

Hammer®

Operating Manual

GER = Original operating manual language
Other languages = Translation of the original operating manual

Bandsaw N2-38 / N3800 / N4400



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



Attention! The machine must be inspected immediately upon arrival. If the machine has been damaged during transport, or if any parts are missing, a written record of the problems must be submitted to the forwarding agent and a damage report compiled. Also be sure to notify your supplier immediately.



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

HAMMER | A product of the FELDER GROUP!

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General

1 General

1.1 Symbol legend

Important technical safety instructions in this manual are marked with symbols.
These instructions for work safety must be followed.

In all these particular cases, special attention must be paid in order to avoid accidents, injury to persons or material damage.



Warning! Risk of injury or death!

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



Warning! Danger! Electric current!

This symbol warns of potentially dangerous situations relating to electric current. Not observing the safety instructions increases the risk of serious injury or death. All electrical repairs must be carried out by a qualified electrician!



Attention! Risk of material damage!

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



Note:

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

1.2 Information about the manual

This manual describes how to operate the machine properly and safely. Be sure to follow the safety tips and instructions stated here as well as any local accident prevention regulations and general safety regulations. Before beginning any work on the machine, ensure that the manual, in particular the chapter entitled "Safety" and the respective safety guidelines, has been read in its

entirety and fully understood. This manual is an integral part of the machine and must therefore be kept in the direct vicinity of the machine and be accessible at all times. If the machine is sold, rented, lent or otherwise transferred to another party, the manual must accompany the machine.

1.3 Copyright

This manual should be handled confidentially. It is designated solely for those persons who work on or with the machine. All descriptions, texts, drawings, photos and other depictions are protected by copyright and other commercial laws. Illegal use of the materials is punishable by law.

This manual, in its entirety or parts thereof, may not be transferred to third parties or copied in any way or form, and its contents may not be used or otherwise communicated without the express written consent of the manufacturer.

Infringement of these rights may lead to a demand for compensation or other applicable claims. We reserve all rights in exercising commercial protection laws.

General

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. This manual must be read carefully before commencing any work on or with this machine. The manufacturer shall not be liable for damage and/or faults resulting from the disregard of instructions in the manual. The text and images do not necessarily represent the delivery contents. The images and graphics are not depicted on a 1:1

scale. The actual delivery contents are dependent on custom-build specifications, add-on options or recent technical modifications and may therefore deviate from the descriptions, instructions and images contained in the manual. Should any questions arise, please contact the manufacturer. We reserve the right to make technical modifications to the product in order to further improve user-friendliness and develop its functionality.

1.5 Warranty notice

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

1.6 Spare parts



Attention! Risk of material damage!

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

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

Use only genuine spare parts supplied by the manufacturer.



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

1.7 Disposal



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

If the machine is to be disposed of, separate the components into the various materials groups in order to allow them to be reused or selectively disposed of. The whole structure is made of steel and can therefore be dismantled without problem. This material is also easy to dispose of and does not pol-

lute the environment or jeopardise public health. International environmental regulations and local disposal laws must always be complied with.

Safety

2 Safety

At the time of its development and production, the machine was built in accordance with prevailing technological regulations and therefore conforms to industry safety standards.

However, hazards may arise should the machine be operated by untrained personnel, used improperly or employed for purposes other than those it was designed for. The chapter entitled "Safety" offers an overview of all the important safety considerations necessary to optimise

safety and ensure the safe and trouble-free operation of the machine.

To further minimise risks, the other chapters of this manual contain specific safety instructions, all marked with symbols. Besides the various instructions, there are a number of pictograms, signs and labels affixed to the machine that must also be heeded. These must be kept visible and must not be removed.

2.1 Intended use



Attention! Risk of material damage!

Machining materials other than wood is only permitted with the express written consent of the manufacturer. Operational safety is guaranteed only when the machine is used for the intended purposes.

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

This includes all wood based panel material (e.g. Chip-board, OSB panels, MDF, Plywood etc.), even if they are laminated or edged with plastic or a light metal. Other materials are cardboard, cork, bone and all rigid plastics (thermoset plastics and thermo plastics) as long as whilst machining them it does not lead to any risks from dust, chips or thermal degradation products.

This information can be taken from the relevant safety sheets

The term "proper use" also refers to correctly observing the operating conditions as well as the specifications and instructions in this manual.

The machine may only be operated with parts and original accessories from the manufacturer.



Attention! Any use outside of the machine's intended purpose shall be considered improper and is therefore not permitted. All claims regarding damage resulting from improper use that are made against the manufacturer and its authorised representatives shall be rejected. The operator shall be solely liable for any damage that results from improper use of the machine.

2.2 Manual contents

All those appointed to work on or with the machine must have fully read and understood the manual before commencing any work. This requirement must be met even if the appointed person is familiar with the operation of such a machine or a similar one, or has been trained by the manufacturer.

Knowledge about the contents of this manual is a pre-

quisite 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.

Safety

2.3 Making changes and modifications to the machine

In order to minimise risks and to ensure optimal performance, it is strictly prohibited to alter, retrofit or modify the machine in any way without the express consent of the manufacturer.

All the pictograms, signs and labels affixed to the

machine must be kept visible, readable and may not be removed. Pictograms, signs and labels that have become damaged or unreadable must be replaced promptly.

2.4 Responsibilities of the operator

This manual must be kept in the immediate vicinity of the machine and be accessible at all times to all persons working on or with the machine. The machine may only be operated if it is in proper working order and in safe condition. The general condition of the machine must be controlled and the machine must be inspected for visible defects every time before it is switched on. All instructions in this manual must be strictly followed without reservation.

Besides the safety advice and instructions stated in this manual, it is necessary to consider and observe local

accident prevention regulations, general safety regulations as well as current environmental stipulations that apply to the operational range of the machine.

The operator and designated personnel are responsible for the trouble-free operation of the machine as well as for clearly establishing who is in charge of installing, servicing, maintaining and cleaning the machine.

