired mortise limit with the longitudinal stops.
8. Switch machine on
9. Take up work position.
10. In addition, hold the workpiece with the left hand.
    - Using the mortising tool, dip a few millimeters into the workpiece and trace the limited path.
    - After that, insert the mortise several millimetres into the workpiece and drive it through the limited path.
    - Repeat this process until the depth of the mortise is achieved.
11. If you are not going to continue working, switch off the machine and secure it against being turned on again accidentally

10 Service

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 how to operate 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 switched on again.
- 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 there is sufficient space to work around the machine.
- Following the maintenance work, reinstall 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
	Planer fence	Remove dust and shavings
	Dust extractor	Check for defects
	Kickback guards	Check if functioning, if necessary remove any resin residue
Monthly or: approx. Every 40 operating hours	Dust extractor	Check efficiency
	Drive belt	Check, if necessary: readjust the tension or replace
	Feed rollers	Remove any resin residue
	Height spindle (Thicknesser table)	Control and lubrication (if required)
	Height spindle (Mortising table)	Control and lubrication (if required)
	Guides (Mortising table)	Clean
every 6 months	Chain (Gearbox)	Check and lubricate if necessary
	Friction wheel (Gearbox)	Check and exchange if necessary
Poorly planed surface	System planer knives Silent-POWER® cutterblock	Check and if necessary reverse or replace
	Standard planer knives	Check and if necessary, sharpen or replace

Note: Cleaning and care products are available as accessories.
(See Tools and Accessories catalogue)

10.3 Maintenance work

10.3.1 Checking/cleaning the kickback guards

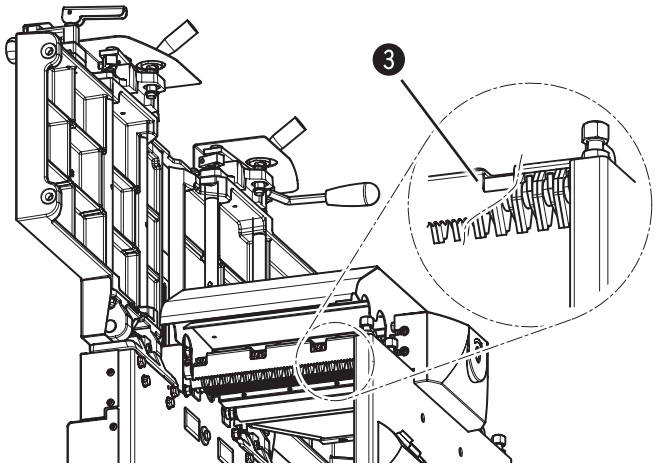


Fig. 10-1: Kickback guards

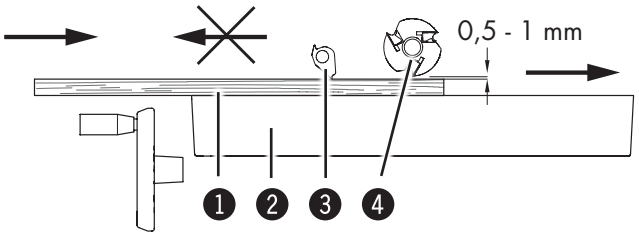


Fig. 10-2: Testing the kickback guards

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Check if functioning: the kickback guards must fall back after having been lifted
3. Check if functioning:
   - Push a planed board into the machine.
   - Adjust the height of the thicknessing table so that there is 0.5 to 1 mm gap between the board and the cutterblock's circle of cut.
   - It should not be possible to pull the board out of the machine.
   - Push the board out of the machine.
4. Remove any resin residue:
   Resin remover Art. No. 10.0.022 (0,5 l) / 10.0.023 (3,0 l)

❶ Planed board
❷ Thicknesser table
❸ Kickback guards
❹ Cutterblock

Note: Should the kickback guards not function properly even after having been cleaned, please contact the Hammer Service department.

10.3.2 Cleaning the feed rollers

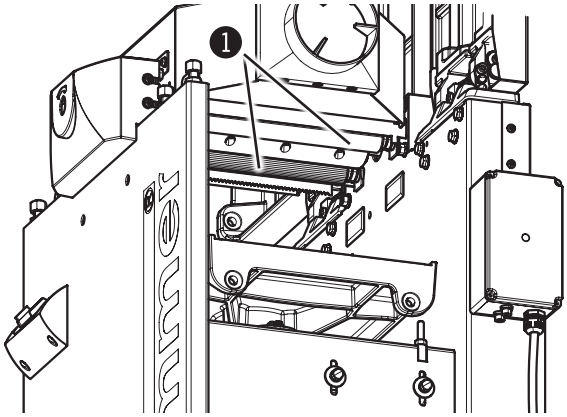


Fig. 10-3: Cleaning the feed rollers

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Remove any resin residue on the feed rollers:
   Resin remover Art. No. 10.0.022 (0,5 l) / 10.0.023 (3,0 l)

