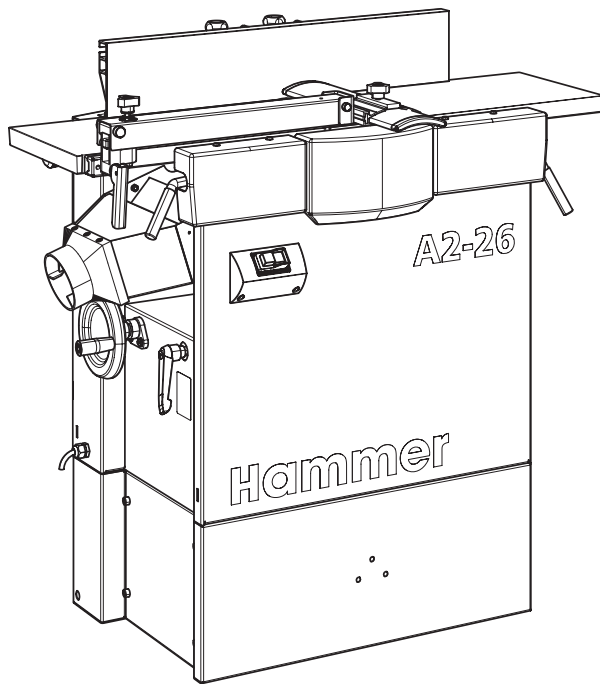


# Hammer<sup>®</sup>

## A2-26

Planer thicknesser



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**Keep this manual to hand and in good condition for future reference!  
Please read this operating manual carefully before using the machine!**

**Translation of the original operating instructions**

Operating instructions

**FELDER KG**

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# 1 Information about the manual

## 1.1 Symbol legend

### Safety instructions

Safety instructions in this manual are indicated with symbols. The safety instructions are introduced by key words which state in words the extent of the hazard.

Comply with safety instructions under all circumstances, and act with care in order to avoid accidents, personal injury, or material damage.



#### **DANGER**

... indicates a situation of immediate danger which will result in death or severe injuries if it is not avoided.



#### **WARNING**

... indicates a situation of possible danger which can result in death or severe injuries if it is not avoided.



#### **CAUTION**

... indicates a situation of possible danger which can result in minor or slight injuries if it is not avoided.



#### **NOTICE**



... indicates a situation of possible danger which can result in material damages if it is not avoided.

### Tips and recommendations



... emphasises useful tips and recommendations as well as information for efficient and trouble-free operation.

### OK / NOK

Symbols	Explanation
	Result is okay.
	Result is not okay. Procedure when troubleshooting.

## 1.2 Contents of the operating manual

- This operating manual describes the safe and proper use of the machine.
- All instructions in this manual must be strictly followed without exception.

- The operating manual is an integral part of the machine. It must therefore be kept in the direct vicinity of the machine and be accessible at all times.
- The operating manual must always accompany the machine.

### 1.3 Copyright

- This instruction manual is to be treated as confidential. It is intended solely for those people who are to work on or with the machine.
- All descriptions, texts, drawings, photos and other depictions are protected by copyright and other commercial laws.
- Any unauthorised use is prohibited.
- 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 claim for compensation. The right to further claims is reserved.
- We reserve all rights in exercising commercial protection laws.

### 1.4 Liability and warranty

- The contents and instructions in this manual have been 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.
- The manufacturer shall not be liable for damage and/or faults resulting from the disregard of instructions in the manual.
- The text and images do not necessarily represent the exact product that has been delivered. The images and graphics are not depicted on a 1:1 scale. The product that has been delivered, may have custom-built specifications, add-on options or recent technical modifications and may therefore deviate from the descriptions, instructions and images contained in the manual.
- We reserve the right to make technical changes to the product in order to improve the properties of use and further product development.
- The guarantee period is in accordance with national guidelines. Details may be found on our website, [www.felder-group.com](http://www.felder-group.com).
- Should any questions arise, please contact the manufacturer.

### 1.5 Training

- 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 Safety instructions

### 2.1 Intended use

- The machine described in this manual is intended solely for the processing of wood, synthetic materials, and similar machinable materials. Operational safety is only guaranteed when the machine is used for the intended purposes.
- Any use, other than that 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 will be rejected.
- The operator is solely liable for any damage that results from improper use of the machine.
- The term "proper use" also refers to correctly observing the operating conditions as well as the specifications and instructions in this manual. The machine may only be operated with parts and accessories recommended by the manufacturer.

### 2.2 Making changes and modifications to the machine

- In order to avoid potential hazards and to ensure optimum performance, no modifications, alterations or changes may be made to the machine that have not been explicitly approved by 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.

### 2.3 Responsibilities of the operator

- The machine may only be operated if it is in proper working order and in safe condition.
- The machine must be inspected for visible defects and damage each time before it is switched on.
- Do not leave the machine running unattended.
- Secure the switched-off machine against unauthorised operation (padlock on the main switch, remove the key from the operating mode selector switch, block off the area around the machine, pull out the mains plug etc.).
- In addition to the safety advice and instructions specified in this operating manual, any local accident prevention regulations and general safety regulations applicable to the machine's area of use, as well as any applicable environmental protection regulations, must be observed and complied with.
- 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. Keep children away from machines, tools and accessories.

## 2.4 Requirements of the personnel

- Only authorised and trained personnel may work on and with the machine. "Qualified personnel" 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.
- Personnel must be briefed about all potential dangers of the machine.
- Personnel must be familiar with the functions of the machine's guards and protective devices and their regular inspection.
- If the personnel lack the necessary knowledge for working on or with the machine, they must be trained. Responsibility for working with the machine (installation, service, maintenance, overhaul) must be clearly defined and strictly observed.
- Only those people 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 machine may only be operated by an adult, that is without mental limitations or under the supervision of such a person.
- The user is also responsible for ensuring that unauthorised people 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.


## 2.5 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 any compensation claims.

## 2.6 Personal protective equipment

### 2.6.1 Prohibitions






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

Please note	
	Long, loose hair is forbidden. With long hair and beards a hair net must be worn.

	Please note
	It is prohibited to wear gloves whilst working with the machine. It is only allowed to wear gloves whilst carrying out tool changes and maintenance work.

### 2.6.2 Mandatory safety equipment

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

	Please note
	Protective clothes: Sturdy, tight-fitting clothing (tear-resistant, no wide sleeves, no rings or other jewellery).
	Protective footwear: To protect feet from heavy falling objects and prevent from slipping on slippery floors.
	Ear protection: To protect against loss of hearing.
	Safety glasses: Protection to prevent damage to eyes.
	Respiratory mask: To protect against dust.

## 2.7 Residual risks

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. Even if the safety measures are complied with, there are still certain associated risks that must be considered when working on the machine.

### Generally applicable residual risks

- Crushing by being caught between moving parts.
  - Do not reach into the area of moving parts.
- Whilst processing, sparks can be created.
  - Carefully inspect workpieces for foreign matter (nails, screws) which might impair processing.
- Hearing damage caused by noise intensity. Hearing protection must always be worn.
- Risk of damage to health from dust especially when processing hard woods.
  - Connect the dust extraction system in accordance with the instructions and make sure that it is working properly.
- Injury from flying workpieces and parts of the workpieces.
- Cut or crush injuries, when changing the tools.

- Injury caused through being crushed, cut, caught or bumped into.
- Before switching on the machine, always check to make sure that there are no other persons in the immediate vicinity of the machine.
- In the event of power supply failure, the machine will coast to a stop without applying the brakes (no electric brake action).  
It takes longer than normal for tools to come to a stop.
  - Do not reach into the area of rotating tools.

#### **Residual risks associated with the planer/thicknesser unit**

- Injuries due to coming into contact with the rotating cutterblock from above during planing.
- Injuries due to contact with the rotating cutterblock on reaching into the in- or outfeed during thickness planing.
- Injuries caused by kickback of the workpiece.
- Injuries due to ejected parts of workpieces and tools.

#### **Surpassing or falling below the allowed ambient temperature**

Surpassing or falling below the allowed temperatures can cause malfunctions of the machine and unpredictable machine movements, which can lead to severe personal and material damage.

- Only operate machine within the listed temperature range.

#### **Disorder at the workplace**

Loose objects or objects that are lying around can cause severe injuries.

- Ensure that there is sufficient space to work around the machine.
- Remove loose objects from the working area.
- Keep the work area orderly and clean.

#### **Insufficient lighting of the installation site**

Serious injuries

- Light installation site sufficiently.

#### **Standing on the machine**

The covers or projecting components of the machine are not suitable for standing on them. If the machine falls down, severe breaks can occur.

- It is forbidden to climb onto the machine.

#### **Decommissioned safety devices**

The machine is equipped with diverse protective devices with safety function. When protective devices are decommissioned, the safety function is no longer ensured. Decommissioned safety devices can cause severe injury.

- Do not deactivate or bypass protective devices.

**Damage to electrical components or their insulation**

Damaged electrical components or damage to their insulation cause deadly electric shocks.

- Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.
- Disconnect machine from power supply and secure against restarting before carrying out work at electrical devices.

**2.7.1 Transport, setup, installation and disposal****Improper transport**

Improper transport can cause the machine to tilt or fall. This can cause severe crushing.

- Carry out transport according to the specifications in this instruction.
- Transport the machine as carefully as possible. Avoid mechanical vibration.
- Keep enough distance to the machine during transport.
- Move unauthorised people out of the area.
- Always clean and tidy the work area and cordon it off.
- Ensure that there is room to escape should the machine fall.
- Only use suitable lifting gear that has a sufficient load-carrying capacity.
- Chains, belts, ropes or other hoisting devices must be equipped with safety hooks.
- Do not use any torn, frayed or knotted chains, belts or ropes.
- Ensure that chains, belts and ropes do not lie against sharp edges.
- Only attach lifting equipment to the attachment points provided. Never lift the machine by its protruding parts.
- Keep the machine's centre of gravity in consideration.
- Take measures to prevent the machine from slipping.
- Never lift loads over a person.
- Do not stand below suspended loads.

**Incorrect setup and installation**

## Serious injuries

- Machine may only be set up by authorised, trained personnel who are familiar with how to operate the machine and are in strict observance of all safety instructions.
- Before assembling and installing the machine, check to make sure it is complete and in good condition.
- Only assemble and install the machine if the machine and all of the parts are complete and intact.
- Use safety equipment according to regulations and check proper functionality.
- Do not setup machine in areas with high electromagnetic fields.
- Do not setup machine in escape routes.
- Only place machine within buildings.
- Place the machine on a level, sufficiently stable, non-slip and vibration-free surface.
- The load bearing capacity, the coating and the surface of the floor must not be affected in the long term.
- The floor space around the machine must be flat, well maintained, free of obstacles and cleared of waste material such as chips and offcuts.
- The working area must be adequately lit.

**Insufficient space - Approximation of a workpiece to a fixed object or building structure**

The approximation of a workpiece to a fixed object or building structure can lead to severe crushing of limbs as well as the entire body.

- Observe minimum distances to spatial boundaries.
- Ensure that there is sufficient space to work around the machine.
- Keep enough distance to moving workpieces.
- Keep enough distance to adjacent machines.

**Electrostatic charging of the extraction hoses**

Burns or electric shock caused by unearthed, or low quality extraction hose.

- Always ensure continuous electrostatic earthing when connecting machines.
- Only use dust extraction hose approved by the manufacturer.

**Indirect touch with residual currents**

Deadly electric shocks

- Equip the machine's supply line with a fault-current circuit breaker.

**2.7.2 Adjustments tool changes, operation****Improper adjustment and setup**

Serious injuries

- Adjustment and setup may only be carried out by authorised, trained personnel who are familiar with how to operate the machine and are 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.
- Adjustments to the machine or changing the tools may only be done once the machine has stopped.
- 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.
- Mount safety equipment according to regulations and check proper functionality.

### **Deactivated or defective protective devices**

#### **Serious injuries**

- The safety equipment required for processing must be in good working conditions and properly maintained. Check all required safety devices to ensure good working condition.
- Do not switch off, circumvent or remove protective and safety devices during operation.

### **Large or small workpieces**

#### **Serious injuries**

- Ensure that there is sufficient space to work around the machine.  
Drive fed workpieces could be a hazard when processing. Keep sufficient distance from walls, machines and fixed objects.
- Support long workpieces with additional supports (e.g. table extensions, roller supports).
- Use auxiliary equipment for machining short and narrow workpieces (e.g. push grip, pushing stick, workpiece holder).
- Only process workpieces that can be safely placed on the machine and guided.

### **Foreign objects in the workpiece**

#### **Serious injuries**

- Carefully inspect workpieces for foreign matter (nails, screws) which might impair processing.

### **During operation**

#### **Serious injuries**

- Offcuts or other parts of the workpiece must not be removed from the working area whilst the machine is still running.
- Injuries caused by ejected workpieces and workpiece parts (e.g. branches, cuttings).
- Do not lean over the working area.
- Only remove chips when the machine is at a standstill. Do not load or run any programme.

**Dust deposits**

Dust build-ups can ignite when in contact with hot parts or cause an explosive atmosphere due to resuspension. Fire or explosion events can cause serious injuries.

- Clean production area as needed.
- Open fire, smoking and cleaning with compressed air forbidden.
- Only carry out spark-producing work and hot work after work release process.

**2.7.3 Maintain and troubleshoot****Improper operation of the machine****Serious injuries**

- Work on the machine may only be carried out by authorised, trained personnel who are familiar with how to operate the machine and are in strict observance of all safety instructions.
- If possible, only perform work when the machine is disconnected from all energy sources and an unintentional restart is prevented.
- The machine has to be switched off when carrying out any work on the machine.
- Disconnect machine from power supply before carrying out work on electrical devices.
- Do not deactivate or bypass protective devices.

**Improper work at the electrical units****Deadly electric shocks**

- Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.
- Disconnect machine from power supply and secure against restarting before carrying out work at electrical devices.



## Improper maintenance

### Serious injuries

- Machine may only be maintained by authorised, trained personnel who are familiar with how to operate the machine and are in strict observance of all safety instructions.
- If possible, only perform maintenance work when the machine is disconnected from all energy sources and an unintentional restart is prevented.
- Wait for all the moving parts to come to a standstill.
- Maintenance technicians need to be fully aware of how the machine operates and moves, and they must be familiar with the exact operating sequence.
- Whilst maintenance work is being carried out, secure the area around the machine.
- Whilst maintenance work is being carried out, put up a sign that states "Machine under maintenance".
- To ensure quick and unmistakable communication, visual contact with the operators must be kept at all times.
- Operators should repeat and confirm instructions before they are carried out.
- Only start the machine when there is no one within the safety zone.
- Properly reinstall all components after the maintenance work and check functionality.
- As part of the machine maintenance, the whole machine, including the safety devices, must be checked regularly for damage.
- Keep a record of all maintenance work.

## Exceeding the lifespan of protective devices that carry out a safety function

### Serious injuries

The safety devices have a lifespan of 20 years. If safety devices are used exceeding their lifespan, the proper function of the safety devices can not be guaranteed. Deficiently maintained safety devices can cause severe injury.

- Safety devices have to be replaced by expert personnel from Felder Group before the end of the lifespan.

## Improper replacement or reparation of safety devices with safety function

### Serious injuries

- Only let safety devices be replaced or repaired by expert personnel of the Felder Group.

## Improper correction of malfunctions

### Serious injuries

- Wait for all parts to be still.
- Disconnect machine from all energy sources and secure against restarting.

## 2.8 Foreseeable misapplications

The examples given highlight possible dangers. This list makes no claim to completeness.

This information should enable users to better assess hazards and risks.


### General misuse

- Disregarding operating instructions.
- Operating the machine, even if the operation manual is not complete or is not available in the language of the country it is being operated in.
- Placing objects or tools on the work surface.
- Use material or tools that are not intended for the machine.
- Inserting tools that are either not allowed, or not authorised in the machine.
- Using modified tools.
- Using spare parts, accessories and equipment that have not been approved by the manufacturer.
- To change or modify the machine.
- To adapt, remove or bridge the safety equipment.
- Intentionally trigger safety equipment.
- Climbing on the machine.

### Misuse during operation

- Operating the machine carelessly.
- Operating the machine without using the appropriate safety equipment.
  - Check the correct functioning of the safety equipment regularly.
- Processing of overly large or heavy workpieces.
- Processing very small workpieces without assistance.
  - Keep handling accessories at hand.
- Processing of unsuitable materials such as steel.
- Processing workpieces that are not fixed or insufficiently fixed.
- Processing of workpieces in the same direction as the rotation of the tool.  
Feed direction corresponds to the direction of movement of the cutter in the area of contact.


### 3 Declaration of Conformity

	EG-Declaration of Conformity according to Machine Guidelines 2006/42/EC <b>Machine number reference:</b> The machine number is printed on the cover sheet of the operating manual.
---	--

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 guidelines (see table).

<b>Manufacturer</b>	Felder KG KR-Felder-Straße 1 6060 Hall in Tirol	
<b>Product designation</b>	Planer thicknesser	
<b>Manufacturer</b>	Hammer	
<b>Model type</b>	A2-26	
<b>The following EC guidelines were applied</b>	2006/42/EC 2014/30/EC	
<b>The following harmonised norms were applied</b>	EN ISO 19085-1 EN ISO 19085-7	
<b>The prototype test was carried out by</b>	TESTPLUS TEKNİK KONTROL ve BELGELENDİRME TİC. LTD. ŞTİ. Abdurahmangazi Mh. Ebubekir Cad. No: 34/15 34887 Sancaktepe / İstanbul, Turkey NB2908	
<b>Conformity with the EC Machine Guidelines certified by</b>	EG-Design Test Certificate number EG-Design Test Certificate No. 29082209142	

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.

	Prof. h.c. Ing. Johann Georg Felder CEO Felder KG KR-Felder-Straße 1, A-6060 HALL in Tirol Date: 1.1.2022
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## UKCA - Declaration of Conformity

<b>UK CA</b>	Declaration of Conformity according to UK Directive S.I. 2008/1597 <b>Machine number reference:</b> The machine number is printed on the cover sheet of the operating manual.
------------------	---

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 UK guidelines (see table).

<b>Manufacturer</b>	Felder KG KR-Felder-Straße 1 6060 Hall in Tirol
<b>Product designation</b>	Planer thicknesser
<b>Manufacturer</b>	Hammer
<b>Model type</b>	A2-26
<b>The following UK guidelines were applied</b>	S.I. 2008/1597 - Supply of Machinery (Safety) Regulations 2008 S.I. 2016/1091 - Electromagnetic Compatibility Regulations 2016
<b>The following harmonised norms were applied</b>	EN ISO 19085-1 EN ISO 19085-7

This Declaration of Conformity is only valid if the UKCA label is 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.



Prof. h.c. Ing. Johann Georg Felder  
CEO Felder KG  
KR-Felder-Straße 1, A-6060 HALL in Tirol  
Date: 1.1.2022

## 4 Technical information

### 4.1 Dimensions and weight

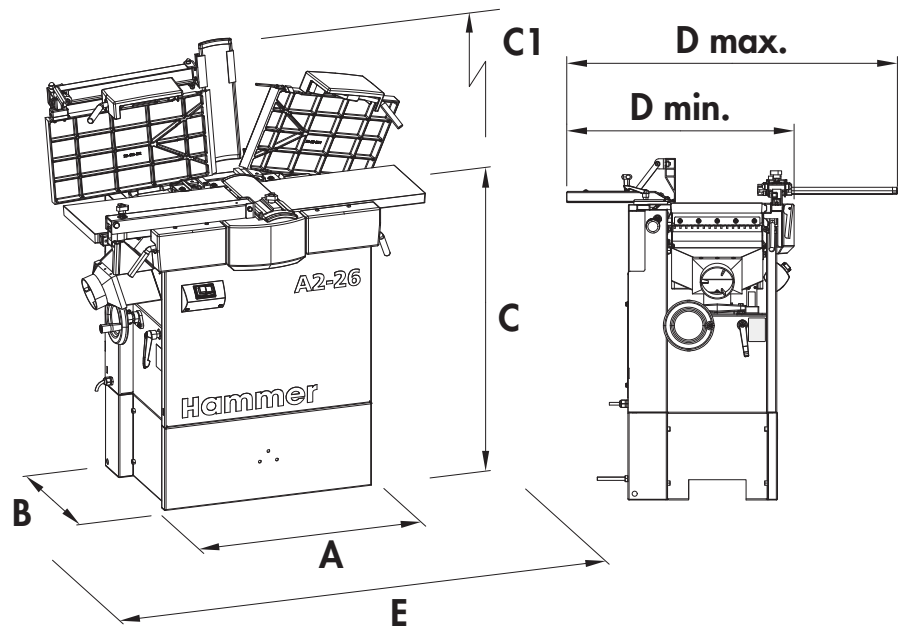


Fig. 1: Dimensions A2-26

#### Basic machine

Data	Value	Unit
Space requirement A x B	690 x 440	mm
Total height C (Planing)	910	mm
Total height C1 (Thickness planing)	1300	mm
Total width D min. / max.	970	mm
Total length E	1130	mm
Net weight *)	150	kg

\*) incl. planer fence

#### Packaging dimensions (incl. pallet)

Data	Value	Unit
Total height C	800	mm
Total width D	560	mm
Total length E	1100	mm
Net weight	175	kg

## 4.2 Operation and storage conditions

Data	Value	Unit
Operating/room temperature	+5 to +40	°C
Storage temperature	-10 to +50	°C
Humidity (non-wetting)	90	%

## 4.3 Electrical connection

Data	Value	Unit
Mains voltage according to specification plate	±10	%
Frequency according to data plate	50 / 60	Hz
Power supply cable 1 x 230 V (H07 RN-F)	3 x 1.5	mm <sup>2</sup>
Fuse protection	see the wiring diagram	
Triggering characteristic	C	

## 4.4 Drive motor

The actual values can be found on the machine nameplate on the components.