Machines, tools and accessories must be kept out of the reach of children.

2.5 Personnel requirements

Only authorised and trained personnel may work on and with the machine. Personnel must be briefed about all functions and potential dangers of the machine. "Specialist staff" is a term that refers to those who – due to their professional training, know-how, experience, and knowledge of relevant regulations – are in a position to assess delegated tasks and recognise potential risks. If the personnel lack the necessary knowledge for working on or with the machine, they must first be trained. Responsibility for working with the machine (installation, service, maintenance, overhaul) must be clearly defined and strictly observed. Only those persons who can be expected to carry out their work reliably may be given permission to work on or with the machine. Personnel

must refrain from working in ways that could harm others, the environment or the machine itself. It is absolutely forbidden for anyone who is under the influence of drugs, alcohol or reaction-impairing medication to work on or with the machine. When appointing personnel to work on the machine, it is necessary to observe all local regulations regarding age and professional status. The user is also responsible for ensuring that unauthorised persons remain at a safe distance from the machine. Personnel are obliged to immediately report any irregularities with the machine that might compromise safety to the operator.

2.6 Work safety

Following the safety advice and instructions given in this manual can prevent bodily injury and material damage while working on and with the machine. Failure to observe these instructions can lead to bodily injury and damage to or destruction of the machine. Disregard of the safety advice and instructions given in this manual

as well as the accident prevention regulations and general safety regulations applicable to the operative range of the machine shall release the manufacturer and their authorised representatives from any liability and from all compensation claims.

Safety

2.7 Personal protective equipment

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



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



It is prohibited to wear gloves while working on or with the machine.

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



Protective clothes

Sturdy, tight-fitting clothing (tear-resistant, no wide sleeves, no jewellery (rings, bracelets, necklaces, etc.)).



Protective footwear

To protect the feet from heavy falling objects and prevent sliding on slippery floors



Hearing protection

To protect against loss of hearing



Safety glasses

Wear safety goggles

2.8 Machine hazards



Note: Ignition sparks may be generated during machining.

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

The machine has undergone a hazard analysis. The design and construction of the machine are based on the results of this analysis and correspond to state-of-the-art technology.

The machine is considered operationally safe when used

properly.

Nevertheless, there are some remaining risks that must be considered.

The machine runs at high electrical voltage.



Warning! Danger! Electric current!

Electrical energy can cause serious bodily injury. Damaged insulation materials or defective individual components can cause a life-threatening electrical shock.

- Before carrying out any maintenance, cleaning and repair work, switch off the machine and ensure that it can not be accidentally switched on again.
- When carrying out any work on the electrical equipment, ensure that the voltage supply is completely isolated.
- Do not remove any safety devices or alter them to prevent them from functioning correctly.

Safety

2.9 Other risks



Warning! Risk of injury!

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

General safety rules:

- Be wary of sharp edges to avoid cutting yourself, in particular when changing the tooling.
- Risk of injury due to ejected work pieces and parts of work pieces (e.g. branches, chips).
- Risk of injury from workpiece kickback.
- Hearing damage as a result of high noise levels.
- Risk of damage to health from dust especially when working hard woods.
- Risk of injury through being crushed, cut, caught, wound up or sliced.

2.10 Foreseeable misuse



Note:

The examples mentioned here should be used to bring the attention to the hazards that can occur, but are not a complete list and should not be used as a legal basis.

Nevertheless, this information is provided to help the operator better assess hazards and risks.

General safety rules:

- Failure to follow the operation manual.
- Operating the machine, even if the operation manual is incomplete or not in the language of the country it is in.
- Placing of material or tools on the work surface.
Components and tools that are not put in their correct place or put away may be the cause of accidents!
- Usage of a tool system that is not suited for the material or the machine.
Only clamp authorised tools to the machine.
- Usage of a modified module and tool system.
Only use original manufacturer tools
- Fitting of spare parts and usage of tools and accessories that are not permitted by the manufacturer.
Use only genuine spare parts supplied by the manufacturer.
- Making changes and modifications to the machine.
- Bridging or adaptation of protective equipment.

During operation:

- Processing of workpieces that are too large or too heavy.
- Processing of very small workpieces without assistance.
Keep handling auxiliaries at hand: See chapter entitled >Operation<
- Processing of unsuitable materials such as metal.
- Processing of workpieces that are not, or insufficiently held in place.
- Processing of workpieces in the same direction as the rotation of the tool.
(Feed direction corresponds to the rotational direction of the tool.)
- Using the machine without the appropriate safety equipment.
Ensure that all safety devices have been installed properly.
- Deliberately bad or irresponsible behaviour on the machine whilst operating.

Every time the machine is being serviced:

- Service work carried out by untrained or unauthorised personnel.
- Non-compliance with maintenance guidelines.
See chapter entitled >Service - Maintenance schedule<
- Failure to observe signs of wear and damage.

Declaration of Conformity

3 Declaration of Conformity



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

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

Manufacturer:	Felder KG KR-Felder-Straße 1, 6060 Hall in Tirol, AUSTRIA
Product designation:	Bandsaw
Make:	HAMMER
Model designation:	N2-38 / N3800 / N4400
The following EC guidelines were applied:	2006/42/EC 2014/30/EU
The following harmonised norms were applied:	EN ISO 1807-1: 2013 EN 60204-1: 2018 EN ISO 12100: 2010
The prototype test was carried out by:	CEPROM® S.A. Product Certification Body NB 1802 Str.Fântânele f.n RO-440237 Satu Mare
Conformity with the EC Machine Guidelines certified by:	EG-Design Test Certificate No. 212-ET-12021

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

Hall in Tirol, 21.01.2021

Prof. h.c. Ing. Johann Georg Felder
CEO FELDER KG
KR-Felder-Straße 1, 6060 Hall in Tirol, AUSTRIA

Declaration of Conformity



Declaration of Conformity
According to UK Directive S.I. 2008/1597

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).