❶ Feed rollers

10.3.3 Greasing the height spindle (thicknesser planing table)

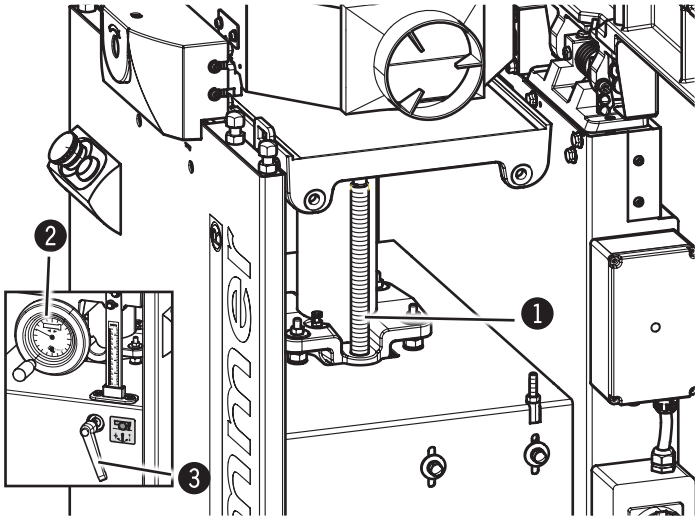


Fig. 10-4: Lubricating the height spindle

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Loosen the clamping lever.
3. Use the system handwheel to move the thicknessing table all the way up.
4. Clean the spindles and lubricate with regular machine grease.
5. Use the system handwheel to move the thicknessing table all the way down and then all the way back up again.
6. Clamp the clamping lever.

1. Thicknesser table height spindle
2. System handwheel
3. Single-hand clamping lever

10.3.4 Retensioning the drive belt

Over time, the drive belt will lose its capacity to transmit power. At this point, the drive belt must be re-tensioned or replaced.

The drive belt must be inspected monthly; if tears are discovered, the drive belt must be replaced.

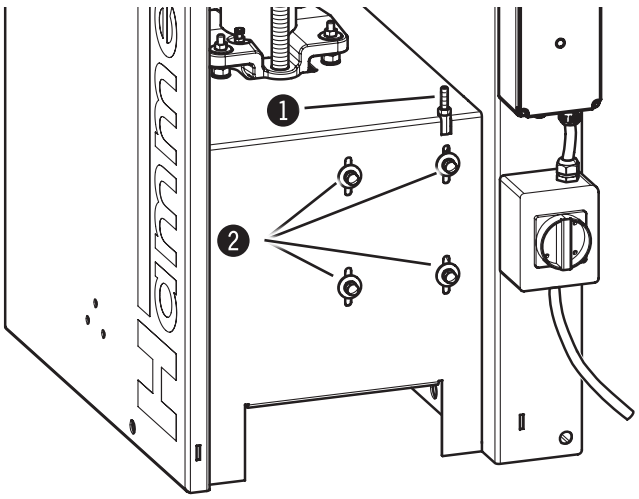


Fig. 10-5: Retensioning the drive belt

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Set the gear lever to the “0” setting.
3. Loosen the nuts.
4. Use the belt tensioning screw to tension the drive belt.
5. Tighten the nuts.

1. Tightening screw
2. Nuts

Attention! Risk of material damage!
Do not over-tension the drive belt! Stop turning the belt-tensioning screw once the drive belt is tensioned sufficiently, enabling it to transmit power effectively.

10.3.5 Replacing the drive belt

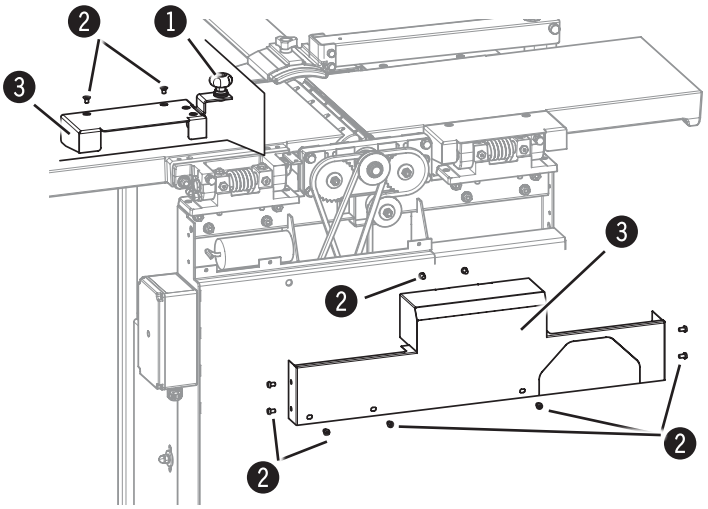


Fig. 10-6: Replacing the drive belt

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Set the gear lever to the "0" setting
   Remove the thumb nut
   Dismantle the planer fence
3. Loosen the screw and take off the covering lid.