### Alternating-current motor

Data	Value	Unit
Motor voltage (standard)	1 x 230 V	V
Motor frequency	50 / 60	Hz
Protection class	IP 54	
Motor power S <sub>6</sub>	1.9	kW

## 4.5 Planing unit

The machine is equipped with a machine specific, marked cutterblock,

- which has a permissible maximum rotation speed that is higher than the maximum possible rotation speed of the machine.
- which complies with the standard DIN EN 847-1:2013.
- which is marked with "MAN".

**Cutterblock**

Data	Value	Unit
Blade trajectory diameter	72	mm
Number of knives as standard	3	Qty
Rot. speed 50 Hz	5000	min <sup>-1</sup>
Rot. speed 60 Hz	5000	min <sup>-1</sup>

**Planer**

Data	Value	Unit
Length infeed planing table	507	mm
Length outfeed planing table	507	mm
Length total planing table	1045	mm
Surface planing width	260	mm
Planing fence - tilt range	0 - 45	°
Fence plate (length x height)	700 x 130	mm
Maximum depth of cut	3.0	mm

**Thicknesser**

Data	Value	Unit
Thicknesser table length	497	mm
Thicknesser width	254	mm
Thicknessing height min.–max.	3 - 184	mm
Feed speed 50 Hz	4.5	m/min
Feed speed 60 Hz	4.5	m/min
Maximum depth of cut	3.0	mm

**4.6 Dust extraction**

Data	Value	Unit
Extraction connection diameter	100	mm
Min. air speed	20	m/s
Negative pressure planing min.	740	Pa
Negative pressure thicknessing min.	850	Pa

Data	Value	Unit
Min. volume flow*)	570	m <sup>3</sup> /h

\*) Data taken from the volume flow at 20 m/s.

## 4.7 Dust emission

The working areas of this machine are considered dust-minimised according to DGUV Information 209-044. The maximum concentration level of 2 mg/m<sup>3</sup> of inhalable dust in the air will not be exceeded. This only applies if the conditions that are specified in the section "Extraction" are adhered to.

## 4.8 Noise level

### Note on measurement

If the stated noise emission values are to be checked, then the measurements must be taken following the same procedure and in the same operating and installation conditions as described.

All values in dB(A) and with a measurement uncertainty factor of 4 dB(A). Measurement conditions and additional information according to ISO 19085-1:2021, chapter 6.2.2.

The measurements are carried out in accordance with the following standards:

- ISO 7960:1995, annexure B (planers)
- ISO 7960:1995, annexure C (thicknessers)
- EN ISO 3746, acoustic power level
- EN ISO 11202, workplace emission values

### Noise emission values when planing

	Idle	Working
Acoustic power level - L <sub>WA</sub> (EN ISO 3746)	101 dB (A)	103 dB (A)
Workplace emissions values - L <sub>pA</sub> (EN ISO 11202)	87 dB (A)	88 dB (A)

### Noise emission values when thickness planing

	Idle	Working
Acoustic power level - L <sub>WA</sub> (EN ISO 3746)	99 dB (A)	101 dB (A)
Workplace emissions values - L <sub>pA</sub> (EN ISO 11202)		
Working position 1 (infeed)	89 dB (A)	90 dB (A)
Working position 2 (outfeed)	89 dB (A)	93 dB (A)



- WARNING: The noise emission values stated are only valid, when the same operation and installation conditions apply.
- Other operation and installation conditions, e.g. a different work process, can lead to higher noise emission values with the danger of underestimation.
- WARNING: The noise emission values stated are not exposure level values.
- Although there is a correlation between emission and exposure levels, the emission values can not be used to reliably determine whether increased safety measures are required.
- Factors that influence the actual degree of exposure are the actual work process, the exposure time, the characteristics of the workplace and other neighbouring noise sources in the workshop.

## 5 Machine overview

### 5.1 Overview control elements



#### Customer specific machine configuration

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).

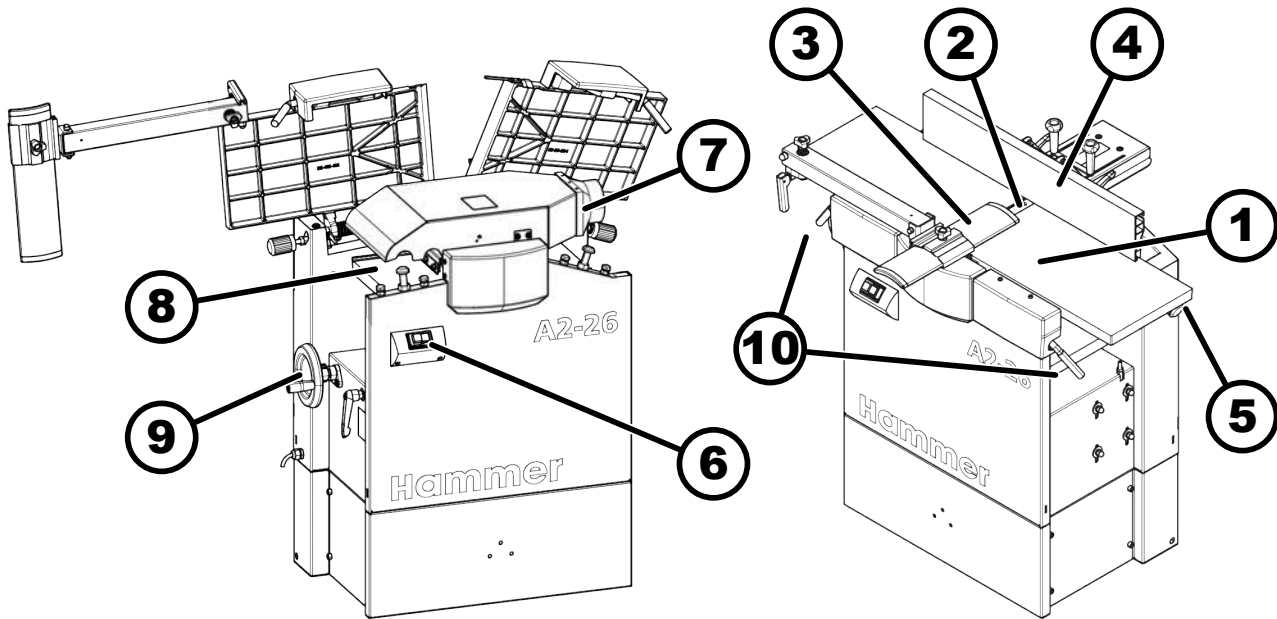


Fig. 2: Overview A2-26

- |                                    |  |
|------------------------------------|--|
| 1 Planer                           | 6 Switch                                     |
| 2 Cutterblock                      | 7 Extraction connection Ø                    |
| 3 Cutterblock cover                | 8 Thicknesser                                |
| 4 Planer fence                     | 9 Adjust the depth of cut (Thickness planer) |
| 5 Adjust the depth of cut (planer) | 10 Planing table clamping levers             |

## 5.2 Pictograms, signs and labels

All the pictograms, signs and labels affixed to the machine must be kept visible, readable and must not be removed.

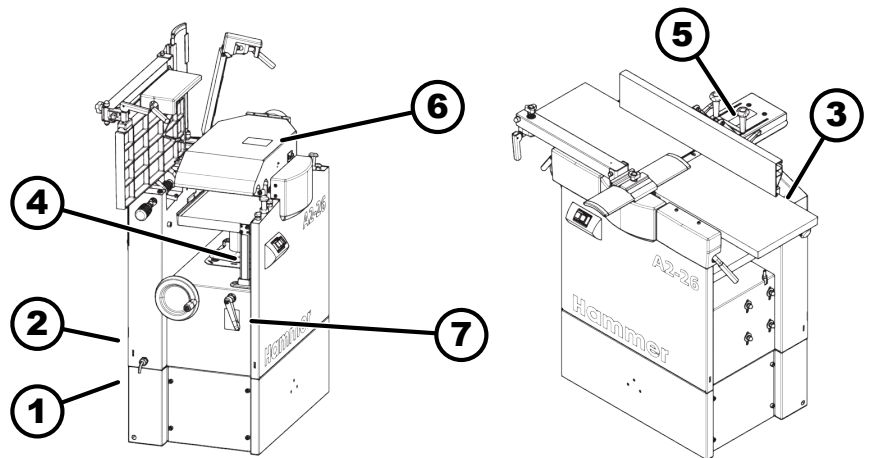


Fig. 3: Pictograms overview

- 1 Machine data plate (rear side)
- 2 Danger, electric current
- 3 Depth of cut scale (planer)
- 4 Scale workpiece thickness (thicknesser)
- 5 Scale angle adjustment (planer fence)
- 6 Changeover position information (thicknessing table)
- 7 Clamping information (thicknessing table)

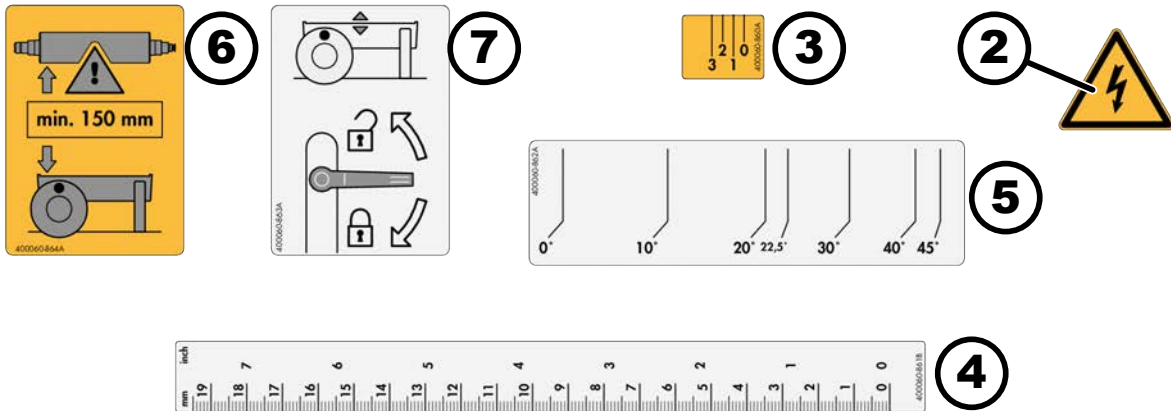


Fig. 4: Overview individual pictograms

### 5.3 Information on the machine data plate

Felder KG KR-Felder-Straße 1, A-6060 HALL in Tirol felder-group.com, info@felder-group.com +43 5223 58500, Fax +43 5223 56130				1
2	TYPE :			CE UK CA
3	NR.:	Code:		
4	V:	PH:	HZ:	A:
	KW:			
Baujahr / year of construction / ANNEE DE CONSTR.:				
5				
6				

Fig. 5: Machine data plate

- 1 Manufacturer information
- 2 Model type
- 3 Machine number
- 4 Electrical connection
- 5 Year of construction
- 6 Additional information (optional)

### 5.4 Operation and display elements

#### 5.4.1 Thicknessing unit controls

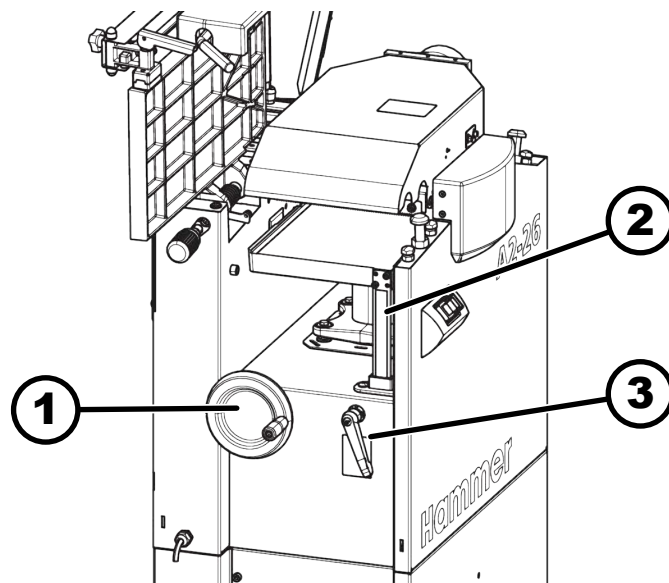


Fig. 6: Thicknesser controls

- 1 Height adjustment handwheel (thickness planing height)
- 2 Scale - Thicknessing passage information
- 3 Clamping lever - Clamping the thicknesser

### 5.4.2 Planer controls

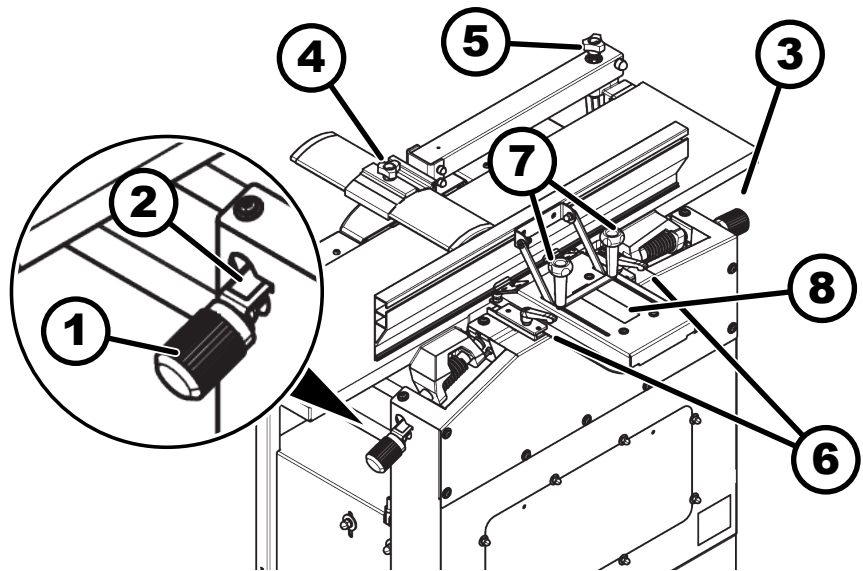


Fig. 7: Planer controls

- 1 Set the depth of cut (infeed planing table)
- 2 Depth of cut scale
- 3 Set the height (outfeed planer table)
- 4 Clamping the protective guard
- 5 Setting of the bridge guard
- 6 Clamping horizontal adjustment planer fence
- 7 Clamping angle adjustment planer fence
- 8 Scale angle adjustment planer fence

## 5.5 Safety devices

### 5.5.1 Safety limit switches

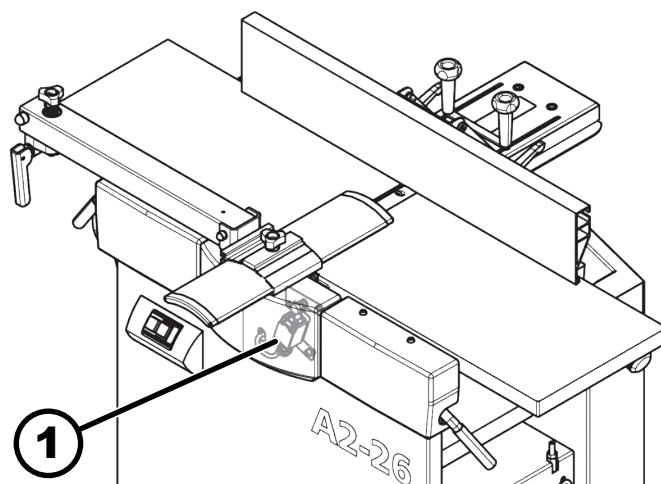


Fig. 8: Safety limit switches

- 1 Safety limit switches

- The machine is equipped with safety limit switches. The planer shaft can only run when the planer tables are closed or the extractor hood is tilted up.
- The machine is equipped with a motor protection device that switches the machine off in the event of an overload.

### 5.5.2 Cutterblock cover

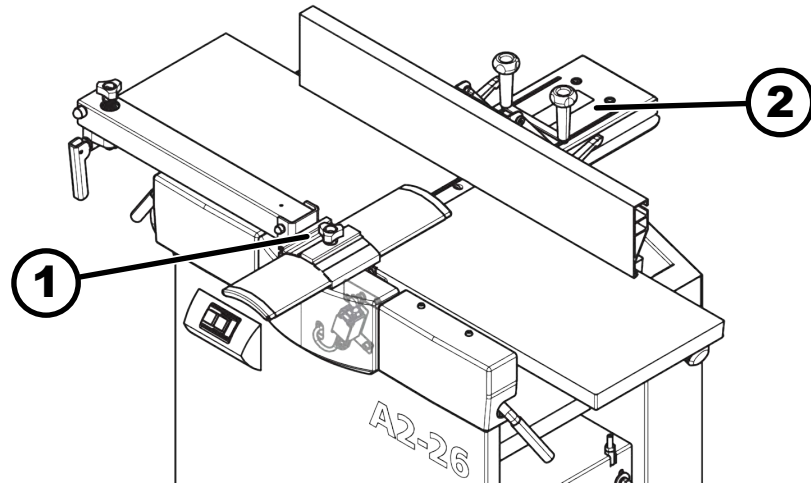


Fig. 9: Cutterblock cover

- 1 front cutterblock cover (bridge guard)
- 2 rear cutterblock cover

#### Bridge guard (front cutterblock cover)

The bridge guard covers the cutterblock when surface planing. Instructions to adjust the bridge guard are given in the respective working techniques descriptions.

#### Rear cutterblock cover

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

This cover is mounted to the planer fence and does not need to be adjusted separately.

### 5.5.3 Kickback guards

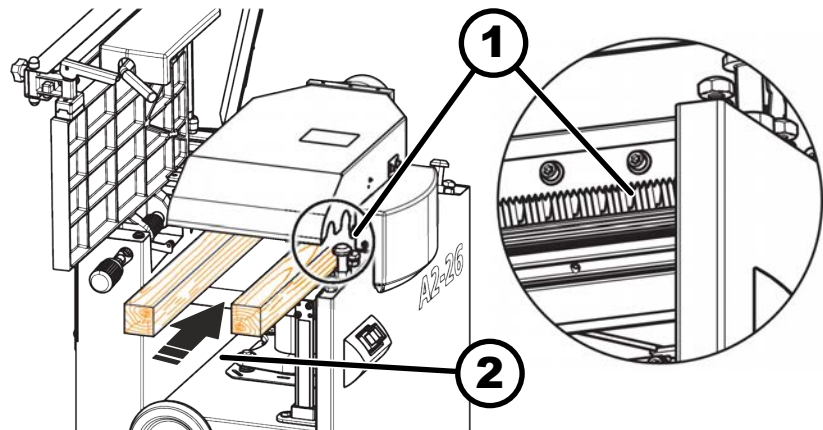


Fig. 10: Kickback guards

- 1 Kickback guards
- 2 Processing direction when thicknessing

When thicknessing, the kickback guards prevent the workpiece from kicking back. The kickback guards must fall back in place after having been lifted.

Before each time the machine is put into operation, test the thicknesser kickback guards to ensure that they are functioning properly. → Chapter 10.5 'Transport rollers and kickback guards' on page 73

## 5.6 Optional equipment and accessories

### 5.6.1 Digital display

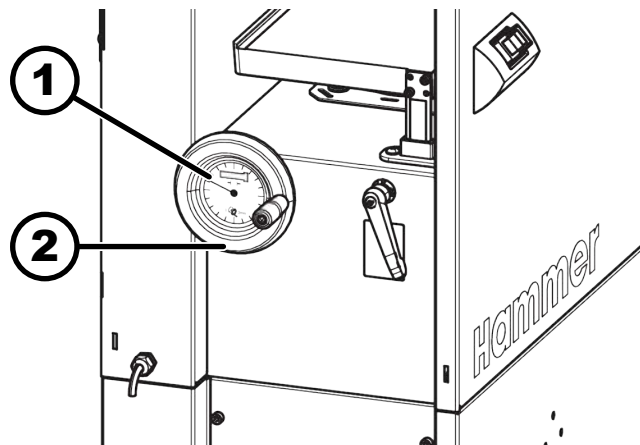


Fig. 11: Digital display

- 1 Digital display
  - 2 ALU system handwheel
- Art.-No. 01.1.202 (display in "mm")
  - Art.-No. 01.2.202 (display in "inches")

The digital display is built into both the thicknessing height adjustment system handwheel and the drilling height adjustment system handwheel (drilling support accessory).