Manufacturer:	Felder KG KR-Felder-Straße 1, 6060 Hall in Tirol, AUSTRIA
Product designation:	Bandsaw
Make:	HAMMER
Model designation:	N2-38 / N3800 / N4400
The following UK guidelines were applied:	S.I. 2008/1597 S.I. 2016/1091
The following harmonised norms were applied:	EN ISO 1807-1: 2013 EN 60204-1: 2018 EN ISO 12100: 2010

This Declaration of Conformity is valid only if the UKCA 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

Hall in Tirol, 21.01.2021

A handwritten signature in black ink, appearing to read 'Johann Georg Felder'.

Prof. h.c. Ing. Johann Georg Felder
CEO FELDER KG
KR-Felder-Straße 1, 6060 Hall in Tirol, AUSTRIA

Specifications

4 Specifications

4.1 Dimensions and weight

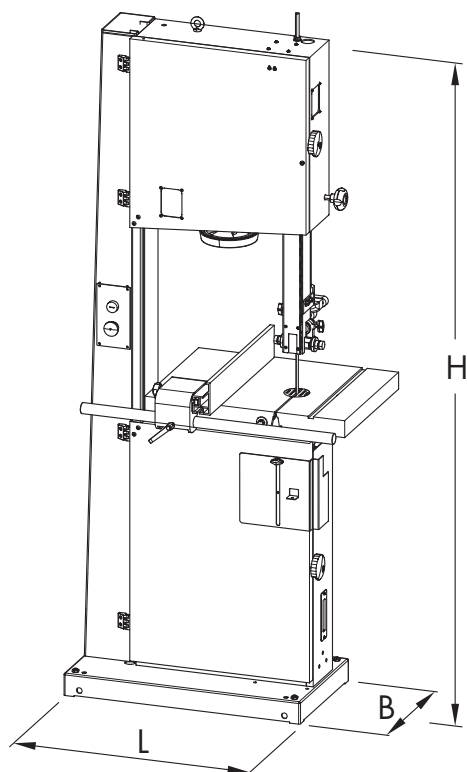


Fig. 4-1: Total size

Machine (L x W x H)	N2-38 / N3800	N4400
Total size	829 x	800 x
	454 x	650 x
	1750 mm	1865 mm
Package size	640 x	780 x
	390 x	660 x
	1820 mm	1900 mm
Net weight	150 kg	170 kg

Bandsaw	N2-38 / N3800	N4400
Cutting height	310 mm	310 mm
Rip capacity max.	360 mm	420 mm
- -Rip fence	320 mm	377 mm
Saw blade length	3556 mm	3980 mm
Saw blade width	6 - 20 mm	6 - 25 mm
Saw blade speed	15,6 m/sec	15,4 m/sec
Wheel diameter	380 mm	440 mm
Table size	400 x 510 mm	420 x 575 mm
Tiltable table	-5° max. +45°	-10° max. +45°

4.2 Noise emission

The given values are emission values and not safe workplace values. Although there is a correlation between emission and immission levels, it is not possible to state whether increased safety measures are required.

Factors which can considerably influence the present immission level at the workplace include the duration of exposure, the character of the work area and other influences in the neighbouring area.

Acceptable workplace values may also vary from country to country. However, this information should help the user to better assess the hazards and risks.

Depending on the installation location and other variables, the resulting noise emission can differ by up to 4 db (A) from the given values.

Model	L Aeq	LW (A)	Lpc	
N2-38 / N3800	84,5 dB (A)	93,7 dB (A)	2,3 mW	< 130 dB (A)
N4400	84,7 dB (A)	97,1 dB (A)	5,1 mW	< 130 dB (A)

Specifications

4.3 Operation and storage conditions

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

4.4 Electrical connection/Drive motor

The actual values can be found on the data plate.

Electrical connection	
mains voltage according to specification plate	±10%
Safeguarding	see circuit plan
Power supply cord (H07RN-F)	3G1,5 mm ² / 4Gx1,5 mm ²
Triggering characteristic	C

Drive motor N2-38	Alternating-current motor	Three-phase current motor
Motor voltage	1x 230 V	3x 400 V
motor frequency	50 Hz	50 Hz
System of protection	IP 54	IP 54
Motor power S6-40 % ^{*)}	1,5 kW	1,5 kW

Drive motor N 3800	Alternating-current motor	Three-phase current motor
Motor voltage	1x 230 V	3x 400 V
motor frequency	50/60 Hz	50/60 Hz
System of protection	IP 54	IP 54
Motor power S6-40 % ^{*)}	1,5 kW	1,5 kW

Drive motor N 4400	Alternating-current motor	Three-phase current motor
Motor voltage	1x 230 V	3x 400 V
motor frequency	50/60 Hz	50/60 Hz
System of protection	IP 54	IP 54
Motor power S6-40 % ^{*)}	2,5 kW	2,5 kW

^{*)} S6 = operation under load and intermittent service; 40% = relative operating factor

Specifications

4.5 Dust Extractors



Warning! Risk of injury! Vacuum hose must be flame-resistant and must conduct electricity! Be sure to use only genuine Hammer vacuum hoses!



Note: As a rule, all units must be vacuumed during use. A time delayed socket is available as an accessory.

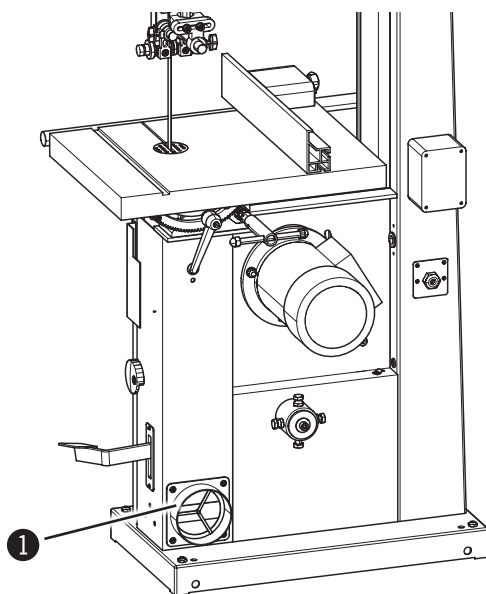


Fig.. 4-2: Connection ports

① Connection ports 120 mm

The machine has to be connected to a dust extractor. The connection values and the position of the connection port are shown on the picture.