1 Thumb nut
2 Screws
3 Cover

Replacing the drive belt:
Also see:
10.3.4 Retensioning the drive belt

4. Loosen the nuts.
5. Remove the old drive belt

6. Hook the new drive belt into place:
   - First hook the belt onto the drive motor (if necessary, open the gearbox cover
   - Pull up the drive motor with the drive belt
   - Hook the drive belt onto the cutterblock
7. Use the belt tensioning screw to tension the drive belt..
8. Tighten the nuts.
9. Fit and screw the covering lid back on.

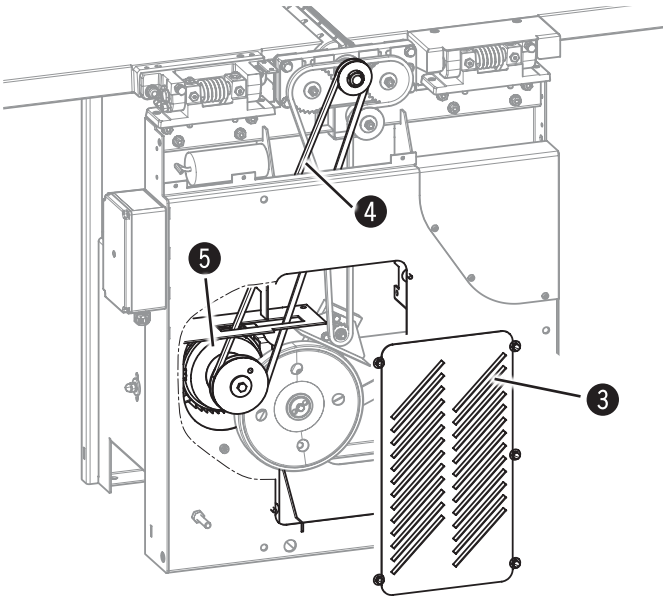


Fig. 10-7: Retensioning the drive belt

3 Gearbox cover
4 Drive belt
5 Drive motor

Attention! Risk of material damage!
Do not over-tension the drive belt! Stop turning the belt-tensioning screw once the drive belt is tensioned sufficiently, enabling it to transmit power effectively.

10.3.6 Checking/greasing the chain (transmission)

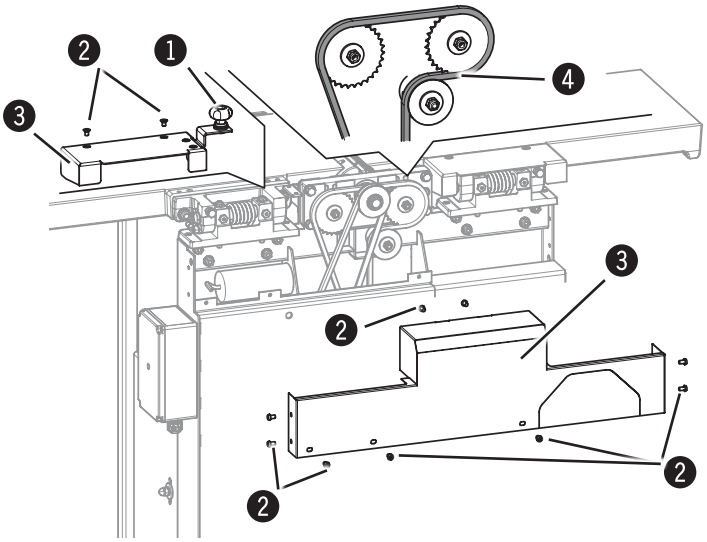


Fig. 10-8: Checking/greasing the chain (transmission)

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Set the gear lever to the "0" setting
   Remove the thumb nut
   Dismantle the planer fence
3. Loosen the screw and take off the covering lid.
4. Check the chain and lubricate with regular machine grease if necessary.
5. Fit and screw the covering lid back on.

1. Thumb nut
2. Screws
3. Cover
4. Chain

10.3.7 Checking/changing the friction wheel (transmission)

Note: The friction wheel is subject to wear.
Should the examination reveal a heavily damaged or worn surface, then the friction wheel must be replaced.

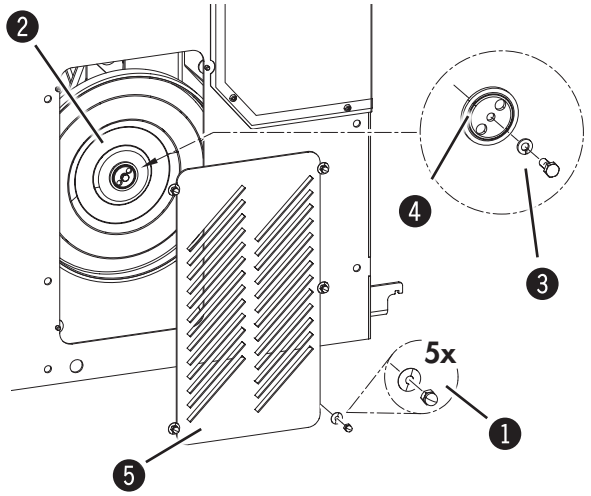


Fig. 10-9: Friction wheel: check/replace

1. Switch the machine off and ensure that it cannot be switched on again
2. Set the gear lever to the "0" setting.
3. Loosen and remove the hex nuts.
   Take off the covering lid.
4. Unscrew the screw and remove the spring washer.
5. Remove the thrust plate.
6. Replace the friction wheel.
7. Place the thrust plate back on.
8. Screw the spring washer on.
9. Reassemble the cover..