Exact adjustments to one tenth of a millimetre are possible with the digital display.

### 5.6.2 Rolling carriage and lifting bar

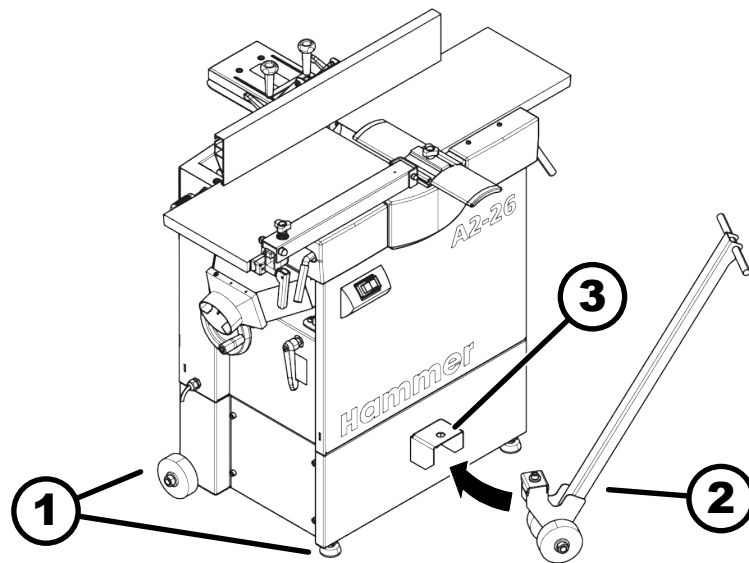


Fig. 12: Rolling carriage

- 1 Rolling carriage (Art.-No. 01.1.202)
- 2 Lifting bar (Art.-No. 01.2.202)
- 3 Lifting bar resting plate

The rolling carriage is mounted to the machine base. The rolling carriage facilitates the task of positioning the machine. (see assembly instructions "rolling carriage")

The lifting bar is hooked under the lifting bar plate of the rolling carriage (accessory). The lifting bar and the rolling carriage facilitate the task of manoeuvring the machine in the smallest of spaces. (See assembly instructions "lifting bar")



## 6 Transporting, packing, storing

### 6.1 Transport inspection

1. ➤ Upon arrival, inspect the shipment to ensure that it is complete and has not suffered any damage.
2. ➤ If any transport damage is visible from the outside, do not accept the delivery or only accept it with reservation.
3. ➤ Record the scope of the damage on the transport documents/hauliers delivery note.
4. ➤ Initiate the complaint process.
5. ➤ Any defects that are not discovered upon delivery, must be reported immediately once they have been identified as damage claims are only valid if claimed within the valid complaint period.

### 6.2 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.

When using overseas transport the machine must be tightly packed and protected from corrosion. Use desiccant.

#### Environmental protection

Packaging materials are valuable raw materials and in many cases they can be used again, reprocessed or recycled.



#### ENVIRONMENT

##### Dispose of the packaging in an environmentally friendly manner

- Dispose of packaging materials in an environmentally friendly manner and in accordance with the applicable local disposal regulations.
- Contract a recycling company.

### 6.3 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.

#### Storage conditions

- Do not store outdoors.
- Store in a dry and dust-free environment. Use desiccant if necessary.
- Protect from direct sunlight.
- Avoid mechanical vibration.
- Avoid extreme temperature fluctuations (condensation build-up).
- Apply a coat of oil to all exposed machine parts (corrosion protection).
- Regularly check the general condition of all parts and the packaging during longer storage (> 3 months). If necessary, refresh or re-apply the coat of anti-corrosive agent.

## 6.4 Transport bracket

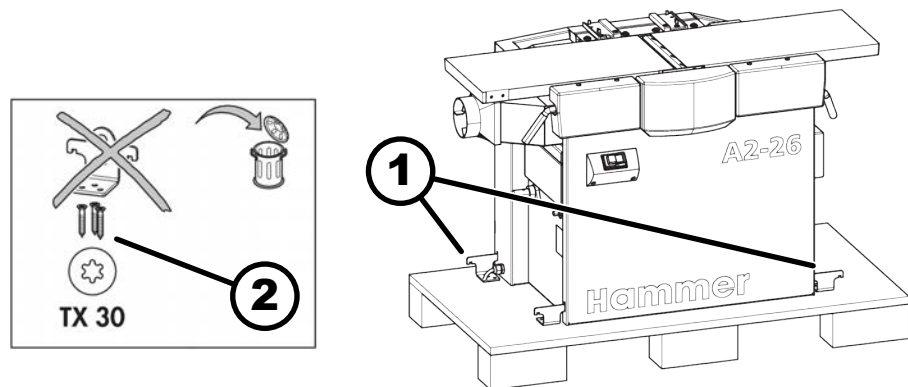


Fig. 13: Remove the transport bracket

- 1 Transport bracket
- 2 Chipboard screws TX 30

The machine is delivered partially assembled on a pallet.

The machine is attached to the pallet with several transport brackets. Only remove the transport bracket when the machine is to be lifted from the pallet.

## 6.5 Information relating to transportation and unloading



### NOTICE

#### Material damage

Damage and possible complete write-off of the machine.

- Only lift the machine using the positions marked.
- Never lift the machine using the work tables.
- Only transport the machine using a forklift or a pallet truck.

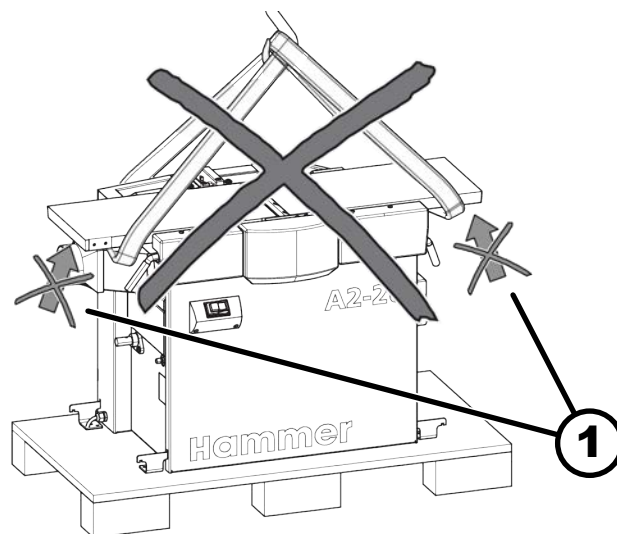


Fig. 14: Transportation and unloading

- 1 Do not lift!

## 6.6 Means of transportation

### 6.6.1 Unloading with a pallet truck



#### **! WARNING**

##### **Tipping over of the machine**

Serious injury due to the high machine weight

- Consider the centre of gravity of the machine.
- Depending on the equipment, two or three additional helpers are required when unloading.
- Lifting material (straps, chains and fork lifts) must be positioned as far apart from the centre of gravity as possible.

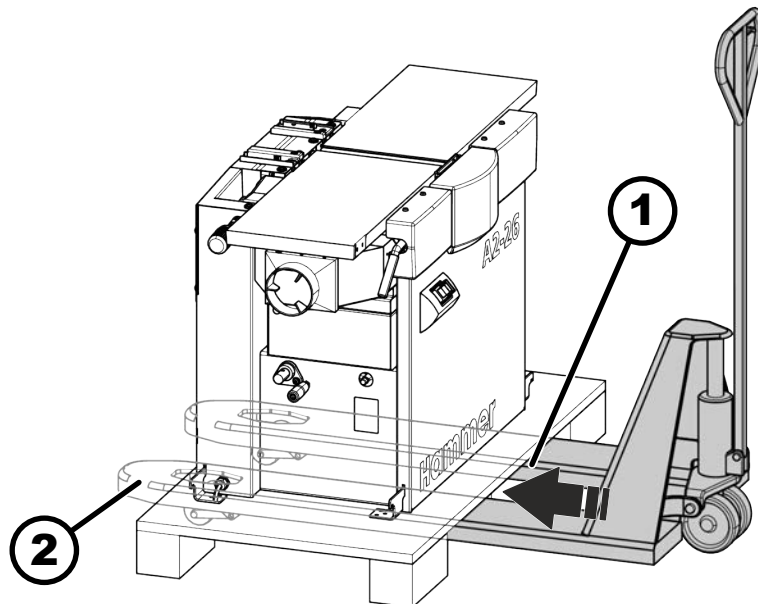


Fig. 15: Transport with a pallet truck

- 1 Pallet recesses  
2 Pallet truck forks

A forklift truck must be used to unload from the pallet.

1. ➤ Push the forks into the recesses in the pallet.
2. ➤ Push the pallet truck in under the pallet until it reaches the back and lift the machine carefully.
3. ➤ Only lift the machine as little as possible.
4. ➤ Transport the machine to the unloading position using the pallet truck.

### 6.6.2 Transporting with a forklift



#### **WARNING**

##### **Tipping over of the machine**

Serious injury due to the high machine weight

- Consider the centre of gravity of the machine.
- Depending on the equipment, two or three additional helpers are required when unloading.
- Lifting material (straps, chains and fork lifts) must be positioned as far apart away from the centre of gravity as possible.

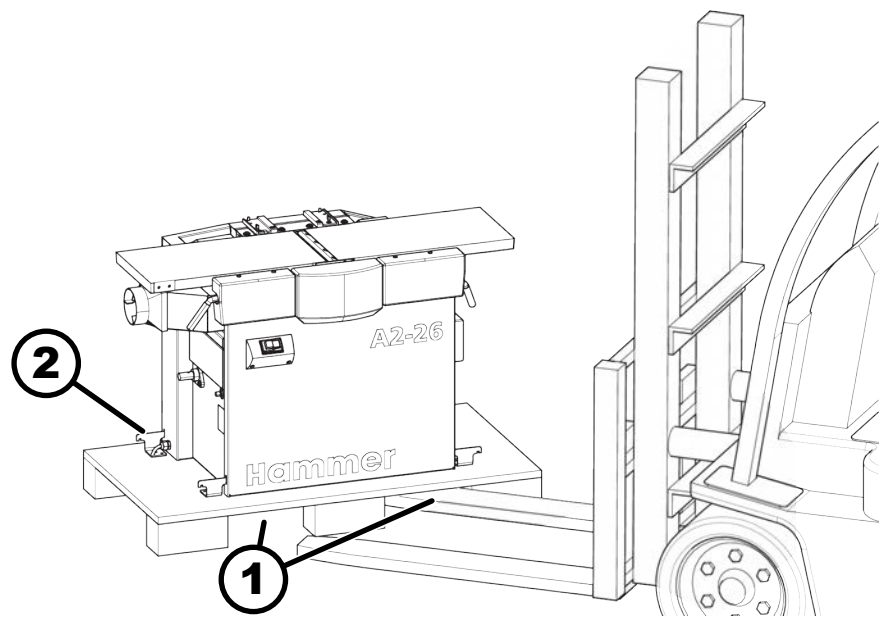


Fig. 16: Transport with a forklift truck

- 1 Recesses in the pallet
- 2 Do not remove the transport bracket

Move the forks of the forklift truck so they fit into the machine frame or pallet holes.

### 6.6.3 Transport with a rolling carriage

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

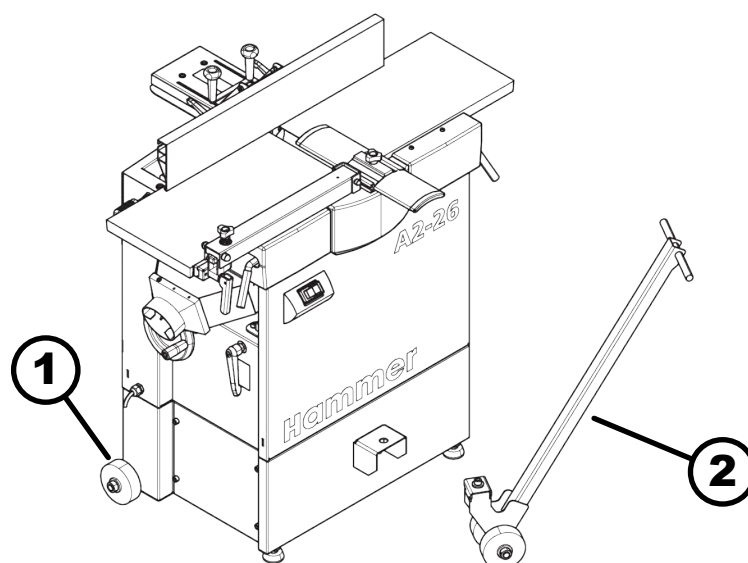


Fig. 17: Transporting the machine with the rolling carriage and lifting bar

- 1 Rolling carriage
- 2 Lifting bar

The rolling carriage is mounted to the machine base. (Assembly instructions "rolling carriage" and "lifting bar").

## 7 Setup and installation

### 7.1 Requirements of the location, where the machine is to be installed

In order to be able to operate the machine trouble-free, efficient and ergonomically, the following conditions must be met:

- Sufficiently stable and proper load-bearing capacity of the work surface.
- Provide sufficient light at the workstation.
- Sufficient clearance or screening from neighbouring workstations.
- That the free space in the processing direction is at least 500 mm larger than the workpiece length.
- That the machine location provides enough space for the machine operator. Consider the requirement of enough space for loading, working and stacking of workpieces.

At least 2000 mm of free space to operate the machine in the working area are required.

- 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).
- The machine may only be used in dry rooms, free from frost and not outside.

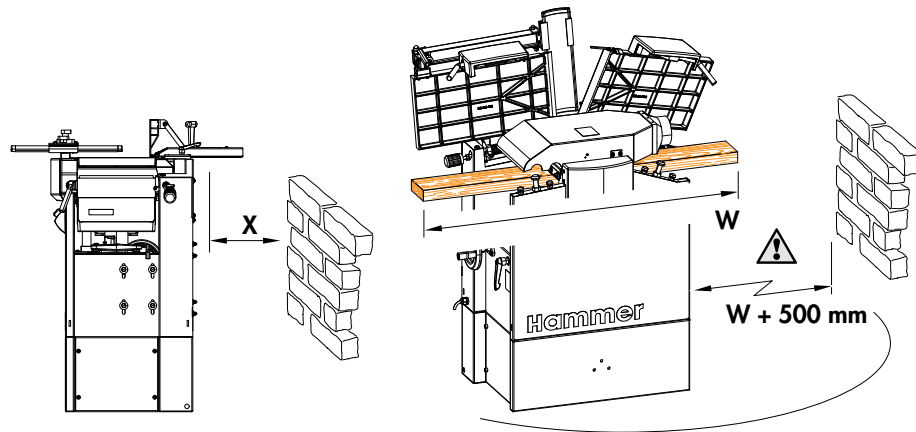


Fig. 18: Space requirement at the installation site

## 7.2 Set-up and level

Unpack the machine and prepare for assembly

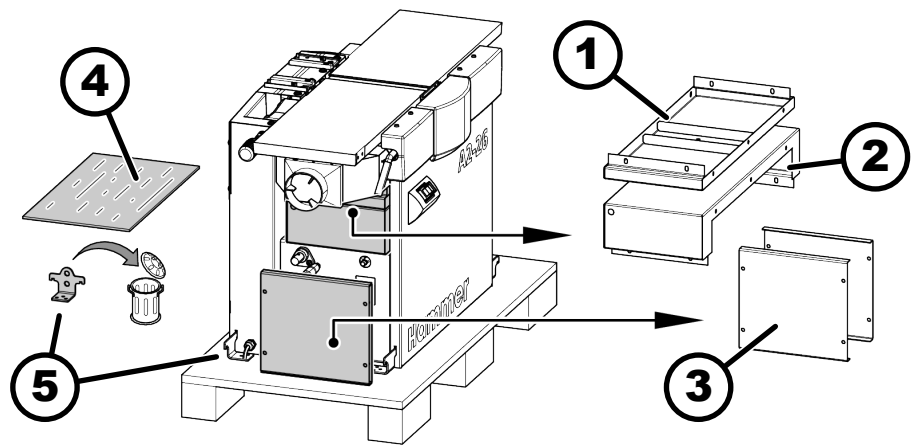


Fig. 19: Packaging - Machine base

- 1 Machine base - Front section
- 2 Machine base - Rear wall
- 3 Machine base - Side section
- 4 Wooden panel (packing material)
- 5 Pallet bracket

### Unpack the machine base

#### Personnel:

- Trained machine operator

For transport reasons the machine base is delivered dismantled.

1. ➤ Remove the front section and rear wall from the machine.
2. ➤ Remove the wooden panel from inside the machine.
3. ➤ Remove the side section from the pallet.
4. ➤ Remove all pallet brackets.

### Place the machine on its side and mount the base



#### ! WARNING

#### Tipping over of the machine

Serious injury due to the high machine weight

- Consider the machine weight and centre of gravity of the machine.
- Ensure that several additional assistants are on hand.

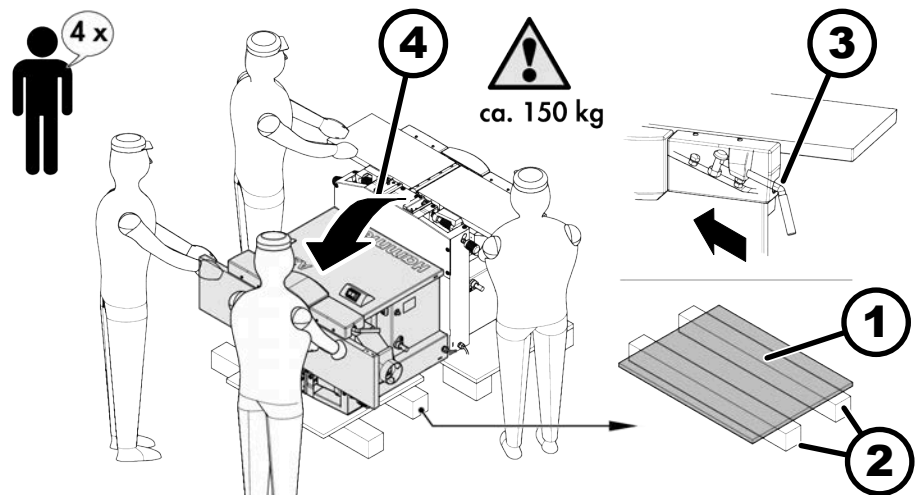


Fig. 20: Place the machine on its side

- 1 Panel: approx. 600 x 800 x 20 mm
- 2 Beam approx. 90 x 90 x 1000 mm
- 3 Lock the planing tables
- 4 Place the machine on its side

### Place the machine on its rear side

#### Personnel:

- Trained machine operator
- 3 additional assistants

The machine base is to be screwed on to the underside of the machine chassis.

1. Place two beams and a panel or a second pallet behind the machine.
2. Push the clamping lever inwards and lock.
  - ➔ Both planing tables must be shut completely.
3. Several people should be used to carefully place the machine on its back.

### Screw the machine base together and assemble

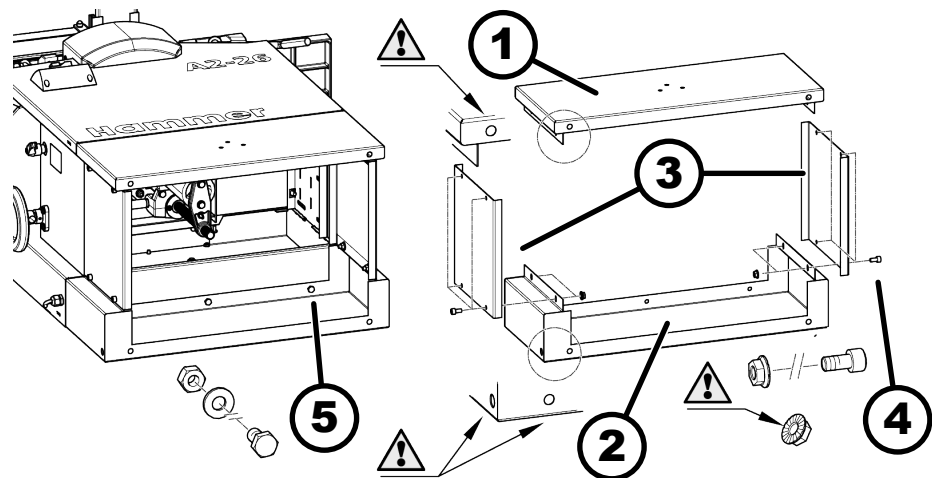


Fig. 21: Mount the base

- 1 Machine base - Front section
- 2 Machine base - Rear wall
- 3 Machine base - Side section



- 4 Hexagon socket screw and ribbed nut (8x)
- 5 Hexagon screw, washer and nut (6x)

#### Screw the machine base on whilst the machine is on its side

During the assembly of the machine frame, loosely connect all parts first. Finally, tighten all screws.