The air speed at the connection point has to be a minimum of 20 m/s for materials with a humidity less than 12 %.

The air speed should be increased to 25–28 m/s to extract dust from more humid materials (over 12 %).

Only flame resistant vacuum hoses can be used, conforming to DIN 4102 B1 and any other safety regulations in effect.

Extraction connection-Ø	120 mm
Air speed	20 m/s
Min. depression	773 Pa
Volume flow min.	814 m ³ /h

Assembly

5. Assembly

5.1 Overview

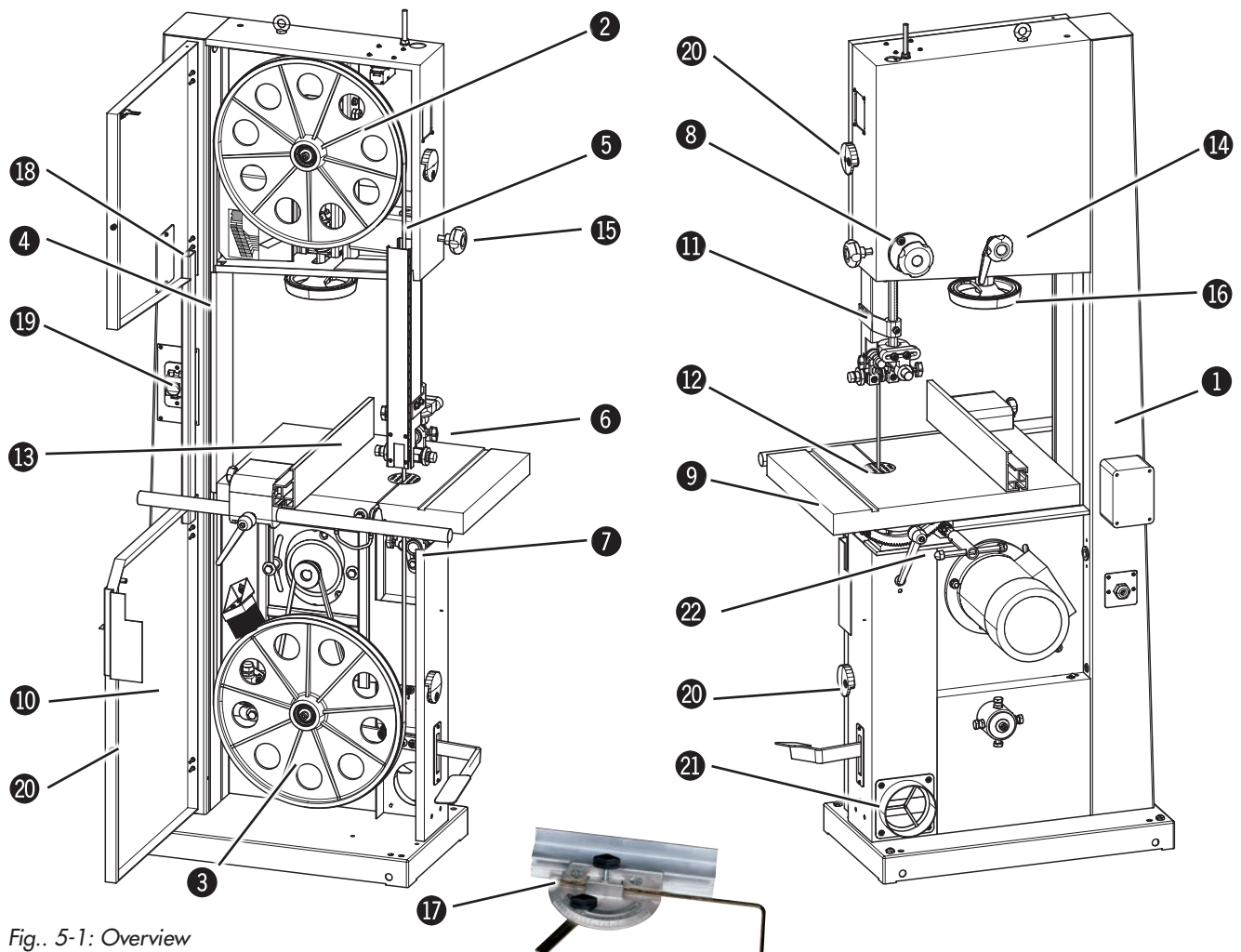



Fig.. 5-1: Overview

- | | |
|---------------------------------------|--|
| ① Machine base-frame | ⑬ Guide fence |
| ② Upper wheel | ⑭ Saw blade track - Adjuster hand wheel and clamping lever |
| ③ Lower wheel | ⑮ Lock wheel - Blade guide height adjustment |
| ④ Rising part of saw blade | ⑯ Blade tension hand wheel |
| ⑤ Falling part of saw blade | ⑰ mitre fence (Accessories) |
| ⑥ Upper blade guide | ⑱ Saw blade tension indicator window |
| ⑦ Lower blade guide (Optional) | ⑲ On/Off switch |
| ⑧ Blade guide height adjustment | ⑳ Lock wheel - Wheel door |
| ⑨ Work bench | ㉑ Vacuum connector |
| ⑩ Wheel door | ㉒ Tilttable table |
| ⑪ Height adjustable protection device | (Adjuster hand wheel and clamping lever) |
| ⑫ Table insert | |

Assembly

5.2 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			
TYPE :			
NR.:		Code:	
V:	PH:	HZ:	A:
KW:			
Baujahr / year of construction / ANNEE DE CONSTR.:			

The data plate displays the following specifications:

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

Fig.. 5-2: Data plate

5.3 Automatic braking system



Warning! Risk of injury!