1. Nuts / Disk spring
2. Friction wheel
3. Screw / Lock washer
4. Pressure disk
5. Gearbox cover

10.3.8 Greasing the height spindle (drilling support)

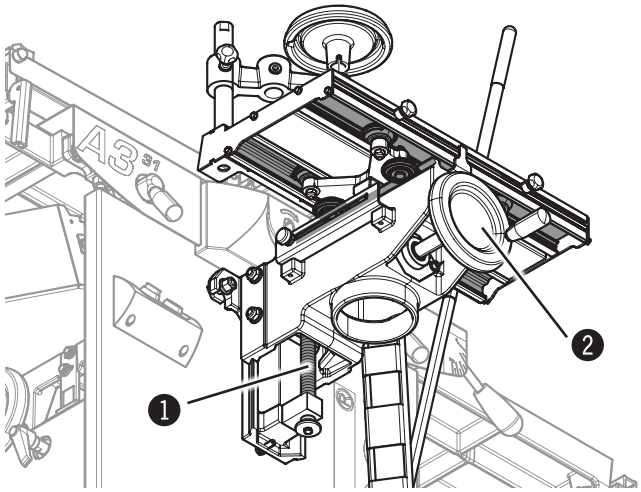


Fig. 10-10: Lubricating the height spindle

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Wipe away old grease residues and remove dust from the spindle.
3. Lubricate the spindle with regular machine grease.
4. Use the system handwheel to move the drilling table all the way up and down.

1 Spindle
2 System handwheel

10.3.9 Cleaning the guides (drilling support)

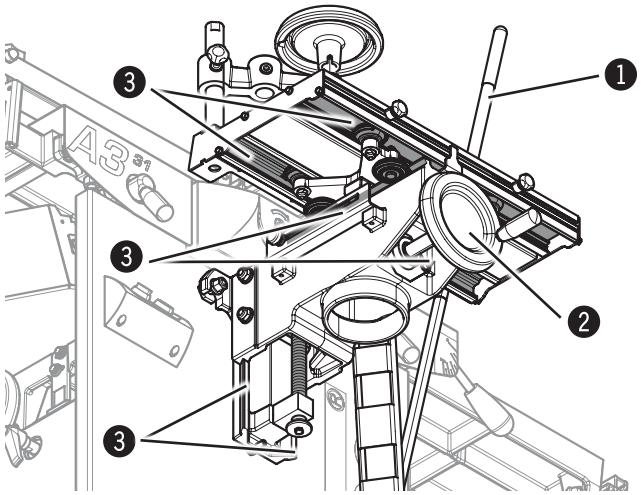


Fig. 10-11: Cleaning the guides

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Use the system handwheel to move the drilling table into the uppermost position
3. Use the one-hand lever to move the mortising table into the front-most position on the left side
4. Clean the guides with a soft cloth.
   on the reverse side, too
5. Use the one-hand lever to move the mortising table into the hindmost position on the right side
6. Clean the guides with a soft cloth

1 Single-hand lever
2 System handwheel
3 Guides

! **Attention! Do not grease or oil the guides!**

11 Faults

11.1 Safety instructions

Warning! Risk of injury! Repairing faults incorrectly can result in personal injury or damage to the machine. For this reason, this work may only be carried out by authorised, trained personnel who are familiar with how to operate 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

In most cases:

1. In the event of problems which may present a danger to people, objects or operational safety, stop the machine immediately using the red OFF button.
2. Also disconnect the machine from the mains and ensure it can not be switched on again.
3. Inform those responsible for machine faults immediately.
4. 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!
Repairing faults incorrectly can result in personal injury or damage to the machine.

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 within the danger area of the machine.