1. ➤ Screw the side sections to the rear wall using the hexagon socket screws and ribbed nuts (4x).
2. ➤ Screw the front section to the side sections using the hexagon socket screws and ribbed nuts (4x).
3. ➤ Screw the complete base to the machine chassis using the hexagon socket screws, washers and nuts to the machine chassis (6x).
4. ➤ Tighten all of the screw connections tightly.
5. ➤ Several people should be used to carefully lift the machine backup.

#### Level the machine at the installation location using a spirit level

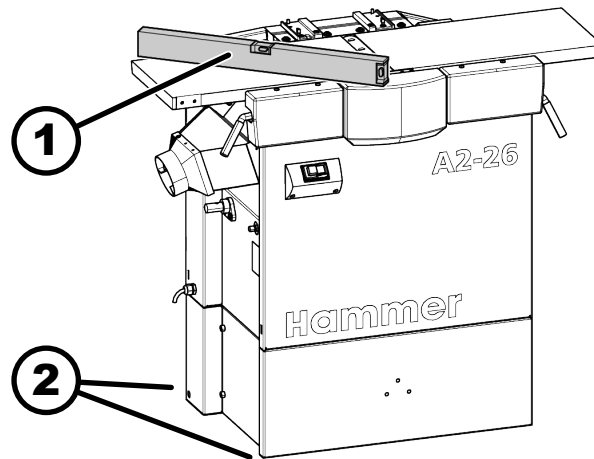


Fig. 22: Levelling the machine

- 1 Spirit level
- 2 Chocks (not included in the scope of delivery)

The floor space around the machine must be flat, well maintained, free of obstacles and cleared of waste material such as chips and offcuts.

#### Personnel:

- Trained machine operator

#### Tool:

- Spirit level

#### Material:

- Chocks

The machine must be transported to the installation location following the instructions included in transport and commissioning instructions and in chapter ➔ Chapter 6 'Transporting, packing, storing' on page 33.

1. ➤ Level the main machine using a spirit level.
  - ➡ Machine runs precisely and smoothly.

2. ➤ Place shims under the machine if the floor is uneven.
3. ➤ If the machine has adjustment screws, tighten the locking nuts after levelling them.
4. ➤ Remove the oxidation protective layer from all open machine parts.

## 7.3 Install

### 7.3.1 Assemble the planer fence

The planer fence is delivered partly assembled and must be completed.

**Tool:**

- Hex key
- Combination wrench set

**Material:**

- Machine Grease

1. ➤ Thread in the adjustment struts.

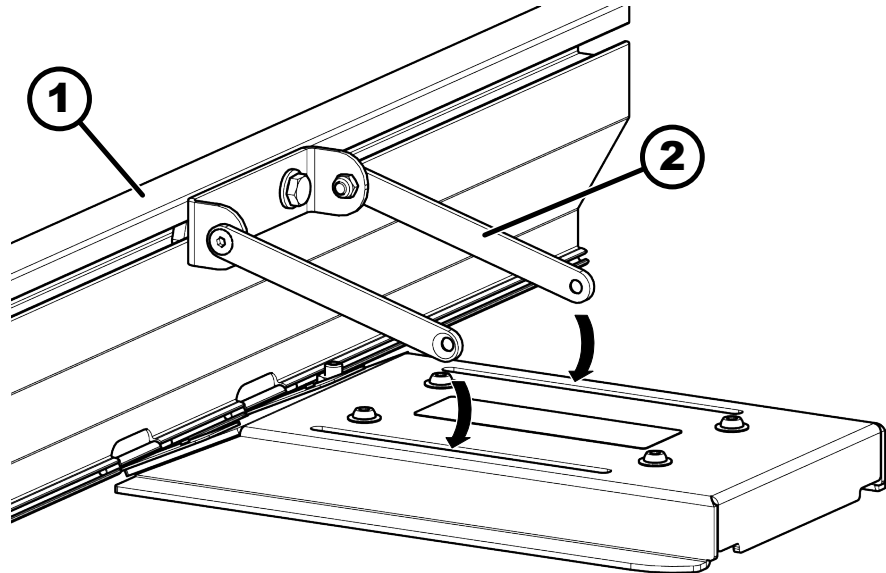


Fig. 23: Thread in the adjustment struts

- 1 Fence plate
- 2 Adjustment struts

2. ➤ Fix the struts with the spacer for easy movement. Adjust the play with the countersunk screw and fix with the safety nut.  
Lubricate the screw head and plastic washer with machine grease.

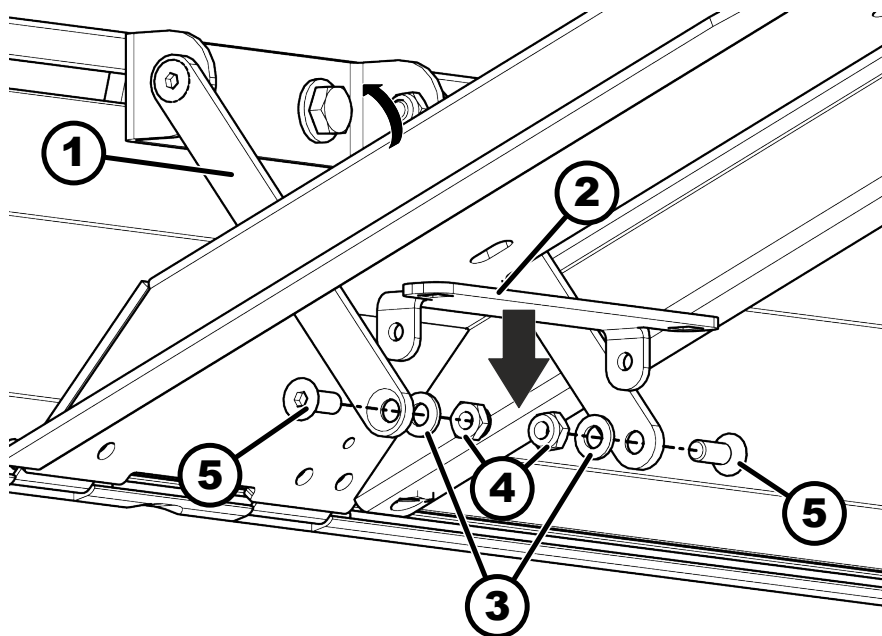


Fig. 24: Fixing the planing fence

- 1 Flat-head screw
- 2 Distance
- 3 Plastic washers
- 4 Safety nut

3. → Mount the clamping screws.

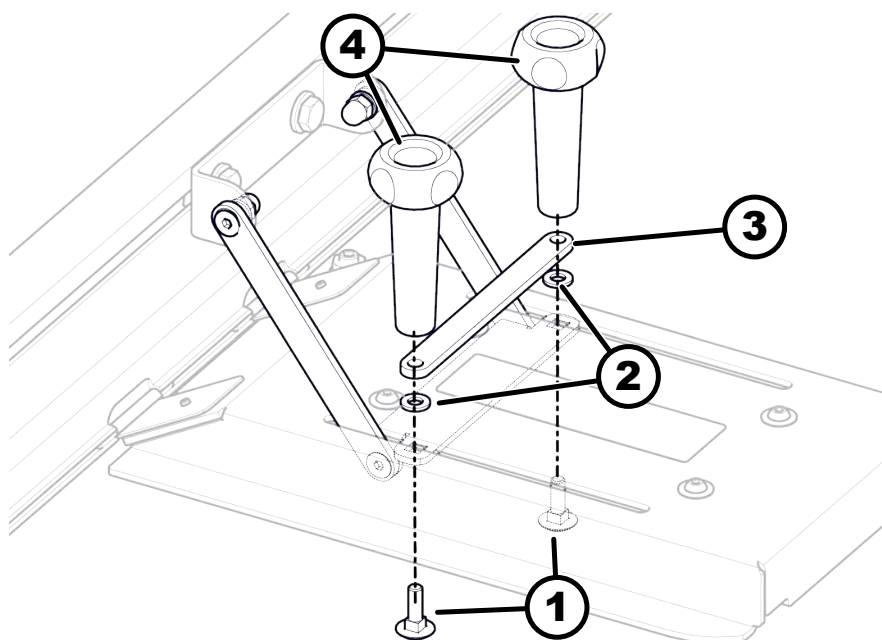


Fig. 25: Mount the clamping screws

- 1 Carriage bolt
- 2 Plastic washers
- 3 Indicator plate
- 4 Clamping screw

### 7.3.2 Mount the planer fence

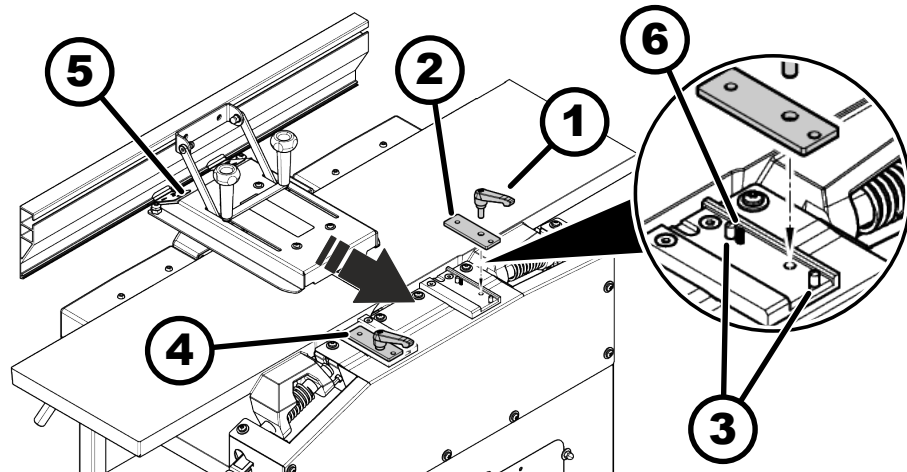


Fig. 26: Mount the planer fence

- 1 Clamping lever
- 2 Locking plate
- 3 Guide pins
- 4 Clamping lever and clamping plate
- 5 Planer fence
- 6 Pressure spring

1. Ensure, that the compression spring is correctly placed in the hole.
2. Position the clamping plate on both of the guide pins.
3. Screw the clamping lever in through the clamping plate in the machine chassis.
4. Fit the compression spring, clamping plate and clamping lever on the second side.
5. Slide the planer fence under both of the clamping plates from the front.
6. Slide the planer fence in until it hits the stop and clamp it into place using both of the clamping levers.

### 7.3.3 Mount the cutterblock cover



#### WARNING

#### Extremely sharp planer knife cutters

Cut injuries to hands and fingers

- Wear protective gloves.
- Be particularly careful when working with the cutterblock.

### Front cutterblock cover (bridge guard)

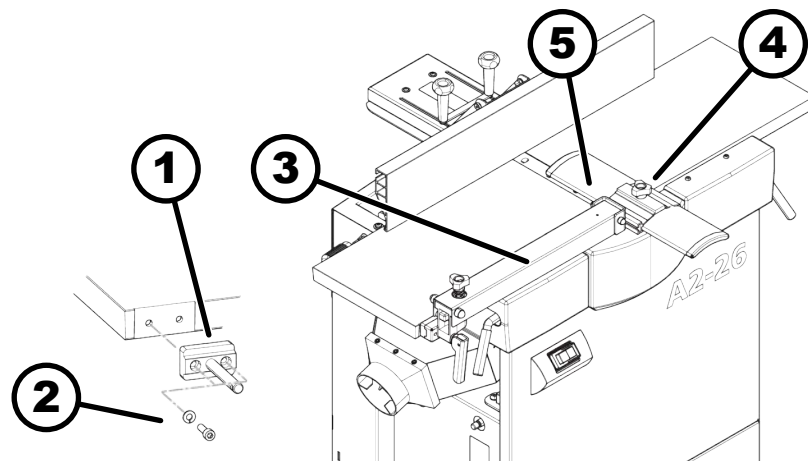


Fig. 27: Planer guard protective guard

- 1 Mounting jaw (bridge guard arm)
- 2 Hex screws (2x)
- 3 Bridge guard arm
- 4 Clamping screw
- 5 Protective guard

#### Tool:

- Hex key

1. ➤ Loosen the clamping screw.
2. ➤ Slide the protective guard into the arm of the bridge guard.
3. ➤ Tighten the clamping screw.

### 7.3.4 Mount the handwheel

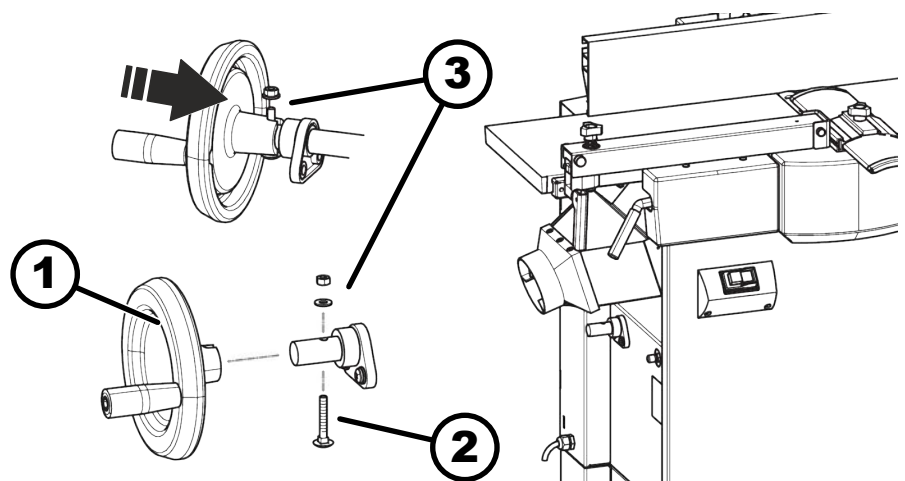


Fig. 28: Mount the thicknesser handwheel

- 1 Handwheel
- 2 Carriage bolt
- 3 Nut and washer

#### Tool:

- Spanner 10 mm

1. ➤ Insert the carriage bolt through the arbour.

2. ➤ Insert the handwheel on to the arbour.
  - ➔ The handwheel sits flush between the insert and the bolt.
3. ➤ Place the nut and washer on and tighten.

## 7.4 Install the dust extraction



### CAUTION

#### Electrostatic charging

Burns or electric shock caused by unearthed, or poor quality extraction hose.

- Only use dust extraction hose approved by the manufacturer.
- Always ensure continuous electrostatic earthing when connecting machines.
- The dust extraction hose must be flame resistant and electroconductive. For this reason we recommend that you only use Felder Group dust extraction hose!

### Dust extraction system requirements

Every machine that uses an extraction system shall be extracted in accordance with EN 12779:2015 or EN 16770:2018.

- The extraction performance must be sufficient to achieve the negative pressure and air speed required at the connection point (see technical data or layout).
- Check extraction power before initial start-up and after significant changes (to the machine and / or extraction system).
- Before the machine is put into operation for the first time the dust extraction setup must be checked. Check for obvious defects on a daily basis and the efficiency on a monthly basis.
- Depending on the equipment, the dust extractor can be connected to the machine in such a way that it runs in unison with the machine (potential-free contact).
- On machines without extraction system control, switch on the extraction system before starting processing.
- The dust extraction hose must be electroconductive and grounded to prevent electrostatic build up.
- Only use flame-retardant extraction hoses.
- Use extraction with reduced dust emission to clean dust from the machine.

## Connection to the extractor

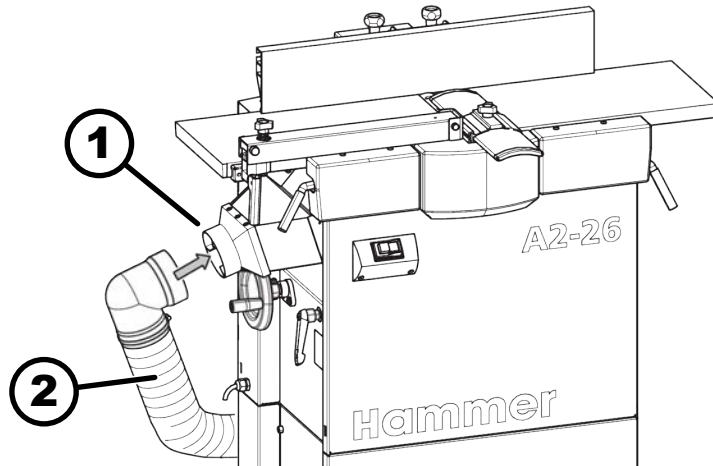


Fig. 29: Extraction connection

- 1 Ø 100 mm extraction connection
- 2 Extraction pipe

### Material:

- Hose clamp

1. ➔ Connect the extraction hose to the extraction connection.
2. ➔ Fix the hose clamps in place.

## 7.5 Connect electrics

### 7.5.1 Connect the machine plug



#### ! WARNING

#### Electric current

Serious injury or death

- Changes to the connection cable can only be carried out by a trained electrician.
- Checking the loop impedance and the suitability of the over-current protective device must take place at the location where the machine is to be commissioned by a qualified electrician.

The machine is equipped with a plug with an earth contact. If required the customer must fit the machine cable with a suitable plug that is in accordance with country specific regulations.

## 8 Adjustments and tool changes

### 8.1 Adjusting the planer unit

#### 8.1.1 Adjust the planer cutterblock depth of cut

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

- Width and surface composition of the workpiece
- Wood type (hard or soft wood) and wood moisture content
- Motor power and feed speed
- Type and number of planer knives

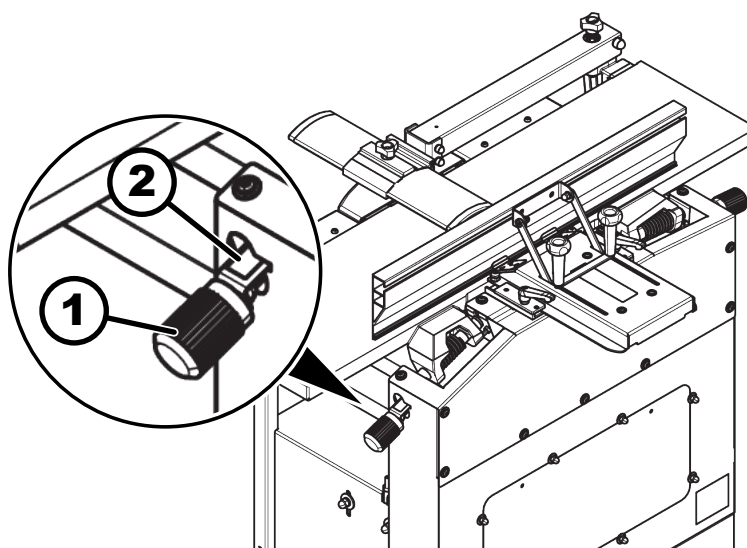


Fig. 30: Adjust the depth of cut

- 1 Set the depth of cut (infeed planing table)
- 2 Depth of cut scale

The depth of cut is adjusted with the adjustment wheel on the infeed side of the planer table.

→ Turn the wheel until the desired value is displayed on the scale.

#### 8.1.2 Adjusting the joint

In particular cases (extremely conical or concave or straight joints) the position of the infeed planer table can be adjusted (angled) in relation to the blade trajectory.

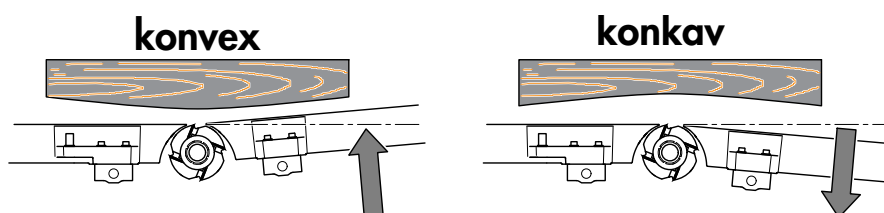


Fig. 31: Adjust infeed planing table



The planer table is set so that with a workpiece length of 1 m, a concave joint of approximately 0.1 to 0.2 mm is produced (standard setting).

A change by the customer is not foreseen, but can be made by a Felder Group service technician.

### 8.1.3 Adjust outfeed planer table



#### NOTICE

##### Malfunction due to improper adjustment

When surface planing, workpiece stops when it reaches the outfeed side of the planer table.