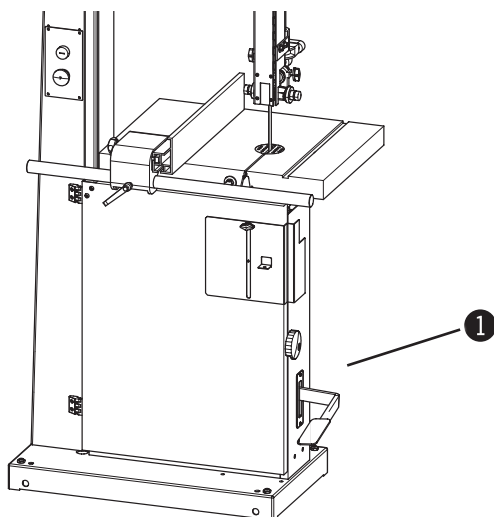
In the event of a power supply failure, the electric brake is deactivated. The tool can therefore not come to a complete stop within 10 seconds.

In this case, the machine will stop without using the the automatic braking system!

Your machine is equipped with an automatic braking unit. The brake is a maintenance-free DC braking unit. All necessary adjustments are done ex factory.

Please contact the FELDER KG service department, if problems or a fault- function should occur!

5.4 Brake system - USA model



The machine is equipped with a mechanical brake, which guarantees that all the moveable parts will come to a stop within 10 seconds, once the machine has been switched off.

Les machoires du frein sont des pièces d'usure et doivent être contrôlées régulièrement et si nécessaire échangées, afin que le frein fonctionne dans le délai impartit.

Please contact the FELDER KG service department, if problems or a fault- function should occur!

① Foot brake

Fig. 5-3: Foot brake

Setup and installation

6 Setup and installation

6.1 Safety instructions



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

- Ensure that there is sufficient space to work around the machine. Ensure there is ample distance between the machine and other solid constructions such as a walls or other machines.
- Keep the work area orderly and clean. Components and tools that are not put in their correct place or put away may be the cause of accidents!
- Install the safety equipment according to the instructions and check that it functions properly.



Warning! Risk of injury! An incomplete, faulty or damaged machine can lead to serious physical injury or equipment damage. Only assemble and install the machine if the machine and its parts are complete and intact.



Warning! Danger! Electric current!

Work on electrical fittings may only be carried out by qualified personnel and in strict observance of the safety instructions.



Attention! Risk of material damage!

Only operate the machine in ambient temperatures from +10°C to +40°C. If the instructions are not followed, damage may occur to bearings.

6.2 Installation site requirements



Attention! Risk of material damage!

The machine may only be used in a dry and frost-free environment and may not be used outside.



Warning! Risk of injury!

Risk of injury! Keep machines, tools and accessories etc. out of the reach of children.

Vacuum hoses and electrical wires should be layed in such a way as to avoid tripping over them.

- Operation/room temperature: +10° to +40° C
 - Ensure that the work surface is sufficiently stable and has the proper load-bearing capacity
 - Provide sufficient light at the workstation
 - Ensure there is sufficient clearance for or from neighbouring workstations
- The floor space around the machine must be flat, well maintained, free of obstacles and cleared of waste material such as chips and offcuts.

Setup and installation

6.3 Setup

6.3.1 Setting up the work table

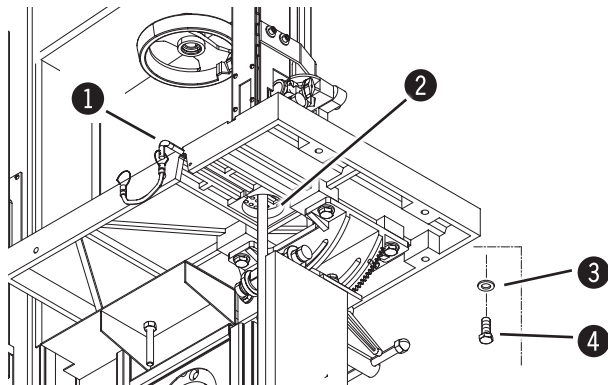


Fig. 6-1: Work table

- The table insert and positioning pin have to be removed to set up the work table.
- Thread the work table around the saw blade and mount to the machine using SKT screws and washers.
- Re-affix the table insert and positioning pin.

- ① Positioning pin
- ② Table insert
- ③ Washers
- ④ Screw

6.3.2 Positioning the 90° end stop on the work table

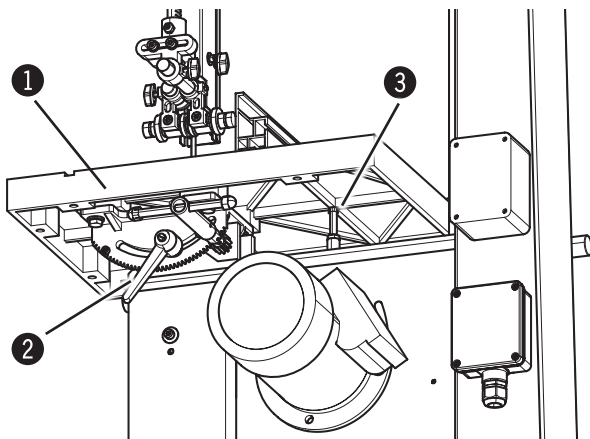


Fig. 6-2: End stop

- Disconnect the machine from the mains supply.
- Loosen the clamping lever.
- Tilt the work table until it rests on the stop screw.
- Determine the exact angle using a 90° triangle.
- If the 90° in the initial position is not correct, adjust the stop screw accordingly.
- Check the 90° angle once the clamping lever is back in place.