11.4 Faults, causes and repairs

Fault	Cause	Repair
Machine does not start	Main switch at setting „0“	Check switch position
	Planer tables and/or vacuum hood incorrectly positioned (Safety break switch is not activated)	Close planer tables properly and position the vacuum hood correctly
Squeaking noises when starting up	Insufficient tension (Drive belt)	Retensioning the drive belt
The joint is not true (extremely splayed or open joint)	Receiver-side of the planer table is misaligned	Adjusting the height of the receiver side of the planer table Replace the planer knives*1)
	Planer knives are worn out	Replace the planer knives*1)
When surface planing, workpiece stops at the receiver-side of the planer table	Receiver-side of the planer table is too high in relation to the circle of cut	Adjusting the height of the receiver side of the planer table Replace the planer knives*1)
„Straight cut“ at the end of the workpiece when surface planing	Receiver-side of the planer table is too low in relation to the circle of cut	Adjusting the height of the receiver side of the planer table Replace the planer knives*1)
The planer fence angle is not correct	Angle setting misadjusted	Correcting the angle of the planing fence
Unsatisfactory planing result	FELDER system planer knives Silent-POWER® cutterblock	Check and if necessary reverse or replace
	Standard planer knives	Check and if necessary, sharpen or replace
„Straight cut“ at the beginning of the workpiece when thickness planing	Insufficient spring pressure on the feeder-side (corrugated) feed roller	Adjusting the feed rollers*2)
„Straight cut“ at the end of the workpiece when thickness planing	Insufficient spring pressure on the extraction-side (smooth) feed roller	Adjusting the feed rollers*2)
„Oblique cut“ at the beginning of the workpiece when thickness planing	Insufficient spring pressure on one side of the feeder-side (corrugated) feed roller	Adjusting the feed rollers*2)
„Oblique cut“ at the end of the workpiece when thickness planing	Outfeed roller (smooth) spring pressure too low on one side	Adjusting the feed rollers*2)

*1) System planer knives / Silent-POWER® cutterblock Reverse or replace
Standard planer knives Sharpen or replace
Adjusting the height of the receiver side of the planer table

*2) Contact service technician

11.5 Resharpen or replace the planer knife

Note: Receiver-side of the planer table is misaligned > Check the adjustment with a gauge
It may be necessary to readjust the joint if the planer knives have been changed or replaced.
See chapter entitled >8.3 Adjusting the height of the receiver side of the planer table<

Note:
Only use original Hammer planer knives!

System planer knives	260	310	410
Cobalt HS – 3 Units	500-07-011	500-07-002	500-07-005
Chrome steel (SS) – 3 Units	500-07-010	500-07-001	500-07-004

Standard planer knives	260	310	410
Cobalt HS – 1 Units	500-07-006	500-07-007	500-07-008
Tungsten carbide (HW) – 1 Units	07.4.226	07.4.231	07.4.241

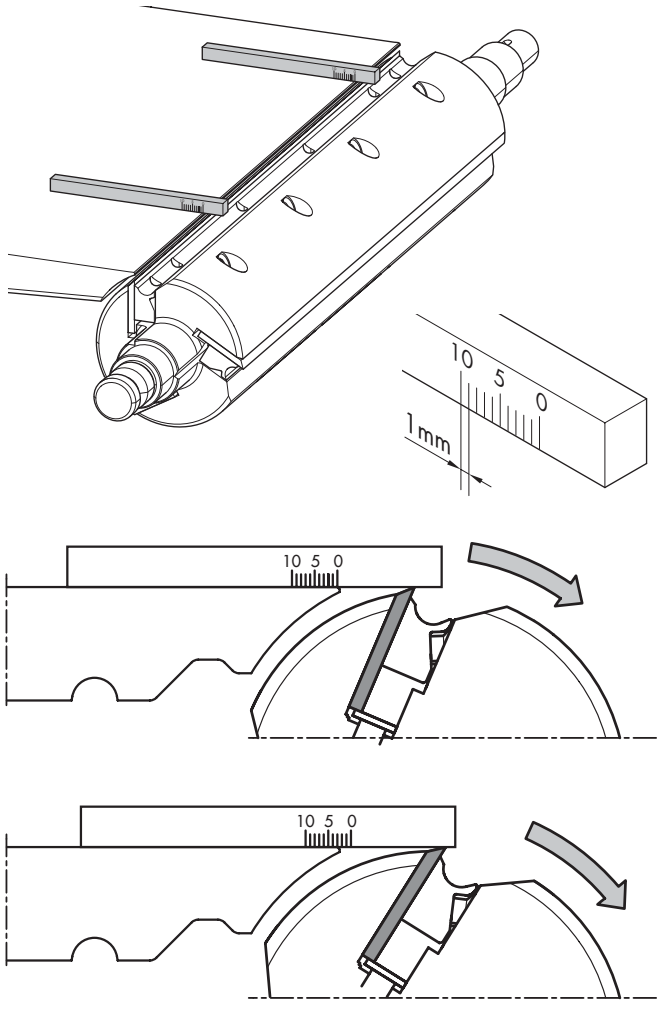


Fig. 11-1: Planer knives check

In the event of poor planing results, turn the planer knives (system knives), sharpened (re-usable knives) or replace.

Check the planer knives:

1. Prepare two gauges according to the illustration opposite.
2. Set the gauges at "0" on the outfeed side of the planer table edge on the left and right ends of the cutterblock.
3. Turn the cutterblock manually.
4. The planer knife should move the gauges 2 to 3 mm (Manufacturer's settings).
5. Should the setting not be correct:
   Receiver-side of the planer table is misaligned

   Check the adjustment with a gauge:
   It may be necessary to readjust the joint if the planer knives have been changed or replaced.
   See chapter entitled >8.3 Adjusting the height of the receiver side of the planer table<

11.5.1 Reversing/replacing the system planer blades

Attention! Risk of injury!
The planer knives are razor sharp. Handle the planer knives with the utmost care. Especially when turning the cutterblock by hand.