- The outfeed planer table must lay below the trajectory of the blades.
- The setting must be checked with a gauge. → Chapter 8.1.4 'Check the setting of the planer table on the outfeed side' on page 50

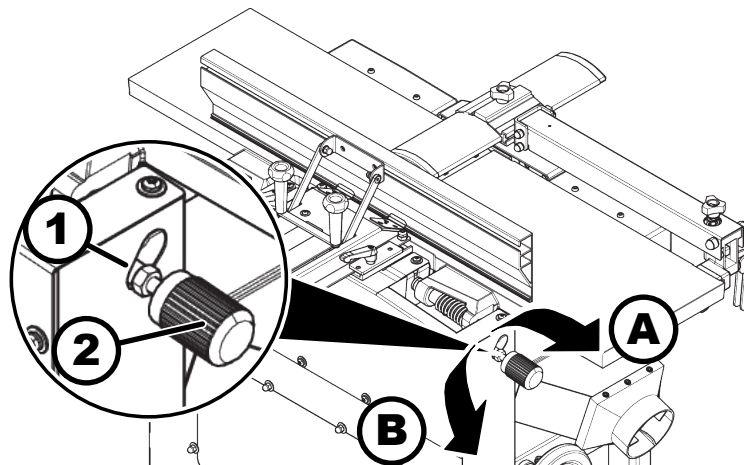


Fig. 32: Adjusting the height of the outfeed side of the planer table

- 1 Locking nut
- 2 Adjust height (infeed planing table)
- A Planing table upwards adjustment
- B Planing table downwards adjustment

#### Tool:

- Combination wrench set

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Loosen locking nut (fork wrench 17 mm).
3. ➤ Turn the wheel to make fine adjustments.
  - Set the planer table upwards: Turn the handwheel clockwise (direction A).
  - Set the planer table downwards: Turn knurled screw anticlockwise (direction B).
4. ➤ Tighten locking nut (fork wrench 17 mm).
5. ➤ Check the adjustment with a gauge.

### 8.1.4 Check the setting of the planer table on the outfeed side

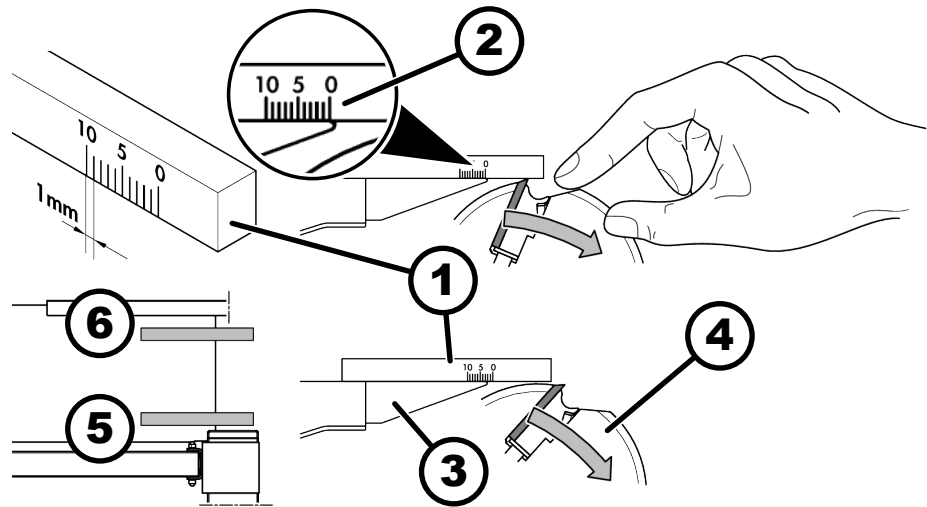


Fig. 33: Check settings

- 1 Gauge
- 2 Set to "0" on the planer table edge
- 3 Outfeed side of the planer table
- 4 Turn the cutterblock
- 5 Front side - protective guard
- 6 Rear side - planer fence



#### WARNING

##### Extremely sharp planer knife cutters

Cut injuries to hands and fingers

- Wear protective gloves.
- Be particularly careful when working with the cutterblock.

#### Tool:

- Gauge with millimetre markings

1. Switch off the machine and secure it against being switched on again.
2. Slide the planer fence all the way to the back, move the protective guard all the way to the front.
3. Prepare the gauge as shown in the illustration.
4. Check of the settings at the front, outfeed planer table edge (front side - protective guard): Set the gauge to "0" on the front, outfeed side planer table edge.
5. Turn the cutterblock manually.
6. Turn the cutterblock until the gauge is no longer lifted.
  - ➔ The planer knife should carry the gauge for 2-3 mm (factory setting).  
Knife projection of 0.01 mm - 0.05 mm above the outfeed planer table.
7. Repeat the check of the settings on the rear, outfeed side planer table edge (rear side - planer fence).

### 8.1.5 Adjusting the planer fence

The machine is equipped with a fence to guide the workpiece. The planer fence can be used across the full planing width of the machine and tilted from 90° to 45°.

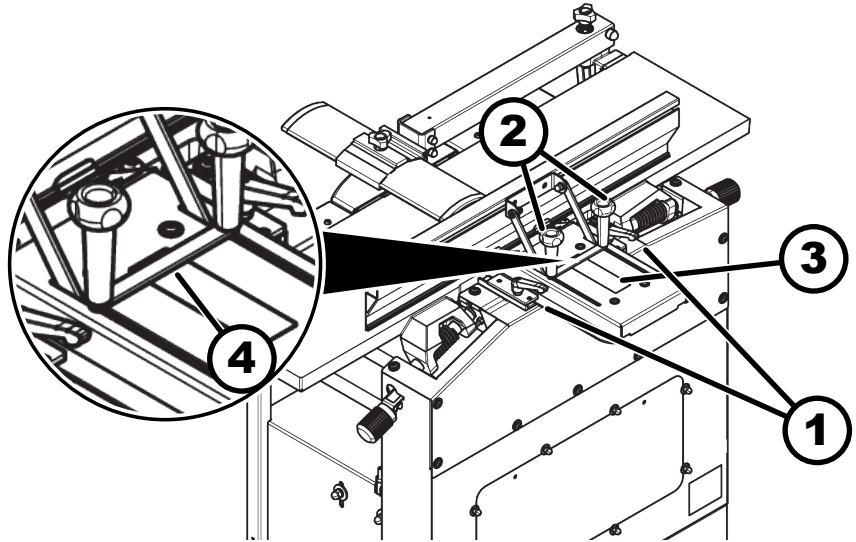


Fig. 34: Adjusting the planer fence

- 1 Clamping horizontal adjustment
- 2 Clamping angle adjustment
- 3 Scale angle adjustment
- 4 Read angle adjustment

#### Tilt planer fence 90° - 45°

1. ➤ Switch off the machine.
2. ➤ Open angle adjustment clamp.
3. ➤ Set the required angle (tilt the fence plate using both hands).
4. ➤ Read the angle from the scale.
5. ➤ Lock the clamp.

#### Slide the planer fence forwards or backwards:

1. ➤ Switch off the machine.
2. ➤ Open the clamp for the horizontal adjustment.
3. ➤ Move the planer fence to the desired position.
4. ➤ Lock the clamp.

### 8.1.6 Changing over from a planer to a thicknesser

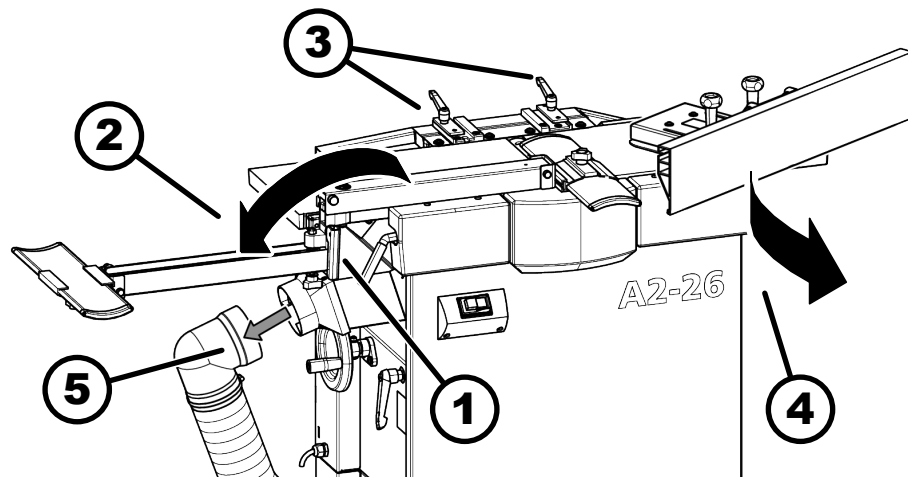


Fig. 35: Preparing to changeover

- 1 Planer guard clamp
- 2 Tilt the bridge guard away
- 3 Planer fence clamp
- 4 Remove the planer fence
- 5 Loosen the extraction hose

#### Preparing the machine to changeover

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Release the planer guard clamp.
3. ➤ Turn the bridge guard by 180° and clamp again.
4. ➤ Release the planer fence clamp.
5. ➤ Pull the planer fence all the way to the front and remove it.
6. ➤ Remove the extraction hose from the extraction hood.

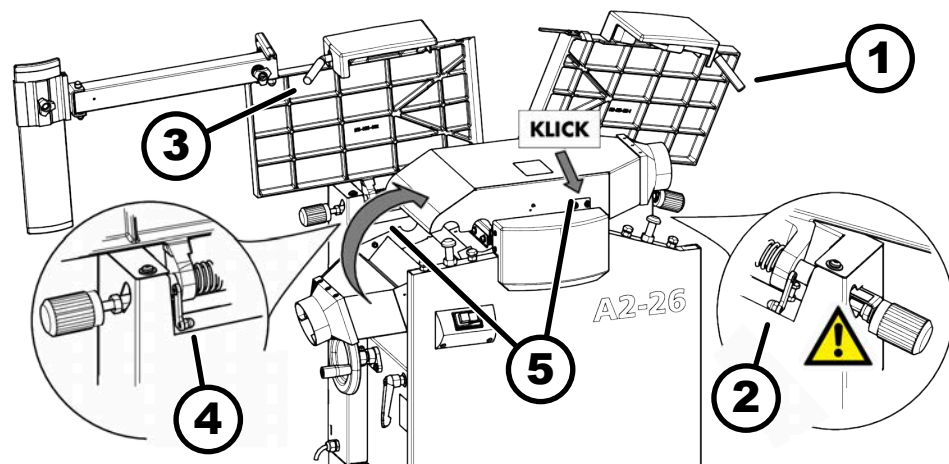


Fig. 36: Open planer table

- 1 Planer table clamping lever (infeed side)
- 2 Safety catch (infeed side)
- 3 Planer table clamping lever (outfeed side)
- 4 Safety catch (outfeed side)
- 5 Swing up the extraction hood

### Open the planer tables and prepare the machine to operate

1. ➤ Release the planer table clamping levers and pull out.
2. ➤ Tilt the infeed planer table up.
3. ➤ Tilt the outfeed planer table up.
4. ➤ Ensure that the safety latch slots correctly into place.
5. ➤ Swing the extraction hood upwards and lock in place.
6. ➤ Connect the extraction hood to the extraction supports.

## 8.2 Changing over from the thicknesser to the planer

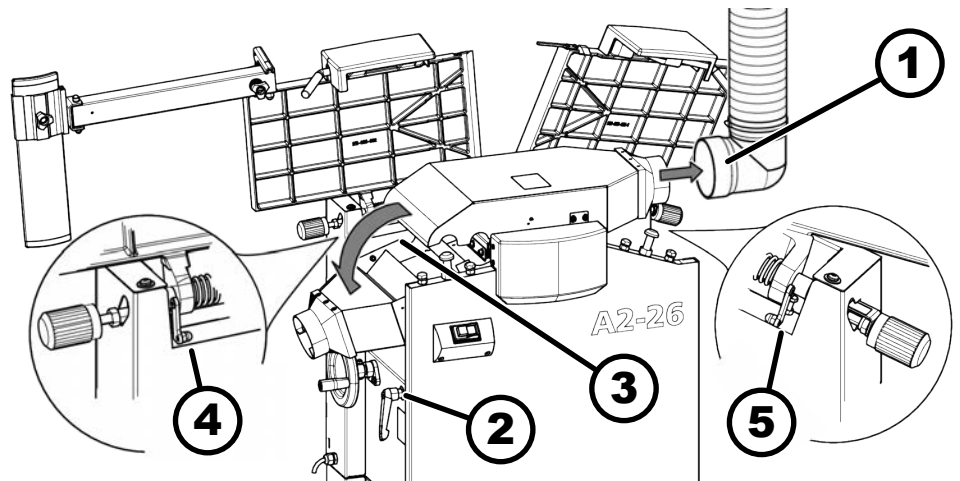


Fig. 37: Preparing to changeover

- 1 Extraction pipe
- 2 Thicknesser opening height mind. 150 mm
- 3 Swing the extraction hood downwards
- 4 Safety catch (outfeed side)
- 5 Safety catch (infeed side)

### Preparing the machine to changeover

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Remove the extraction hose from the extraction hood.
3. ➤ Adjust the thicknessing height.
  - ➡ The thicknesser must be at least 150 mm below the cutterblock.
4. ➤ Swing the extraction hood downwards.

Close the planer tables and prepare the machine to operate

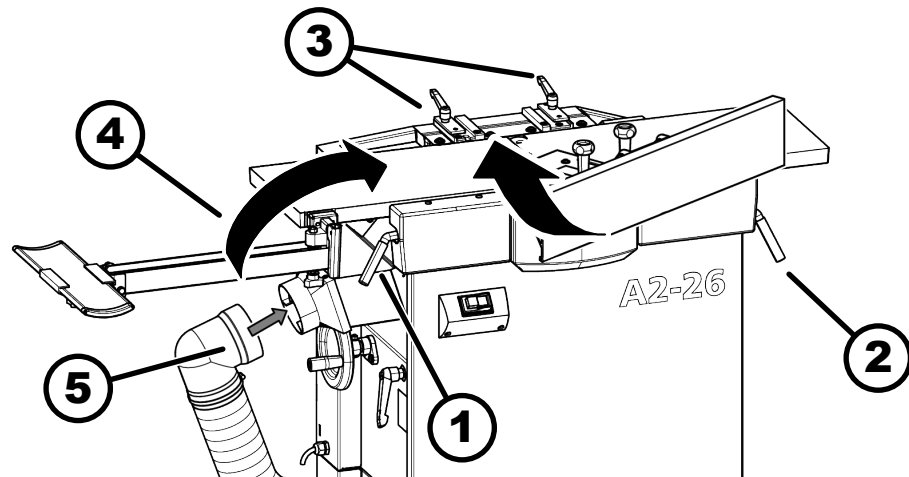


Fig. 38: Close planer tables

- 1 Planer table clamping lever (outfeed side)
  - 2 Planer table clamping lever (infeed side)
  - 3 Planer fence clamp
  - 4 Tilt the bridge guard back in place
  - 5 Connect extraction hose
1. ➤ Lift the safety catch.
  2. ➤ Close the outfeed planer table.
  3. ➤ Close the infeed planer table.
  4. ➤ Push the planing table clamping lever in and lock in place.
  5. ➤ Slide the planer fence under both of the clamping plates from the front.
  6. ➤ Slide the planer fence in until it hits the stop and clamp it into place using both of the clamping levers.
  7. ➤ Release the planer guard clamp.
  8. ➤ Turn the bridge guard by 180° and clamp again.
  9. ➤ Connect the extraction hood to the extraction supports.

## 8.3 Adjust the thicknesser unit

### 8.3.1 Thicknesser clearance height - general information



#### NOTICE

##### Damage due to restriction of the movement direction

Danger of wedging when moving the thicknesser downwards.

- Ensure that the thicknessing table movement is not restricted.
- Do not place any workpieces or other items under the thicknesser.

When adjusting the thicknessing infeed height (particularly when lowering), ensure that no workpieces or other objects have been placed beneath the table (wedging threat). To compensate for any play in the thread, adjust the thicknessing table moving it upwards.

The thicknessing height can be adjusted to any position between the minimum and maximum value. → Chapter 4.5 'Planing unit' on page 22

- Width and surface composition of the workpiece
- Wood type (hard or soft wood) and wood moisture content
- Motor power and feed speed
- Type and number of planer knives

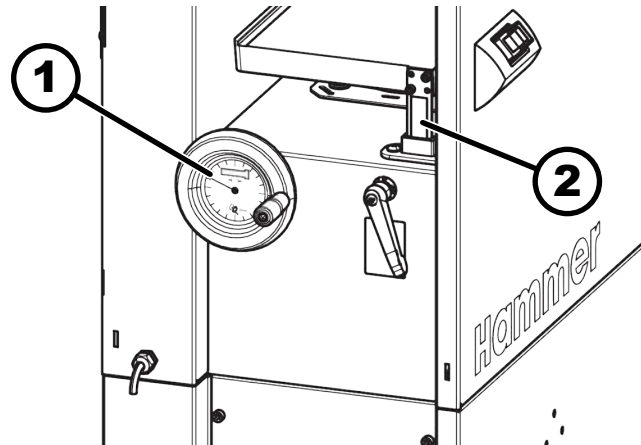


Fig. 39: Digital display

- 1 Digital display
- 2 Thickness planing height scale

Depending on the configuration the specified value can be read on the scale (accurate to 1.0 mm) or on the digital clock or digital display (accurate to 0.1 mm).

### 8.3.2 Thicknessing bed adjustment with handwheel

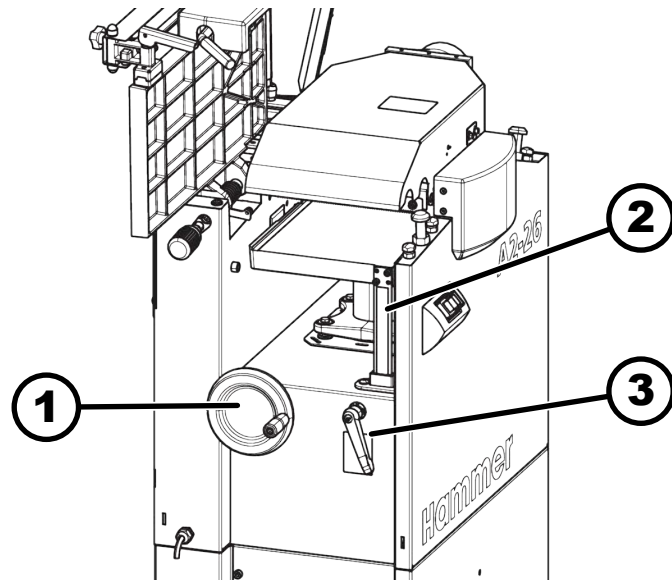


Fig. 40: Adjust the thicknessing height

- 1 Height adjustment handwheel (thickness planing height)
- 2 Scale - Thicknessing passage information
- 3 Clamping lever - Clamping the thicknesser

The thicknessing opening is equal to the final processed workpiece dimension.  
The adjustment of the thicknesser is done using the handwheel.

1. ➤ Switch off the machine.
2. ➤ Loosen the clamping lever.
3. ➤ Measure the thickness of the workpiece.
4. ➤ Use the system handwheel to set the desired dimension.
  - ➡ Depth of cut = Thickness of the workpiece minus the value set.
5. ➤ Clamp the clamping lever.



## 9 Use

### 9.1 Auxiliary aids for safe operation

- When planing long workpieces (longer than the planing table on the infeed and outfeed side), assist with additional supports (e.g. table extensions, trolley).
- Support long workpieces with additional supports (e.g. table extensions, roller supports).
- Keep tools for processing short and narrow workpieces close at hand (e.g. push grip, pushing stick, workpiece holder).

### 9.2 Switch on / switch off / shutdown due to an emergency stop



#### WARNING

##### Insufficient preparation

Severe injuries and damage to equipment

- Do not start the machine until all prerequisites have been met and all preparatory work has been completed.
- Read the instructions for setup, adjustment and operation before turning on the machine.



#### NOTICE

##### Operating / Room temperature

Damages due to storage, material damage

- The machine may only be operated in dry and frost-free rooms at temperatures between +10 and +40 °C.

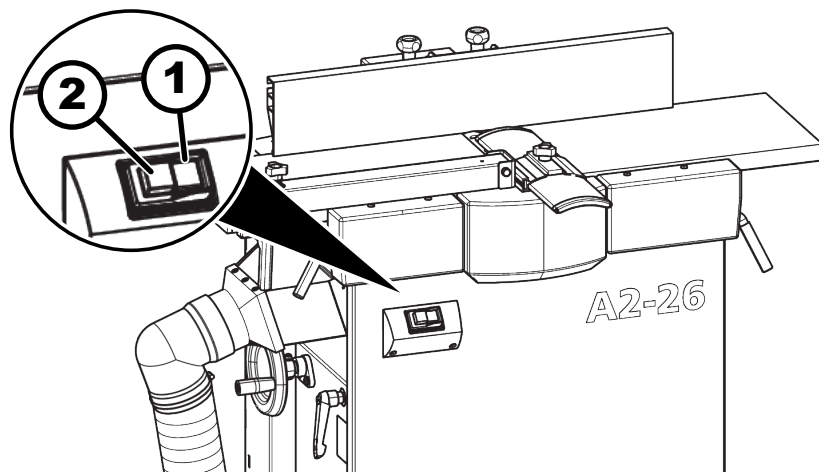


Fig. 41: Switching on and off

- 1 Green start button
- 2 Red stop button - switch machine off

#### Switching on

1. ➔ Connect the machine to the main power supply.