- ① Work table
- ② Clamping lever
- ③ Fence screw

6.3.3 Rip fence

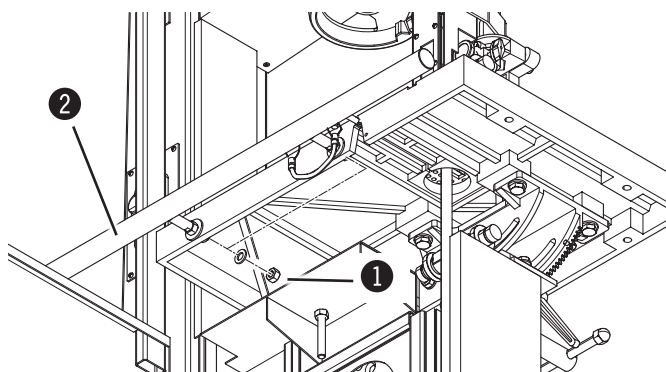


Fig. 6-3: Rip fence

- Use a nut to mount the fence rail to the machine table.
- Slide the premounted fence onto the track.

- ① Nut
- ② Fence rail

Setup and installation

6.3.4 Positioning and levelling the machine

! Attention! Risk of material damage! Do not lift the machine by its work table, extension frames or handwheels.

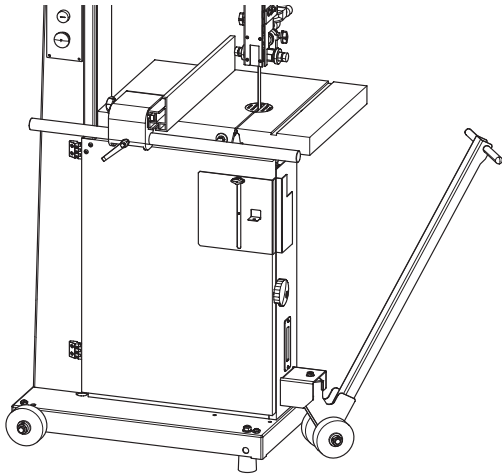


Fig. 6-4: Transport with a rolling carriage

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

Due to technical reasons, the machine is delivered in a partly dismantled state.

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

Accessories Order no.:
Rolling carriage - 503-142
Lifting bar - 510-149

i Note:
There are 4 threaded holes located in the base plate of the machine where the levelling screws supplied with the machine can be screwed into.

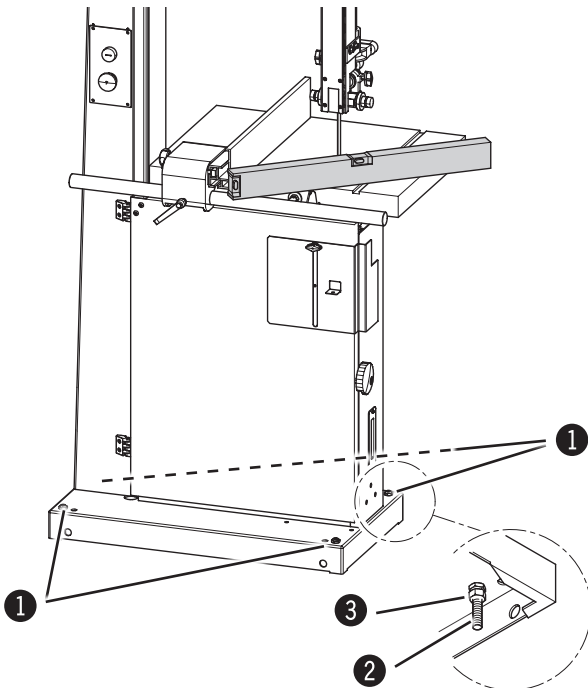


Fig. 6-5: Floor mounting

- ① Screws
- ② Adjusting screw
- ③ Locking nut

The following points are important for a correct and efficient machine installation:

- Position the machine with the aid of a spirit level to ensure that the machine functions precisely and operates smoothly.
- Compensate for uneven floors with the „adjusting screws“ or bolster the machine.
- The machine should be bolted to the floor with M12 screws for optimum stability, however take care not to overtighten the fastening bolts as this will increase vibrations. It is advisable to place vibration dampening pads between the floor and the machine.
- Install the machine in such a way as not to amplify the vibrations and machine noise.
- Ensure that workplace lighting is adequate.
- If the machine is to be installed between other machines, leave at least 80 cm distance in-between, in order to avoid collisions when cutting large workpieces and to allow the use of equipment such as roll supports and additional tables.

Setup and installation

6.4 Electrical connection



Warning! Danger! Electric current!

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



Attention! Risk of material damage!

Before hooking up the machine to the power supply, compare the specifications on the data plate with those of the electrical network. Only hook up the machine if the two sets of data correspond to each other.



Note: The machine's circuit box may only be opened with the express consent of the FELDER service team. Violating this stipulation shall render the right to make claims under the warranty null and void.



Attention! Personal injury and damage to property!

For protection against electric shock, the machine must be protected by the operator with a protective device (residual current circuit breaker and/or overcurrent protection device).

The dimensioning of the current value for the overcurrent protection device and residual current circuit breaker can (e.g.) be taken from the circuit diagram.

The switch-off times according to EN 60204-1 must be observed.

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

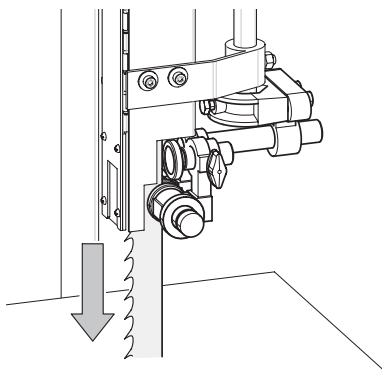


Fig. 1-12: Direction of the Motor rotation

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

Electrical connection requirements

- The machine must be earthed with electrical conductors.
- The voltage fluctuations in the mains supply may not exceed $\pm 10\%$.
- The switch cabinet must be fitted with a circuit breaker (DIN VDE 0641).
Number of terminals: 3 (three phase current motors)
- The unit must only be used in TN-Systems (neutral connected to earth)! (only 3x400V)
- Safeguarding/Power supply cord:
see "Technical data"
- The power supply cable must be protected against damage (e.g. armoured conduit).
- The power supply cable must be laid in such a way so it does not overbend or chafe and there is no risk of tripping over it.