Attention!
Execute the following instructions exactly!
Always tighten the knife holder screws from the inside to the outside.

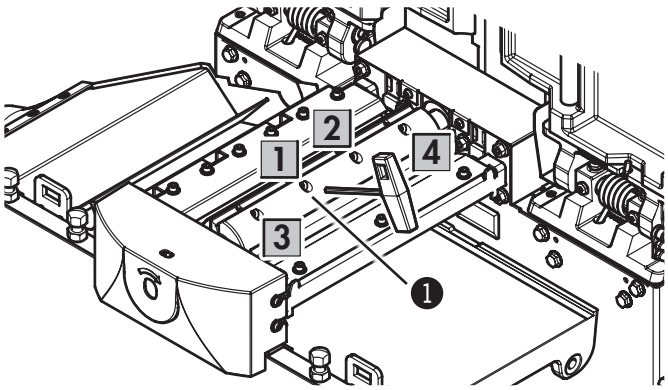


Fig. 11-2: Reversing/replacing the system planer blades

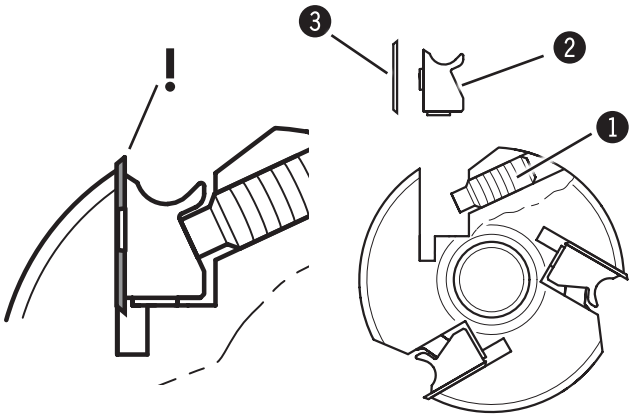


Fig. 11-3: Assembling position

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Both planer tables must be tilted up and secured with the fall locks.
3. Remove all the blade-holder screws from one planer knife.
4. Remove the knife holder and planer knife.
5. Clean resin residues thoroughly from the planer knife, knife base and cutterblock. Use resin remover art. no. 10.0.022 (0,5 l spray bottle) or 10.0.023 (3,0 l).
6. Reverse the planer knife (if only one cutting edge ' is worn)
7. Insert the planer knife (reversed or new) and the knife holder again.
8. First, gently tighten all the blade-holder screws.
9. Tighten all the knife holder screws (minimum torque 15 Nm).
10. Repeat steps 3 to 9 for the other planer knives.

1 Blade-holder screws
2 Blade holder
3 Planer knives

Attention! Risk of material damage!
Do not clean with compressed air! Ensure that the planer knife is positioned correctly!

Note: Receiver-side of the planer table is misaligned > Check the adjustment with a gauge
It may be necessary to readjust the joint if the planer knives have been changed or replaced.
See chapter entitled >8.3 Adjusting the height of the receiver side of the planer table<

11.5.2 Sharpening/changing the standard planer knives

Attention! Risk of injury!
The planer knives are razor sharp. Handle the planer knives with the utmost care. Especially when turning the cutterblock by hand.

Attention!
Execute the following instructions exactly!
Always tighten the knife holder screws from the inside to the outside.