2. ➤ Switch on the cutterblock and feed with the green *[start]* button.

### Switch off

1. ➤ Press the red *[Stop]* button.
2. ➤ Disconnect the machine from the main power supply.

### Emergency stop (depending on equipment)

The machine is equipped with either one or several *[emergency stop]* buttons, depending on the configuration.

Alternatively, machines without a separate feed motor can be equipped with red *[Stop]* buttons instead of the *[Emergency Stop]* buttons.

1. ➤ Press the *[emergency stop]* or the red *[stop]* button.
  - ➔ The machine stops immediately.
2. ➤ Unlock the *[Emergency stop]* button by turning it.

## 9.3 Planing - General information

### 9.3.1 Working positions - Planing



#### WARNING

##### Ejected workpieces / workpiece parts

Severe injuries and damage to property

- Assume the correct working position.
- Never stand directly within the line of sight of the machining units when the machine is switched on (regardless of whether the machine is working or idling).
- Only process the workpiece by feeding in against the direction of rotation.

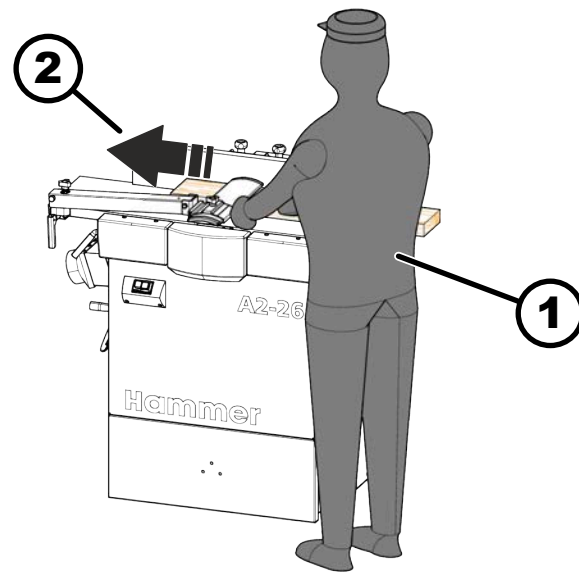


Fig. 42: Working position - Planing

- 1 Working position - Planing
- 2 Processing direction

### 9.3.2 Permitted processing techniques planing

Surface planing evens irregular workpiece surfaces. The workpieces are guided over the cutterblock and only their undersides are machined.

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

- Planing the broadside of a workpiece.
- Planing the narrow side of a workpiece.
- Bevelling the narrow side of a workpiece.
- Chamfering the edges of a workpiece.
- Always work from right to left in front of the machine.

### 9.3.3 Prohibited work techniques planing

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

- Synchronous planing (the rotational direction of the cutterblock is the same as that of the feed direction).
- Insert planing (the full length of the workpiece is not machined).
- Planing workpieces that are very warped.
- Rabbet planing using the end of the cutterblock.

### 9.3.4 Workpiece dimensions (planing)



#### WARNING

#### Risk of injury from workpiece parts

Splintering workpieces when working at a larger depth of cut (4mm)

- When processing workpieces that are thinner than 10 mm, only set a small depth of cut (max. 10% of the workpiece thickness).
- The finished planed workpiece must not be thinner than 6 mm.

When using appropriate auxiliary equipment and observing the safety distances to the surroundings, there are no limits to the workpiece length.

Length less than 250 mm	only work with special equipment (e.g. push stick).
Length longer than 1500 mm	only work with table extensions or with a second person.
Width	max. 260 mm
Thickness	min. 10 mm (without suitable auxiliary material)

### 9.3.5 Work process with permitted working methods

#### Personnel:

- Trained machine operator

#### Protective equipment:

- Push stick, push grip

#### Requirements

- Switch the machine off before you start.
- Extraction system is connected.
- Close the planer tables or tilt away the extraction hood.

**1.** ➤ Ensure that there are sufficient support surfaces (accessories).

**2.** ➤ If necessary change the machine over.

**1.** ➤ Changing over from thicknesser to planer. ➡ Chapter 8.2 'Changing over from the thicknesser to the planer' on page 53

**2.** ➤ Adjust the planer fence.

**3.** ➤ Adjust the depth of cut.

**3.** ➤ Only switch the machine on once the workpiece has been placed in the correct machinable position.

**4.** ➤ When planing, lead the workpiece evenly with closed fingers.

**5.** ➤ Never place your hands on the workpiece over the cutterblock.

**6.** ➤ Use a push stick at the end of the planing process if necessary.

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

## 9.4 Processing techniques when planing

### 9.4.1 Planing

Adjust the cutterblock protective guard

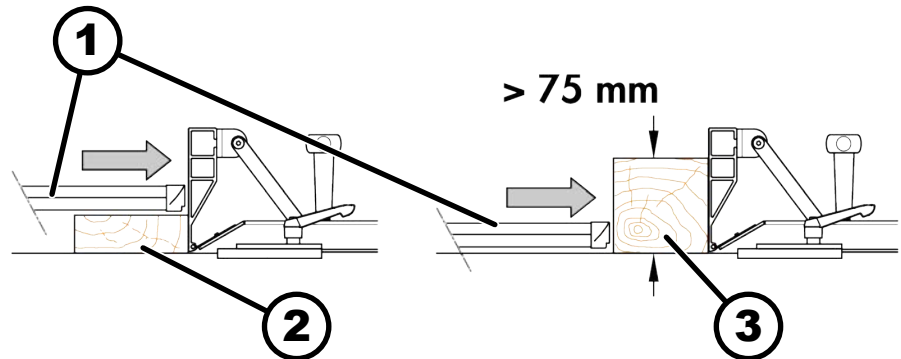


Fig. 43: Planing - protective guard

- 1 Protective guard
- 2 Workpiece thickness less than 75 mm
- 3 Workpiece thickness greater than 75 mm

Workpiece thickness less than 75 mm:

→ Cover the entire planer with the guard and set it only slightly higher than the thickness of the workpiece.

Workpiece thickness greater than 75 mm:

→ Move the guard up against the workpiece and let it rest on the planer table.

### Machining the workpiece

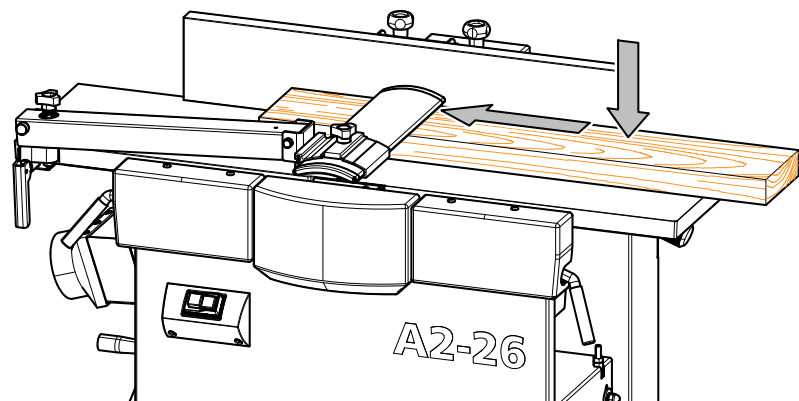


Fig. 44: Planing

1. → Take note of general procedures for permitted working methods. → Chapter 9.3.5 'Work process with permitted working methods' on page 60
2. → Place hands on the workpiece in a closed position with the thumbs firmly against them.
3. → Push the workpiece under the protective guard with both hands.
4. → As soon as the workpiece has moved far enough onto the outfeed planer table, place your left hand onto it and push it evenly over the cutterblock.
5. → Move the workpiece back over the protective guard into the starting position.

### 9.4.2 Planing the narrow edge

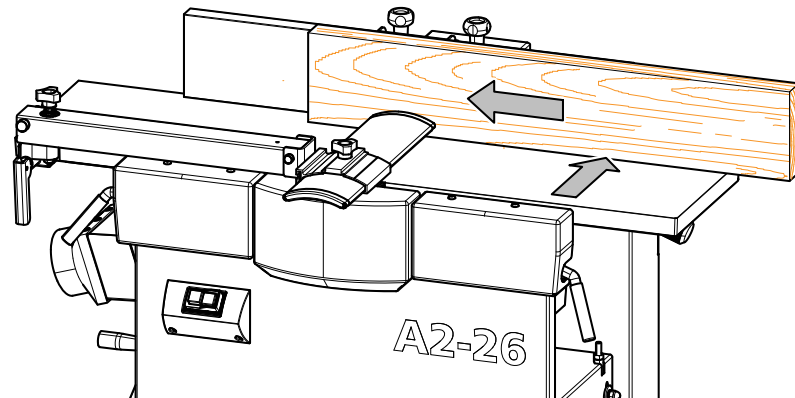


Fig. 45: Planing - Planing the narrow edge

1. ➔ Take note of general procedures for permitted working methods. ➔ Chapter 9.3.5 'Work process with permitted working methods' on page 60
2. ➔ Place the protective guard on the planer table and cover all the cutterblock, with the exception of the width of the workpiece.
3. ➔ Press the workpiece against the planer fence and guide evenly over the cutterblock.
4. ➔ As soon as the workpiece has moved far enough onto the outfeed planer table, place your left hand onto it and push it evenly over the cutterblock.
5. ➔ Move the workpiece back over the protective guard into the starting position.
6. ➔ Ensure that your hands are placed on the workpiece in a closed position with the thumbs against the closed hands.



#### Requirements of the workpiece

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

### 9.4.3 Planing of smaller workpieces

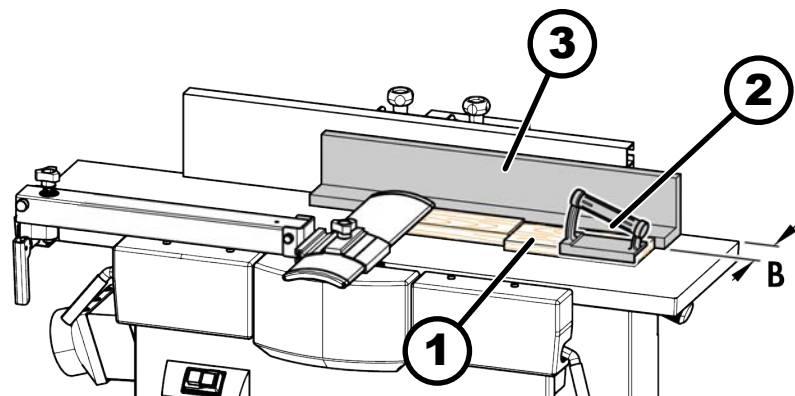


Fig. 46: Planing - Processing of smaller workpieces

- 1 Push block
- 2 Pushing grip
- 3 Auxiliary fence (W = min. 60 mm)

**WARNING****Serious hand injuries due to insufficient preparation**

Contact with the rotating cutterblock

- Use a push block and pushing grip
- Use an auxiliary fence that has a width of at least 60 mm

**Protective equipment:**

- Push stick, push grip

1. ➤ Take note of general procedures for permitted working methods. ➔ Chapter 9.3.5 'Work process with permitted working methods' on page 60
2. ➤ Adjust the cutterblock protective guard. ➔ Chapter 9.4.1 'Planing' on page 61
3. ➤ Push the workpiece under the protective guard using the pushing stick and push block. The pushing stick should not be thicker than the workpiece.
4. ➤ Move the workpiece back over the protective guard into the starting position.

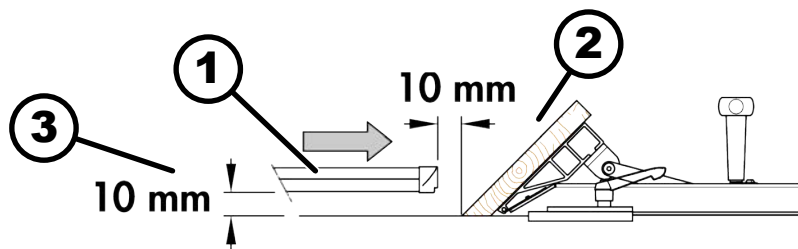
**9.4.4 Bevelling and chamfering****Bevelling using the planer fence**

Fig. 47: Bevelling - protective guard

- 1 Protective guard
- 2 Distance to workpiece
- 3 Distance to planer table

1. ➤ Take note of general procedures for permitted working methods. ➔ Chapter 9.3.5 'Work process with permitted working methods' on page 60
2. ➤ Adjust the angle of the planing fence.
3. ➤ Adjust protective guard as per diagram. Pay attention to the distance to the workpiece and planing table.
4. ➤ To prevent the workpiece from slipping from the angled surface, press the workpiece predominantly against the fence and only lightly against the planer tables.
5. ➤ Additional procedures as described in the chapter "Planing narrow edges". ➔ Chapter 9.4.2 'Planing the narrow edge' on page 62

**Bevelling and chamfering of smaller workpieces**

You must always use a special jig for chamfering or bevelling small, narrow workpieces.

This jig can also be used to chamfer long workpieces.

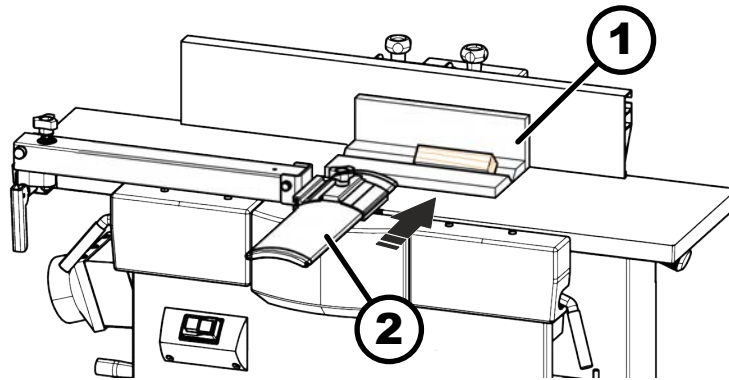


Fig. 48: Bevelling - processing smaller workpieces

- 1 Jig
- 2 Protective guard

1. Take note of general procedures for permitted working methods. → Chapter 9.3.5 'Work process with permitted working methods' on page 60
2. Set the planing fence at a 90° angle.
3. Attach the jig to the planer fence.
4. Place the protective guard all the way down and let it rest against the jig.
5. Additional procedures as described in the chapter "Planing narrow edges". → Chapter 9.4.2 'Planing the narrow edge' on page 62

## 9.5 Thickness planing

### 9.5.1 Working positions - thickness planing



#### CAUTION

##### Wedging of drive fed workpieces when thicknessing

Injuries and material damage. Insufficient distance to adjacent machines, walls etc. can lead to wedging or splintering of the workpieces.

- Ensure sufficient distance to neighbouring machines, to walls or other solid objects.



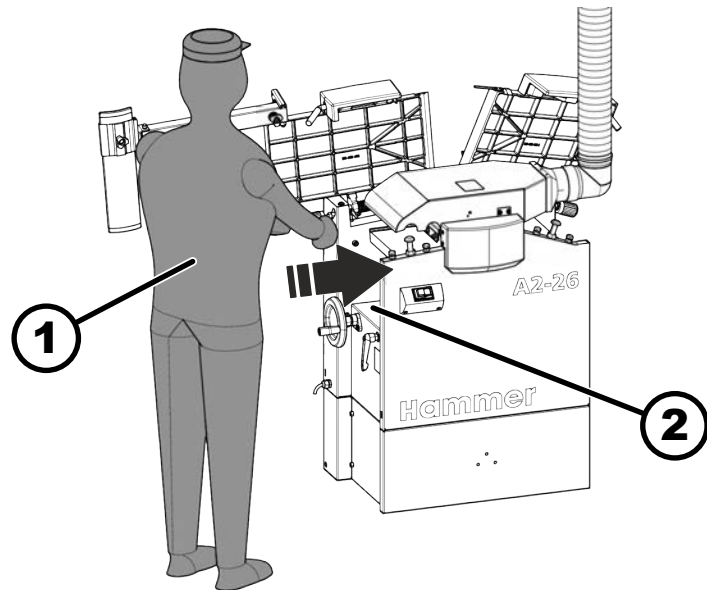


Fig. 49: Working position - thickness planing

- 1 Working position - thickness planing
- 2 Processing direction

### 9.5.2 Authorised thickness planing working methods

During thickness planing, workpieces with an already planed surface are planed thinner in parallel. Precise parallel thicknesses can only be obtained if the workpiece was precisely surface-planed beforehand to ensure that it can lie flat on the thicknesser table.

Only the following working techniques are permitted with the thickness unit, depending on the configuration:

- Infeed roller - standard:
  - A maximum of 2 workpieces can be thickness-planed simultaneously.

### 9.5.3 Prohibited thickness planing working methods

With the thickness unit, the following working techniques are generally prohibited:

- Thicknessing several workpieces of varying thicknesses (depending on configuration).
- Simultaneous planing (the direction of the cutterblock rotation is the same as the feed direction).
- Insert planing (the full length of the workpiece is not machined).

### 9.5.4 Workpiece dimensions (thickness planing)

When using appropriate auxiliary equipment and observing the safety distances to the surroundings, there are no limits to the workpiece length.

The minimum workpiece length is determined by the distance between the two transport rollers. Smaller workpieces can only be processed by using extra tools (e.g. pushing stick).

Length	min. 145 mm
Width	max. 254 mm
Thickness	min. 5 mm / max. 184 mm

### 9.5.5 Thickness planing



#### WARNING

##### Serious hand injuries / danger of being pulled in

Contact with the rotating cutterblock

- Assume the correct working position.
- Never reach into the infeed or outfeed whilst the machine is running (during the process or running idle).
- Do not overload the machine. Process workpieces several times, with a small depth of cut.



#### NOTICE

##### Large differences in workpiece thicknesses

Damage to the infeed rollers

- If machining several workpieces simultaneously, the max. difference in thickness from workpiece to workpiece may only amount to 1 mm!



#### WARNING

##### Risk of injury from workpiece parts

Splintering workpieces when working at a larger depth of cut

- When processing workpieces that are thinner than 10 mm, only set a small depth of cut (max. 10% of the workpiece thickness).
- The finished planed workpiece must not be thinner than 5 mm.

### Thickness planing step 1 - infeed side

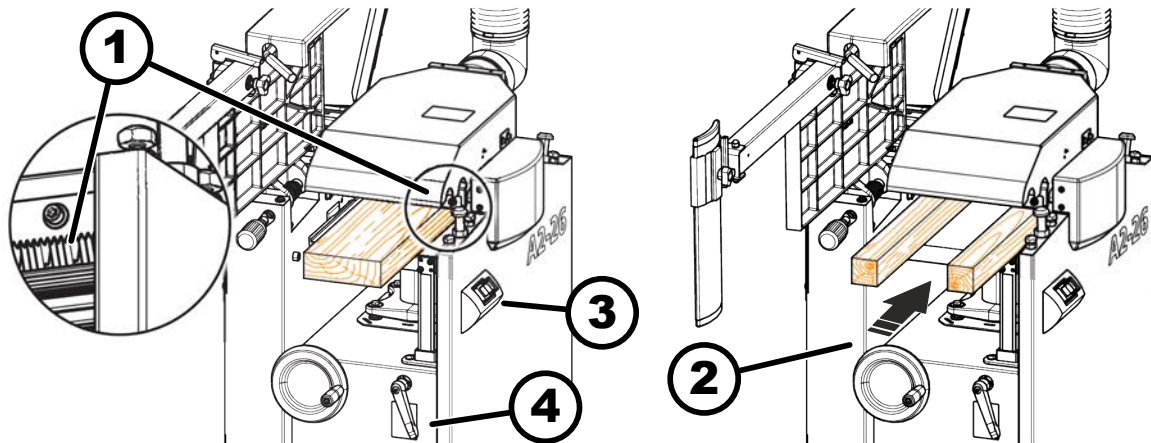


Fig. 50: Thickness planing - infeed side

- 1 Kickback guards
- 2 Processing direction when thicknessing
- 3 Start the cutterblock and feed
- 4 Lock the clamping lever (thicknessing table adjustment)

#### Material:

- Super-Gleit

1. ➤ Take note of general procedures for permitted working methods. ➔ Chapter 9.5.2 'Authorised thickness planing working methods' on page 65
2. ➤ Every time the machine is put into operation, test the kickback guards to ensure that they are functioning properly.
3. ➤ Switch on the machine, start the drive motor.  
The feed gear runs automatically when the drive motor is switched on.
6. ➤ Place the surface-planed side of the workpiece on the thicknesser table and push into the machine until it is drawn in by the feed rollers.
7. ➤ Processing several workpieces:
  - Infeed roller standard:

#### with several workpieces being simultaneously processed:

- Insert the two workpieces at each end of the transport roller.