Note: The machine's power cable is delivered with an open cable end, i.e. without a plug.

The operator is responsible for fitting the machine's power cable with a suitable plug in accordance with any country's specific regulations.

The electrical outlet must have the appropriate socket (for a three-phase alternating current motor, CEE).

Operation

7 Operation

7.1 Safety instructions



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

Before starting work:

- Before assembling and installing the machine, check to make sure it is complete and in good condition.
- Ensure that there is sufficient space to work around the machine.
- Keep the work area orderly and clean. Components and tools that are not put in their correct place or put away may be the cause of accidents!
- Ensure that all safety devices have been installed properly.
- Adjustments to the machine or tool replacement may only be conducted once the machine has stopped.
- Only clamp authorised tools to the machine.
- Install the dust extraction system according to the instructions and test its function.
- Only machine workpieces that can be safely placed on the machine and guided.
- Carefully inspect workpieces for foreign matter (nails, screws) which might impair processing.
- Support long workpieces with additional surface equipment (e.g. Table extensions, roll supports).
- Ensure that each unit is rotating in the proper direction.
- Keep tools for handling short and narrow workpieces close at hand.
- Before switching on the machine, always check to make sure that there are no other persons in the immediate vicinity of the machine.

During operation:

- When changing to another workpiece or if a malfunction occurs, first switch off the machine and then secure it against being switched on again accidentally.
- Do not switch off, circumvent or decommission protective and safety devices during operation.
- Do not overload the machine! It is safer and performs better if operated within its power range.

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

- Persons with long hair who are not wearing a hairnet are not permitted to work on or with the machine!
- It is prohibited to wear gloves while working on or with the machine.

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

- Sturdy, tight-fitting clothing (tear-resistant, no wide sleeves, no jewellery (rings, bracelets, necklaces, etc.)).
- Protective footwear To protect the feet from heavy falling objects and prevent sliding on slippery floors
- Hearing protection To protect against loss of hearing.



Attention! Risk of material damage!

Only operate the machine in ambient temperatures from +10°C to +40°C. If the instructions are not followed, damage may occur to bearings.

Improper use such as cutting too tight a radius or with too much cutting pressure could cause friction and lead to sparks being generated by the blade guides.

In order to prevent sparks being generated, it is recommended that Super Glide (article number 10.0.010) is used on a regular basis (sprayed on to the guides).

Operation

7.2 Blade selection and maintenance

- i** Selecting the type of saw blade and its width, depends on the material to be cut and the type of cut:
- Narrow saw blades are designed for curved and circular cuts, whereas wide saw blades are designed for straight cuts.
 - A fine-toothed saw blade is required for hard wood, whereas a coarse-toothed saw blade is required for soft wood.

The following saw blades may be used:

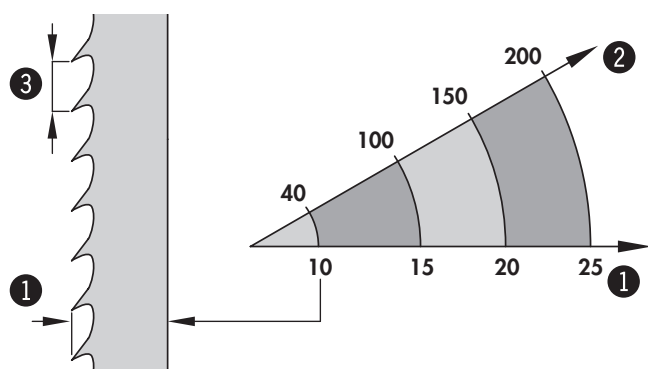


Fig. 7-1: Saw blades

- ① Blade width
- ② Radius cut
- ③ Tooth spacing

N2-38 / N3800 - Saw blade length: 3556 mm		
Art. No.	Blade width	Tooth spacing
13.7.3806	6 mm	4,0 mm
13.7.3810	10 mm	6,0 mm
13.7.3815	16 mm	8,0 mm
13.7.3820	20 mm	8,0 mm

N 4400 - Saw blade length: 3980 mm		
Art. No.	Blade width	Tooth spacing
13.7.3406	6 mm	6,0 mm
13.7.3410	10 mm	8,0 mm
13.7.3415	16 mm	8,0 mm
13.7.3420	20 mm	8,0 mm
13.7.3425	25 mm	9,0 mm

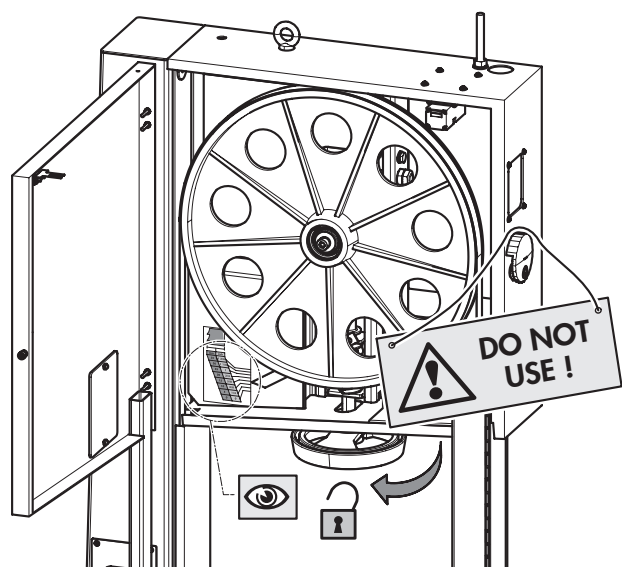


Fig. 7-2: Scale

The gap between the individual teeth should be large enough to carry the material chips and to throw them away. If the gap is too small, the blade will overheat and rupture.