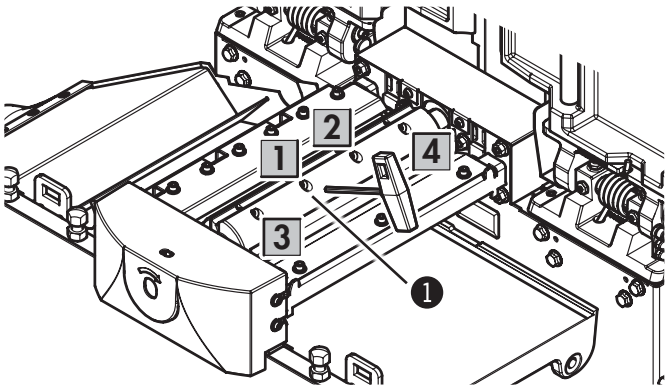


Fig. 11-4: Sharpening/changing the standard planer knives

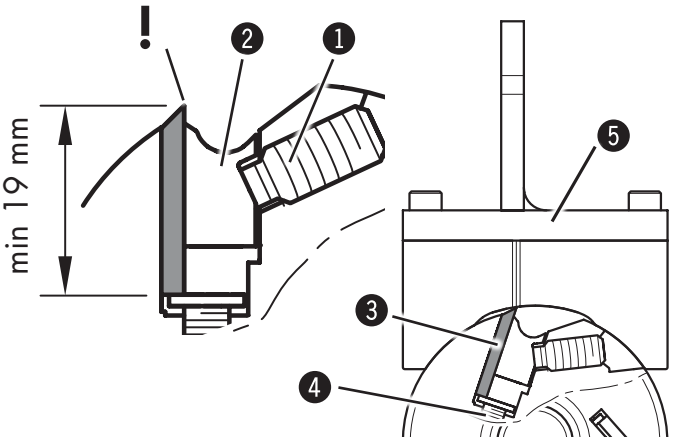


Fig. 11-5: Assembling position

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Both planer tables must be tilted up and secured with the fall locks.
3. Remove all the blade-holder screws from one planer knife.
4. Remove the knife holder and planer knife.
5. Clean resin residues thoroughly from the planer knife, knife base and cutterblock. Use resin remover art. no. 10.0.022 (0,5 l spray bottle) or 10.0.023 (3,0 l).
6. Resharpen or replace the planer knife
7. Insert the planer knife and knife holder again. First, gently tighten all the blade-holder screws.
8. Place the adjustment device onto the cutterblock so that the planer knife points towards the marking. The planer knives are pushed towards the top by the adjustment springs.
9. Tighten all the knife holder screws (minimum torque 15 Nm).
10. Repeat steps 3 to 9 for the other planer knives.

1. Blade-holder screws
2. Blade holder
3. Planer knives
4. Adjustment spring
5. Adjustment device
6. Marking

Attention! Risk of material damage!
Do not clean with compressed air! Ensure that the planer knife is positioned correctly!

Note: Receiver-side of the planer table is misaligned > Check the adjustment with a gauge
It may be necessary to readjust the joint if the planer knives have been changed or replaced.
See chapter entitled >8.3 Adjusting the height of the receiver side of the planer table<

11.6 Cutterblock - Silent-POWER®

Attention! Risk of material damage!
To obtain perfect working results it is necessary to strictly observe the manual guidelines and maintenance instructions!

Attention! Risk of material damage!
Since the carbide inserts have a special geometry, only original FELDER-GROUP carbide inserts can be used.
Due to safety reasons only use genuine FELDER GROUP clamping screws for carbide inserts.

Note:
The Silent-POWER® cutterblock is a high precision tool for woodworking.
This cutterblock was designed in conformity with the standard EN 847-1.
BG Test certified - Inspection n°: 139-063
US Pat. No. 7,708,038 and other patents pending

11.6.1 Safety instructions

- Only change the carbide inserts if the main switch of the machine is on off.
- Only use genuine FELDER GROUP carbide inserts. Only use genuine FELDER GROUP clamping screws. (see: Spare parts list)
- Only use the cutterblock with the appropriate safety equipment. This applies particularly to the planer guard.
- The tightening torque of the clamping screws has to be in the specified torque range and should neither be below nor exceed this range. It is strongly recommended to use a torque wrench. Check the correct setting of the torque wrench before each use. (see: Spare parts list)
- The use of a motorized or pneumatically powered screwdriver to screw the inserts is not allowed!
- Check whether ALL screws are tightened correctly before switching on the machine.
- The operation of the Silent-POWER® cutterblock is only allowed if ALL pockets are equipped with carbide inserts.
- Check the carbide inserts and clamping screws for damages with each change. If any damage occurs, it is strictly forbidden to use the carbide inserts or clamping screws.
- Check the threads of the pockets for damage and ease of glide with each change. The machine may not be switched on if the threads do not glide easily or the required torque is not achieved.
- Ensure that the carbide inserts are aligned correctly and are placed into the pocket at the correct angle prior to tightening the clamping screw.
- Examine the pockets of the cutterblock for damages when changing the carbide inserts.
- If there are any damages of the pockets recognisable, the machine must not be switched on. Damaged pockets may lead to the carbide inserts breaking!
- It is not authorised to use spanner-extensions to tighten the carbide insert clamping screws. It is not authorised to tighten the insert clamping screws using a hammer for beating.

11.6.2 Instructions for use and maintenance

Attention! Risk of material damage!
Only use suitable solvents (resin remover) to clean the cutterblock, which do not affect the mechanical properties of the cutterblock material.

1. Every carbide insert is equipped with 4 cutting edges which are marked with F/1/2/3.
   When mounting the carbide inserts always ensure that the blades are used with the same label.
2. No further adjustments are required. Make sure that the carbide inserts are positioned in the pocket properly and screwed in tightly.

11.6.3 Changing/replacing inserts

Attention! Risk of material damage!
In order to achieve optimal results, the cutter exchange must be in compliance with the following procedure.

Warning! Risk of injury! / Risk of material damage!
If a torque wrench is not used to fix the carbide inserts, it could lead to a damaged finish of the surface or become a safety risk!