## Thickness planing step 2 - outfeed side

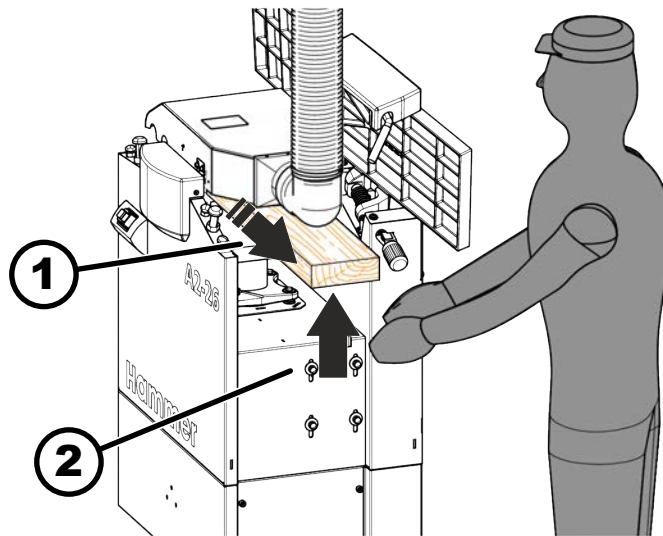


Fig. 51: Thickness planing - outfeed side

- 1 Processing direction when thicknessing
  - 2 Support the workpiece
1. ➤ The workpiece must be supported when it comes out of the rear of the machine to prevent it from tipping over.
  2. ➤ Remove the workpiece from the machine.
  3. ➤ Adjust the thicknessing height before planing again.  
Pay attention to maximum depth of cut.
  4. ➤ Push the workpiece back into the machine on the infeed side.

## 10 Maintenance

## 10.1 Maintenance schedule

The following maintenance work must be performed at the prescribed intervals.

Chap.	Task to execute	Daily	Every 8 operating hours	Every 80 operating hours	Monthly	Twice a year	If required	Page
10.3	Clean the machine		X					71
10.5	Check kickback guards/clean transport rollers	X			X			73
10.6	Check belt tension and belt condition				X			74
10.7	Drive chain feed rollers			X		X		75
10.8	Lubricate the thickening table height adjustment spindles				X			75
10.9	Lubricate planer fence						X	76
10.10	Check safety devices					X		77
10.10	If the machine is equipped with an <i>[emergency stop]</i> button, test the functionality				X			77
10.10	Check the red <i>[stop]</i> button and the emergency stop on machines not equipped with an <i>[emergency stop]</i> button				X			78

## 10.2 Cleaning and lubricating

- Do not use compressed air to clean, as this will blow dust and shavings into the various ball bearings and guides.
- Only use low dust emission vacuum to remove dust deposits.
- Carry out cleaning when required, after each workday or at the very latest after 8 hours of operation.



### NOTICE

#### Do not use graphite and MoS<sub>2</sub> sprays

Guide tracks could be destroyed.

- Only use High Performance Grease (Art. Nr. 10.2.001) for lubrication.

**NOTICE****Caustic or abrasive cleaning detergents**

Damage to the surface of the machine

- Never use caustic or abrasive cleaning detergents.

**Note**

Cleaning and care products are available as accessories (see: Tools and accessories catalogue / Online shop: [www.felder-shop.com](http://www.felder-shop.com)).

## 10.3 Clean the machine

**NOTICE****Poor cleaning**

Chips ignite, fire

- Regularly clean the machine of dust and chips.

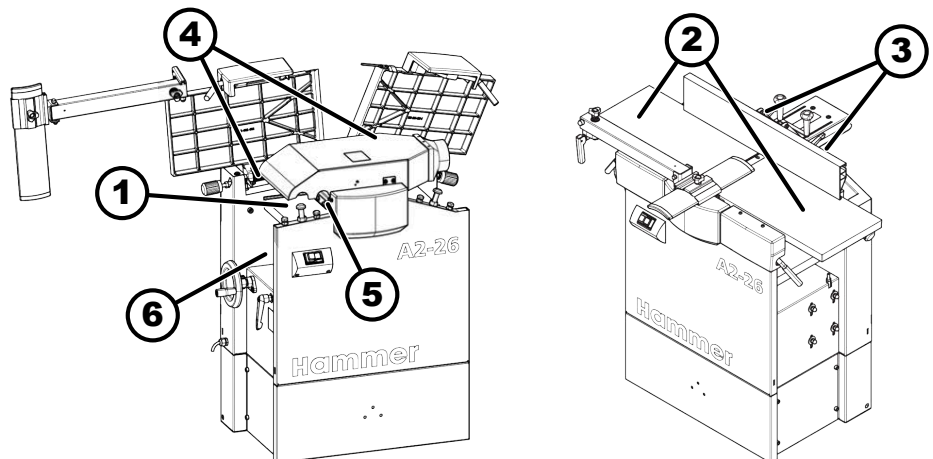


Fig. 52: Overview - cleaning

- 1 Table surface - thicknesser table
- 2 Table surfaces - planer tables
- 3 Guiding surfaces - planer fence
- 4 Guiding surfaces - thicknesser table
- 5 Transport rollers and kickback guards
- 6 Space under the thicknesser table

**Protective equipment:**

- Protective clothing
- Protective gloves
- Safety goggles

**Tool:**

- Cleaning cloths
- Resin remover
- Vacuum cleaner

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Clean the machine of dust, shavings, waste material and other contaminants.
3. ➤ Clean the machine, table and guide surfaces or chips and dust.
4. ➤ Clean the planing fence and the cutterblock cover and check for correct function.
5. ➤ Clean transport rollers and kickback guards and check that they are working.
6. ➤ Perform a visual inspection of all machine parts.

**OK** No damage

**NOK** Damage identified.

1. ➤ Repair damage immediately. If not possible, contact Felder Group Service.

## 10.4 Preparation - Remove the maintenance cover

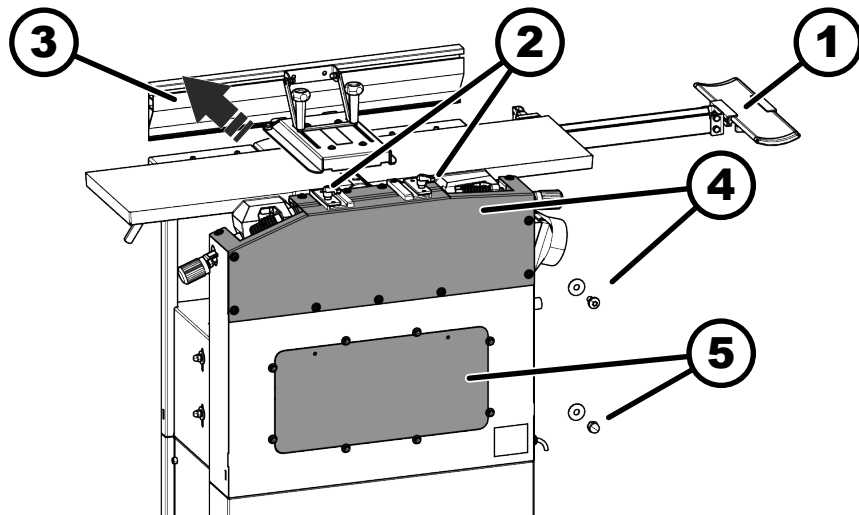


Fig. 53: Remove the maintenance cover

- 1 Fold down bridge guard
- 2 Planer fence clamp
- 3 Remove the planer fence
- 4 Remove transport rollers cover (pan-head screws)
- 5 Drive belt cover (nuts)

The maintenance cover for the transport rollers drive as well as the belt drive can be found at the rear of the machine.

### Tool:

- Allen key 4 mm
- Ring spanner 10 mm

1. ➤ Switch off the machine and secure it against being switched on again.  
Disconnect the machine from the mains power supply.
2. ➤ Tilt down the bridge guard.



3. ➤ Release and remove the planer fence clamp.
4. ➤ Remove transport rollers cover:
  - Loosen the screw and take the cover off.
5. ➤ Remove the drive belt cover:
  - Loosen the nuts and take the cover off.

## 10.5 Transport rollers and kickback guards



### NOTICE

#### Damage to the workpieces due to improper maintenance

- Check the running surface of the in and outfeed rollers regularly for signs of wear and tear.
- If there are pressure marks in the planing pattern or poor feed, clean the transport rollers immediately.
- Test the function of the kickback guard devices before each use of the thickening unit.

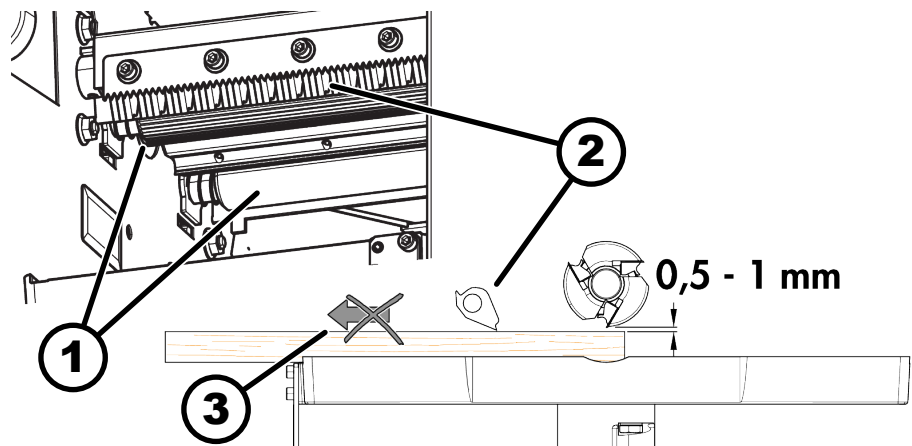


Fig. 54: Transport rollers and kickback guards

- 1 Feed rollers
- 2 Kickback guards
- 3 Planed panel

### Check kickback guards/clean transport rollers

#### Protective equipment:

- Protective clothing
- Protective gloves
- Safety goggles

#### Tool:

- Cleaning cloths
- Resin remover
- Vacuum cleaner

1. ➤ Clean the transport rollers monthly from resin residues.
2. ➤ Check condition of kickback guards.
  - ➡ The kickback guards must not show any signs of damage.

3. ➤ Test the function on a daily basis and remove traces of resin if necessary.
  - ➔ The individual kickback guards must fall back into place by themselves after having been lifted.

### Testing the kickback guard function

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Push a planed board into the machine.
3. ➤ Adjust the height of the thickening table so that there is 0.5 to 1 mm gap between the board and the cutterblock blade trajectory.
  - ➔ Thicknesser opening height = workpiece thickness + 0.5 - 1 mm
4. ➤ The attempt to pull the board out of the machine again is prevented by the kickback guards.
  - ➔ It should not be possible to pull the board out of the machine.
5. ➤ Push the board out the front of the machine.

## 10.6 Check belt tension and belt condition

- The belt tension is factory set to the ideal value.
- The belt tension is specified as an oscillation frequency in hertz (Hz).
- The correct belt tension can only be checked with a measuring device.

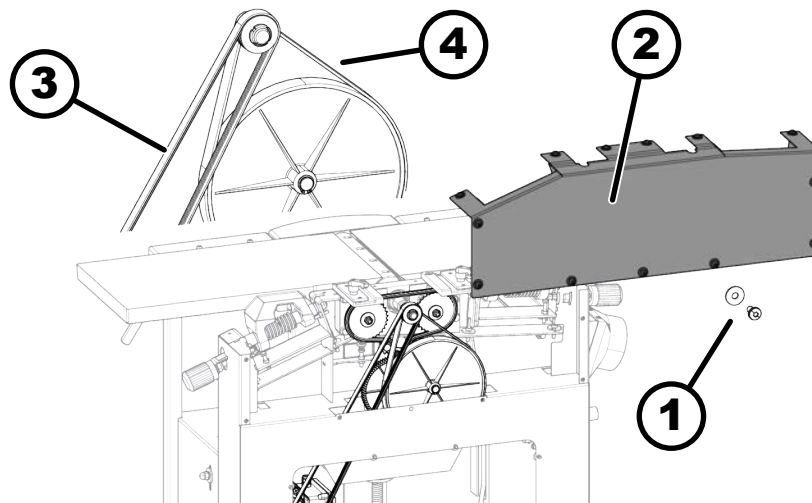


Fig. 55: Checking the drive belt

- 1 Nuts and washers
- 2 Cover lid
- 3 Drive belt tension 74 - 80 Hz
- 4 Drive belt

### Tool:

- Screwdriver with star bit

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Disconnect the machine from the mains power supply.
3. ➤ Loosen and remove the screws and washers (13x)
4. ➤ Remove lid. ➔ Chapter 10.4 'Preparation - Remove the maintenance cover' on page 72
5. ➤ Check belt tension and belt condition.

6. ➤ If any rips or tears are discovered, the belt must be changed.
7. ➤ Remount the cover. ➔ Chapter 10.4 'Preparation - Remove the maintenance cover' on page 72

## 10.7 Drive chain feed rollers

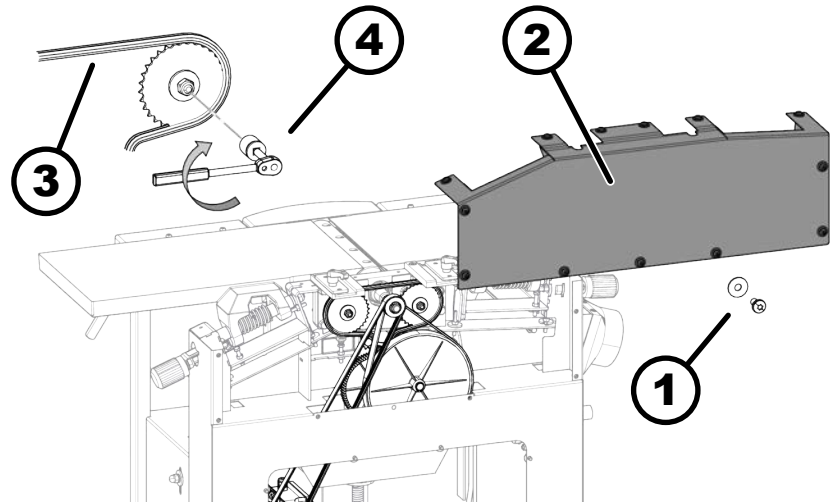


Fig. 56: Lubricate the feed roller chain

- 1 Screws and washers
- 2 Cover lid
- 3 Drive chain
- 4 Socket wrench

### Tool:

- Socket wrench

### Material:

- Machine Grease

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Disconnect the machine from the mains power supply.
3. ➤ Release and remove the planer fence clamp.  
Loosen and remove the screws and washers.
4. ➤ Remove lid. ➔ Chapter 10.4 'Preparation - Remove the maintenance cover' on page 72
5. ➤ Clean the drive chain and then reapply machine grease lubrication.  
Slowly turn the chain in a clockwise direction using a socket wrench.
6. ➤ Repeat the process, until the whole chain is lubricated.
7. ➤ Remount the cover. ➔ Chapter 10.4 'Preparation - Remove the maintenance cover' on page 72

## 10.8 Lubricate the thickening table height adjustment spindles

Depending on how often the machine is used, dust and chips have to be periodically cleaned out from the space under the thickener table.

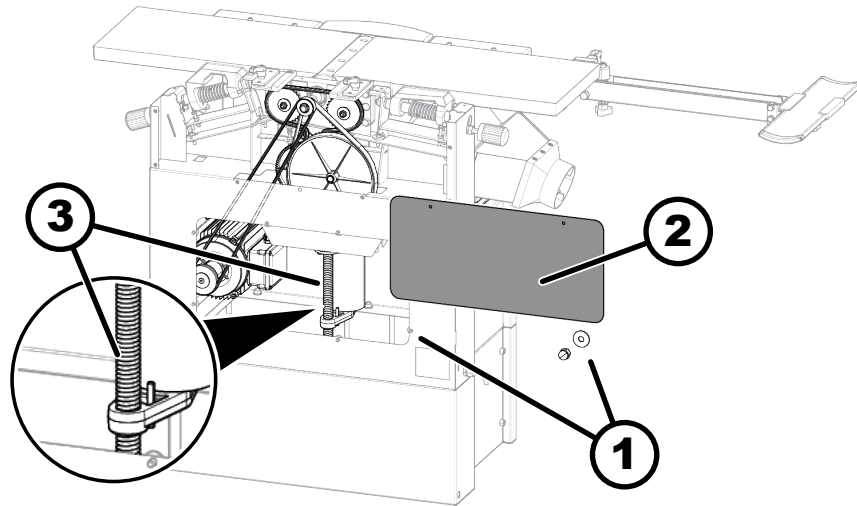


Fig. 57: Lubricating the height adjustment spindles

- 1 Nuts and washers
- 2 Cover lid
- 3 Thickener table height spindles

**Protective equipment:**

- Protective clothing
- Protective gloves

**Tool:**

- Cleaning cloths
- Resin remover
- Vacuum cleaner

**Material:**

- Machine Grease

1. ➤ Move the thickener table fully upwards. ➔ Chapter 8.3.1 'Thickener clearance height - general information' on page 54
2. ➤ Switch off the machine and secure it against being switched on again.
3. ➤ Disconnect the machine from the mains power supply.
4. ➤ Loosen and remove the nuts and washers (8x).
5. ➤ Remove lid. ➔ Chapter 10.4 'Preparation - Remove the maintenance cover' on page 72
6. ➤ Clean the spindles and then reapply machine grease lubrication.
7. ➤ Move the thickening bed all the way down and then all the way back up again. ➔ Chapter 8.3.1 'Thickener clearance height - general information' on page 54
8. ➤ Remount the cover. ➔ Chapter 10.4 'Preparation - Remove the maintenance cover' on page 72

## 10.9 Lubricate planer fence

The adjusting struts of the planer fence must be lubricated with machine grease if necessary.

**Personnel:**

- Trained machine operator

**Protective equipment:**

- Protective gloves

**Material:**

- Machine Grease

→ Lubricate the hinges of the levelling struts of the planer fence with machine grease.

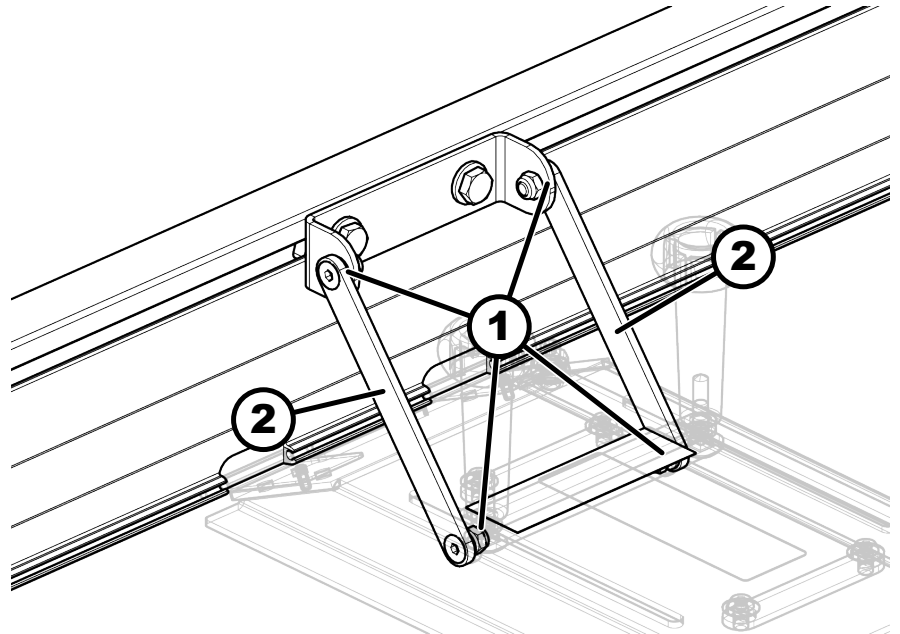


Fig. 58: Planer fence

- 1 Lubrication point
- 2 Adjustable strut

## 10.10 Check safety devices

Safety equipment must be checked every six months. The cutterblock with clamped planing knives must be brought to a complete stop within 10 seconds. In the event of any problems or malfunctions, please contact a member of Felder-Group service centre.



**Alternatively, machines without a separate feed motor can be equipped with red [Stop] buttons instead of the [Emergency Stop] buttons.**

Carry out emergency stop test with all red [Stop] buttons on the machine.

### If the machine is equipped with an [emergency stop] button, test the functionality

Carry out emergency stop test with all red [Stop] buttons on the machine.