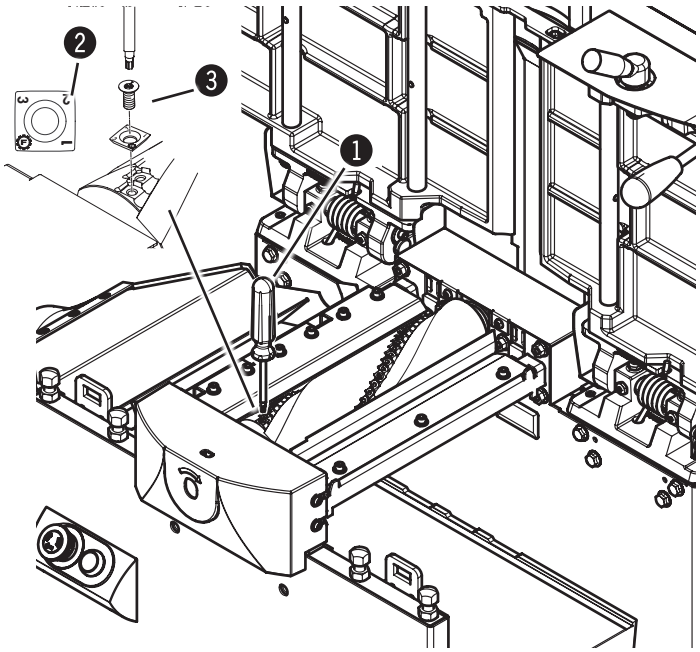


Fig. 11-6: Cutterblock - Silent-POWER®

1. Torque wrenches 5 Nm
2. Carbide inserts
3. Fastening screw

1. Loosen the clamping screw and remove from the thread.
2. Remove carbide insert from the pocket and clean the pocket with compressed air.
3. Clean pocket with suitable cleaning agent (resin remover). It is recommended to use a small cleaning brush (toothbrush) or a cotton swab.
4. Clean carbide insert thoroughly with a suitable cleaning agent eg. resin remover (take care of the built-up cutting edge, remove any resin residues).
5. Place the carbide insert into the pocket.
6. Check the clamping screws for damages on the thread, clamping surface and tool holder (Torx T20) and clean them (replace broken screws immediately).
7. Screw the clamping screw without moving the carbide insert.
8. Tighten the clamping screw gently at first, then tighten it with a torque wrench with a torque of 5 Nm.

11.6.4 Possible application errors and solutions

Improper operation may cause increased ripples or stronger longitudinal grooves on the planed surface. These may be caused by the following:

1. Improper cleaning of the pockets when changing cutters/inserts.

2. Improper cleaning of the carbide inserts (resin- or dust residues on the carbide inserts when changing them).

3. Ensure that the carbide inserts are aligned correctly and are placed into the pocket at the correct angle prior to tightening the clamping screw.

4. Under or over-tightened clamping screws.

5. Damaged pocket due to improper insertion and tightening of the carbide insert.

6. Damaged clamping screw.

7. Changing one single carbide insert. All carbide inserts should be changed or turned to the next mark simultaneously.

8. Changing or turning just only one of the carbide inserts because of damage may create a small gap in the planed surface at this position.

11.6.5 Spare parts

Since the carbide inserts have a special geometry, only original FELDER-GROUP carbide inserts can be used. Due to safety reasons only use genuine FELDER GROUP clamping screws for carbide inserts.

Article number	Description
07.0.020	HW replacement blades for Silent-POWER® spiral knife cutterblock 13.8x13.8x2.5 mm, (10 Quantity)
07.0.02050	50 Quantity HW replacement blades for Silent-POWER® spiral knife cutterblock 13.8x13.8x2.5 mm, (5x10 Quantity)
07.0.021	Replacement screws for Silent-POWER® spiral knife cutterblock M5x10 TX20, (10 Quantity)
12.0.324	Torque wrenches 5 Nm
10.0.022	Resin Remover 500 mL

11.7 Correcting the angle of the planing fence

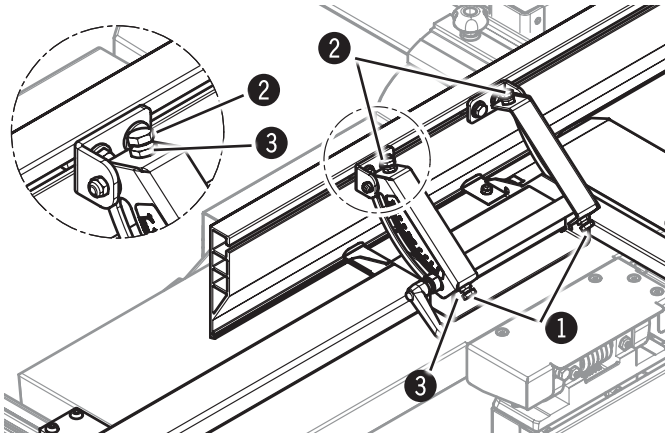


Fig. 11-7: Correcting the angle of the combination fence

1. Before beginning any maintenance work on the machine, switch it off and secure it against accidentally being switched on again.
2. Loosen the clamping lever.
3. Loosen the lock nuts.
4. Position a sample workpiece or right angle against the combination fence
5. adjust the fence screws
6. Tighten the lock nuts.
7. Test the adjustment and if required, readjust.

1 fence screws - 90°
2 fence screws - 45°
3 Lock nut

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