1. → Prepare the machine to operate.
2. → Switch machine on.

3. ➤ Push the *[Emergency stop]*.

OK

**Machine stops immediately.**

1. ➤ Continue with next step.

NOK

**Machine does not stop immediately.**

1. ➤ If present: Switch off *[Main switch]* (position "O" / "OFF").
2. ➤ Disconnect the machine from the mains power supply.
3. ➤ Contact Felder-Group service centre.

4. ➤ Switch the machine on using the green *[start]* button with the *[emergency stop]* button locked.

OK

**Machine does not start.**

1. ➤ Unlock the *[Emergency stop]* button by turning it.
2. ➤ Repeat with all *[Emergency Stop]* buttons on the machine.

NOK

**Machine can be started.**

1. ➤ Press the red *[Stop]* button.
2. ➤ If present: Turn the *[main switch]* off (position "O" / OFF) and secure it.
3. ➤ Contact Felder-Group service centre.

### Check the red *[stop]* button and the emergency stop on machines not equipped with an *[emergency stop]* button

Carry out emergency stop test with all red *[Stop]* buttons on the machine.

1. ➤ Prepare the machine to operate.
2. ➤ Switch machine on.
3. ➤ Press the red *[Stop]* button.

OK

**Machine stops immediately.**

1. ➤ Repeat the test on the next red *[Stop]* button.
2. ➤ Repeat with all red *[Stop]* buttons on the machine.

NOK

**Machine does not stop immediately.**

1. ➤ If present: Switch off *[Main switch]* (position "O" / "OFF").
2. ➤ Disconnect the machine from the mains power supply.
3. ➤ Contact Felder-Group service centre.

### Check the time it takes for the machine to come to a stop

Configuration of the machine without a motor brake:

The machine is not equipped with a motor brake. The design of the machine guarantees that the cutterblock comes to a standstill within the legally applicable standstill time of 10 seconds.

1. ➤ Prepare the machine to operate.
2. ➤ Switch the machine on and briefly let it run.

3. ➤ Switch machine off with the red *[Stop]* button.

The cutterblock with clamped planing knives must be brought to a complete stop within 10 seconds.

**OK** Machine stops within 10 seconds.

- Checking the time for the machine to come to a stop completed.

**NOK** Machine takes more than 10 seconds to stop.

- If present: Switch off *[Main switch]* (position "O" / "OFF").
- Disconnect the machine from the mains power supply.
- Contact Felder Group-service.

### Check the locking of the electrical cabinet cover

The electrical cabinet cover at the rear of the machine is, in addition to the *[main switch]* locked.

Before opening the cover, the *[main switch]* must be in the "O" / "OFF" position.

The functionality of the main switch is to be checked when the machine is at a standstill.

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Prepare the machine to operate, switch off *[Main switch]* (position "O" / "OFF").
3. ➤ Release the cover lock, open the cover.
4. ➤ Switch on the with the green *[start]* button.

The machine must not be able to be switched on.

**OK** Machine can no longer be put into operation.

- Close the cover on the back of the machine.

**NOK** Machine can not be started.

- Press the red *[Stop]* button.
- Disconnect the machine from the mains power supply.
- Contact Felder Group-service.

### Check the planer table limiter switch

The functionality of the limit switch is to be checked whilst the machine is running.

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Depending on the previous use, ensure that the machine is in the position for planing.
3. ➤ Prepare the machine to operate.
4. ➤ Switch machine on.

- 5.** Pull the lever forward with both hands, slowly open the planing tables.  
The machine stops immediately.

**OK** Machine will stop immediately.

- Close and lock planing tables.

**NOK** Machine does not stop immediately.

- Close planing table, press the red *[Stop]* button.
- Switch off *[Main switch]* (position "O" / "OFF").
- Disconnect the machine from the mains power supply.
- Contact Felder Group-service.

### Check the extraction hood limit switch

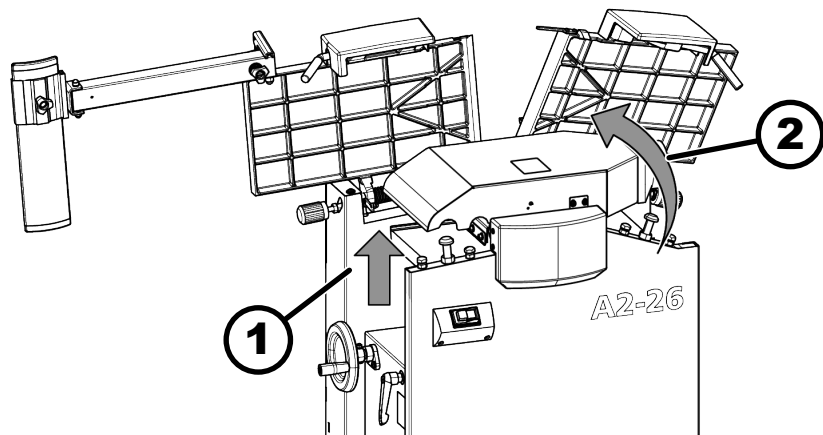


Fig. 59: Check the extraction hood limit switch

- 1 Move the thicknesser table fully upwards
- 2 Swing up the extraction hood

The functionality of the limit switch is to be checked whilst the machine is running.

1. Switch off the machine and secure it against being switched on again.
2. Depending on the previous use, retool the machine for thickness planing.
3. Move the thicknesser table fully upwards.
4. Prepare the machine to operate.
5. Switch machine on.
6. Swing the extraction hood upwards.

The machine stops immediately.

**OK** Machine will stop immediately.

- Swing the extraction hood downwards.

**NOK** Machine does not stop immediately.

- Swing the extraction hood downwards, press red *[Stop]* button.
- Switch off *[Main switch]* (position "O" / "OFF").
- Disconnect the machine from the mains power supply.
- Contact Felder Group-service.



## 11 Troubleshooting

### 11.1 What to do in the event of malfunction



#### WARNING

##### Improper troubleshooting

Severe injuries and damage to property

- Troubleshooting may only be carried out by authorised, trained personnel who are familiar with how to operate the machine and are in strict observance of all safety instructions.

Malfunctions and faults on the machine (including the guards and tools) must be reported immediately after they have been noticed.

In the event of malfunction that poses an immediate danger to persons, equipment or operational safety:

1. ➤ Stop the machine immediately pressing either the *[Emergency Stop]* or the red *[Stop]* button.
2. ➤ Disconnect the machine from the mains and ensure it can not be switched on again.
3. ➤ Have an authorised specialist determine the cause and repair the malfunction.

### 11.2 What to do after rectifying the fault

Check,

1. ➤ if the malfunction and cause of the malfunction have been professionally remedied.
2. ➤ whether all safety equipment has been installed in accordance with regulations and are technically and functionally in perfect condition.
3. ➤ whether, there are no individuals located within the danger area of the machine.

### 11.3 Faults, causes and repairs

The following examples highlight possible undesired conditions of the machine. This list makes no claim to completeness.

This information is designed to help operators recognise faults when operating the machine and to rectify them.

#### Fault on the machine

Fault description	Cause	Remedy
The red <i>[Stop]</i> button will not stop the machine immediately	Fault in the electrical system	<ol style="list-style-type: none"> <li>1. ➤ If present: Switch off <i>[Main switch]</i> (position "O" / "OFF")</li> <li>2. ➤ Disconnect the machine from the mains supply</li> <li>3. ➤ Contact Felder Group service</li> </ol>

Fault description	Cause	Remedy
Safety limit switch without function	Fault in the electrical system	<ol style="list-style-type: none"> <li>1. If present: Switch off [Main switch] (position "O" / "OFF")</li> <li>2. Disconnect the machine from the mains supply</li> <li>3. Contact Felder Group service</li> </ol>
Machine cannot be switched off	Fault in the electrical system	<ol style="list-style-type: none"> <li>1. If present: Switch off [Main switch] (position "O" / "OFF")</li> <li>2. Disconnect the machine from the mains supply</li> <li>3. Contact Felder Group service</li> </ol>
Machine is not functioning	[Main switch] is off (position "O" / "OFF")	→ Switch on the main switch (position "I" / "ON")
	Error in the electrical connection	→ Check the electrical connection (power cable, fuses)
Cutterblock does not start	[Motor safety switch] has been triggered	<b>depending on the equipment:</b> <ol style="list-style-type: none"> <li>1. Activate [motor protection switch]</li> <li>2. Switch off main switch, restart the machine</li> <li>3. Let the engine cool down, restart the machine</li> </ol>
The belts squeal when switched on or started	The belt tension is too slack	→ Re-tensioning the drive belt
	The drive belt is worn out	→ Replacing the drive belt
Cutterblock cannot be brought to a stop within 10 seconds	Fault in the electrical system / brake	→ Contact Felder Group service

#### Disruptions whilst processing the workpiece

Fault description	Cause	Remedy
Poorly planed surface	Planer knives are worn out	<ol style="list-style-type: none"> <li>1. Replace the planer knives</li> <li>2. Depending on the configuration: adjust planer knives</li> </ol>
The joint is not true (extremely concave or convex)	Infeed planer table misaligned	→ Adjusting the joint
	Planer knives are heavily worn	→ Replace the planer knives
When surface planing, workpiece stops when it reaches the planer table outfeed	Outfeed planer table is too high in relation to the trajectory of the knives	→ Adjust outfeed planer table
"Straight cut" at the end of the workpiece when surface planing	Outfeed planer table is too low in relation to the trajectory of the blades	→ Adjust outfeed planer table

Fault description	Cause	Remedy
The planer fence angle is not correct	The angle adjustment is misadjusted	→ Correct the planing fence angle
Workpiece is not transported evenly through the machine during thickness planing	Workpiece is not properly positioned on the thickening table	→ First machine the workpiece on the planer unit
"Straight cut" at the beginning of the workpiece when thickness planing	Insufficient spring pressure on the infeed side feed roller	→ Contact Felder Group service
"Straight cut" at the end of the workpiece when thickness planing	Insufficient spring pressure on the outfeed side feed roller	→ Contact Felder Group service
"Oblique cut" at the beginning of the workpiece when thickness planing	Insufficient spring pressure on one side of the infeed side feed roller	→ Contact Felder Group service
"Oblique cut" at the end of the workpiece when thickness planing	Outfeed roller spring pressure too low on one side	→ Contact Felder Group service

## 11.4 Correct the planing fence angle

An exact angle between the fence guide bar and planing table is very important when planing the narrow edge and chamfering.

The 0° and 45° position are ensured by stop bars on the underside of the fence.

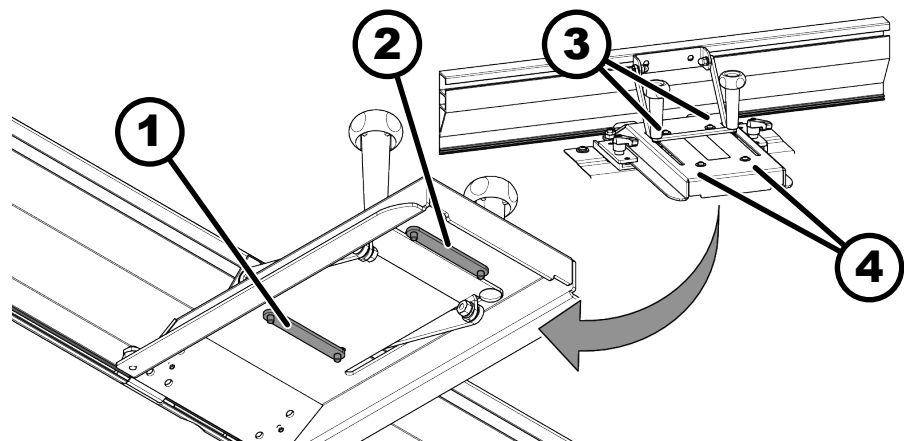


Fig. 60: Planing fence - angle correction

- 1 front stop bar (0° angle)
- 2 rear stop bar (45° angle)
- 3 Clamping screws (0° angle)
- 4 Clamping screws (45° angle)

### Tool:

- Hex key

1. → Switch off the machine and secure it against being switched on again.
2. → Loosen the clamping screws of the required stop bar.

3. ➤ Set the 0° and the 45° angle by moving the stop bar.
4. ➤ Tighten clamping screws.
5. ➤ Adjust planing fence angle. ➔ Chapter 8.1.5 'Adjusting the planer fence' on page 51
6. ➤ Check settings with a test workpiece.

## 11.5 Tighten/replace the drive belt



### NOTICE

#### Do not over-tension the drive belt

An over-tightened drive belt can tear or cause bearing damage.

- Only tighten the belt-tensioning screw as far as is needed to reach the specified value.
- The belt tension is specified as an oscillation frequency in hertz (Hz).
- The correct belt tension can only be checked with a measuring device.

If any rips or tears are discovered during the monthly tests, the belt must be changed.

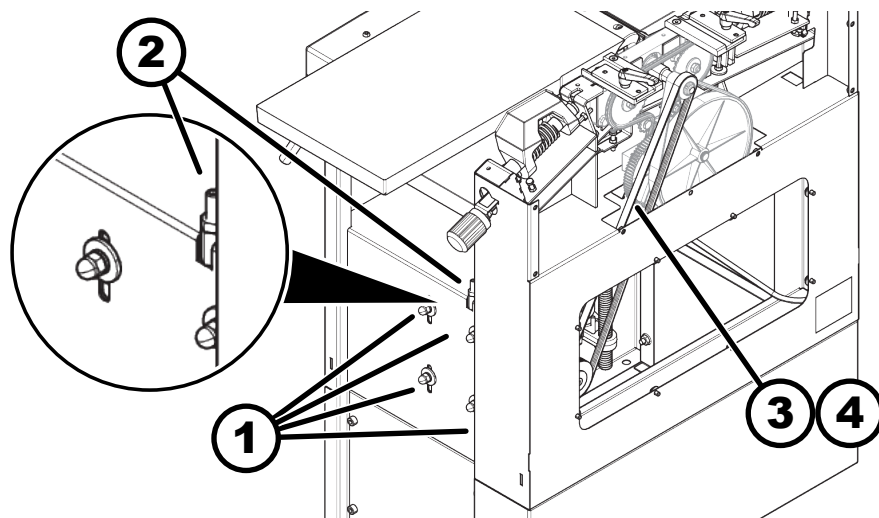


Fig. 61: Adjust the drive belt tension

- 1 Motor clamping nut
- 2 Tightening screw
- 3 Belt tension during operation 74 - 80 Hz
- 4 Belt tension during installation 85 - 90 Hz

### Re-tensioning the drive belt

#### Tool:

- Combination wrench set
- Hex key

1. ➤ Switch off the machine and secure it against being switched on again.  
Disconnect the machine from the mains power supply.
2. ➤ Loosen the motor clamping nuts (4x).
3. ➤ Tighten the belt tensioning screw clockwise.

## Replacing the drive belt

4. ➤ Tighten the motor clamping nuts (4x).

### Tool:

- Combination wrench set
- Hex key

### Material:

- Poly-V drive belt

1. ➤ Loosen the motor clamping nuts (4x).
2. ➤ Loosen the belt tensioning screw anticlockwise.
3. ➤ Remove the old belt.
4. ➤ First hang the new belt on the drive motor.
5. ➤ Pull the drive motor and the drive belt up.
6. ➤ Hook the drive belt onto the cutterblock.
7. ➤ Ensure that the belt is seated properly with a few manual turns.
8. ➤ Re-tensioning the drive belt.
9. ➤ Tighten the motor clamping nuts (4x).

## 11.6 Reversing/replacing the system planer blades



### WARNING

#### Extremely sharp planer knife cutters

Cut injuries to hands and fingers

- Wear protective gloves.
- Be particularly careful when working with the cutterblock.



### NOTICE

#### Incorrect planing knives

Damage to the machine, malfunction or poor planing result.

- Only use original Felder Group planer knives.
- Only use machine specific planer knives.
- Execute the following instructions exactly.



### NOTICE

#### Cleaning with compressed air

Contaminants will be forced in

- Do not use compressed air.
- Use cleaning cloths, resin remover and a vacuum cleaner for cleaning.

Turn or replace the planer knives if the planing results are no longer satisfactory.

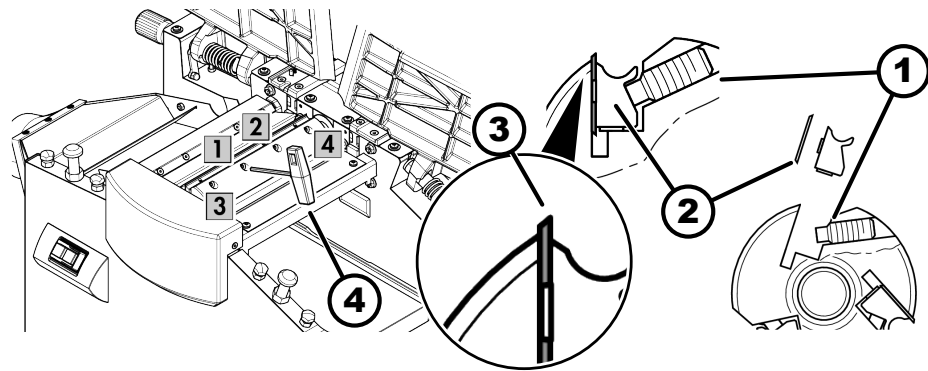


Fig. 62: System Planer Knife

- 1 Blade-holder screws
- 2 Blade holder
- 3 Planer Knives
- 4 Allen Key

**Protective equipment:**

- Protective clothing
- Protective gloves

**Tool:**

- Cleaning cloths
- Resin remover
- Vacuum cleaner
- Hex key
- System Planer Knife HS-M42
- Standard system planer knife

1. ➤ Switch off the machine and secure it against being switched on again.
2. ➤ Disconnect the machine from the mains power supply.  
Change the machine over for thickness planing, swing the extraction hood up. ➔ Chapter 8.1.6 'Changing over from a planer to a thicknesser' on page 52
3. ➤ Release all the blade holder screws of a blade and remove the blade holder and planer blades. Release all the blade holder screws of a blade and remove the blade holder and planer blades. Repeat this process with all blades.
4. ➤ Clean the planer blades, blade holders and cutterblock of traces of resin as thoroughly as possible.
5. ➤ Reverse the planer knife (if only one cutting edge is worn).
6. ➤ Reinsert the planer blades and blade holders, tighten the blade holder screws lightly at first, then firmly.  
Ensure correct installation position of the planing knives (direction of rotation of the cutterblock).
7. ➤ Always tighten the knife holder screws from the inside outwards.  
Minimum tightening torque: 20 Nm

## 12 Attachment

### 12.1 Information relating to spare parts



#### NOTICE

##### Wrong or faulty spare parts

Material damage, malfunction, machine failure

- Only use spare parts approved by the manufacturer (see spare parts list).

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 will be rejected.



#### Use original spare parts

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.

#### Spare part order

Pos.	Teilenummer	Teillebezeichnung
1	418EJ	SKT SCHRAUBE M10X80 SCHWARZ
2	404E	SCHEIBE M10
3	401F	SKT MUTTER M10 VERZINKT
4	214AO	KUGELPFANNEN UNTERTEIL LT. Z. 75-07-136
5	214AN	KUGELPFANNEN OBERTEIL LT. Z. 75-07-135
6	402K	SKT MUTTER M10 FLACH

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TYPE : XXXXXXXX				
NR.: XXX.XX.XXX.XX		Code: XXXX		
V: XXX	PH: X	HZ: XX	A: X.X	
KW: X.X SX-XX%		XXX (machine type)		
Baujahr / year of construction / ANNEE DE CONSTR.: 20xx				

Fig. 63: Spare parts - Order

- 1 Model type
- 2 Machine number
- 3 Article number
- 4 Article description

The following information is required when ordering spare parts:

- Type description and machine number according to the identification plate
- Article number, article description and required quantity
- Shipping address
- Shipping mode (mail, freight, sea, air, express)

Orders for spare parts, which do not include the required details, will not be processed. Unless specific dispatch instructions are given, the manufacturer / supplier standards shall apply.

## 12.2 Disposal



### ENVIRONMENT

#### Disposal of machine components

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

The machine consists of many different materials for which different disposal conditions may apply depending on national legislation.

1. ➤ Separate all machine components into material groups.
2. ➤ When disposing, pay attention to international regulations, standards and environmental protection norms.



### ENVIRONMENT

#### Disposing of batteries

Batteries are subject to special waste treatment regulations and must be disposed of in accordance with locally enforced regulations.

The improper handling of batteries, can due to their potentially dangerous substances, have a negative environmental effect and consequences for human health.

For this reason, follow the advice relating to batteries exactly:

- do not open or short circuit
- do not throw them into fire or expose them to high temperatures
- protect from getting wet and do not place them in water
- do not store them together with electroconductive items (e.g. chains, screws, metal waste etc.)





# Hammer®

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