Do not use kinked, ruptured or bent saw blades.

For soft wood, the set should be a max. of twice the thickness of the saw blade and for hard wood, a max. of 1.5 times the thickness of the saw blade.

Change blunt blades and have them sharpened by a specialist workshop or purchase a new saw blade.

It is recommended to use only high quality saw blades.

- i** **Attention!** Once the machine is no longer in use, loosen the belt tension and place an appropriate warning sign on the machine. This will thus prevent damage to the wearing surface of the wheels.

Operation

7.3 Saw blade replacement/tension

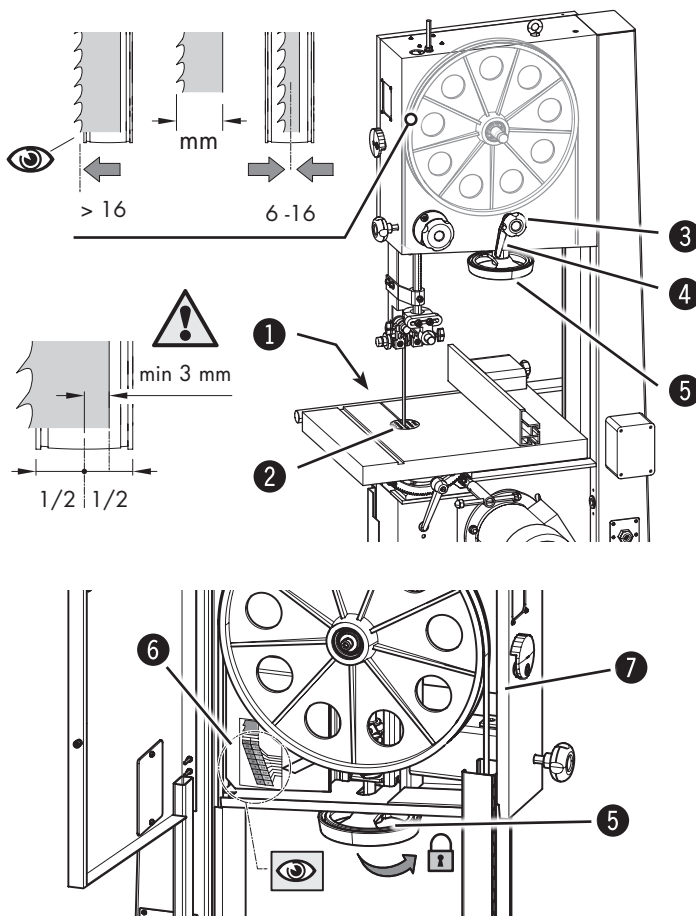


Fig. 7-3: Saw blade replacement

1. Disconnect the machine from the mains supply.
2. Remove table insert and positioning pin. Open wheel door.
3. Loosen the blade tension hand wheel by turning it clockwise. Unthread old blade through the machine table.
4. Place new saw blade over both wheels (note the direction of the cut!). Release the clamping lever and set the saw blade track using the hand wheel: **see sketches**
5. Turn the wheels manually and ensure that the saw belt glides properly around the wheels and does not collide with any solid machine parts.
6. Clamp the clamping lever. Check the saw blade tension and if required, adjust with the hand wheel. The values refer to the saw blade width.

- 1 Positioning pin
- 2 Table insert
- 3 Handwheel - Saw blade track
- 4 Clamping lever
- 5 Blade tension hand wheel
- 6 Scale
- 7 Securing bolt (Optional equipment)

7.4 Tilting the table

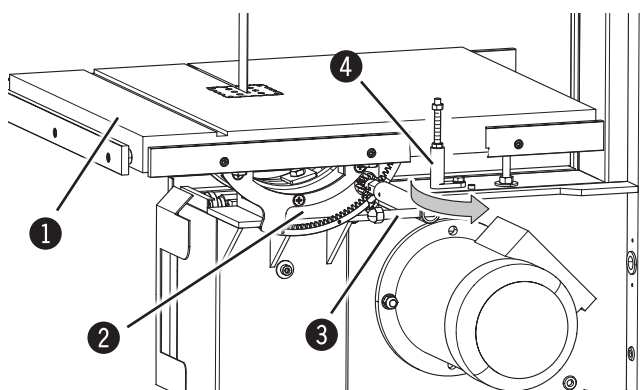


Fig. 7-4: Tilt

- 1 Work bench
- 2 Clamping lever
- 3 Lever
- 4 Fence - 0°

The machine working table can be tilted up to an angle from -5° (N4400: -10°) up to +45°.

Adjusting the angle:

To tilt, remove the table padding to enable the saw belt to move through the table unimpeded. Open the clamping screw with the supplied spanner and tilt the table to the desired angle, which is displayed on the mitre scale. Tighten the clamping screw again.

Tilt -5° or -10°:

- Swing away the stop
- Adjusting the angle

To tilt the table back to its normal position, loosen the clamping screw once again and tilt the table up to the stop in the 0° position and clamp it in that position. (Swing back the stop)

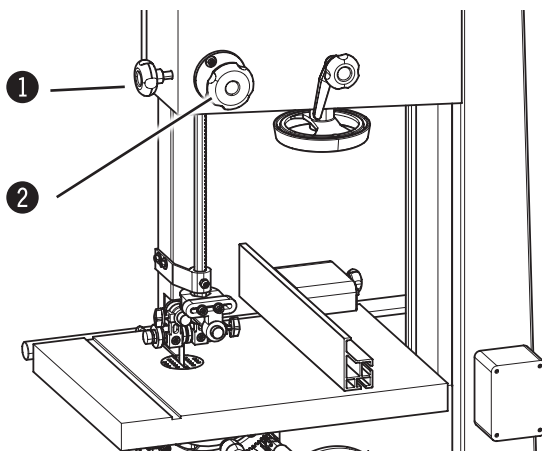
Operation

7.5 Adjusting the saw blade guide



Warning! Risk of injury!
Do not change settings whilst the machine is in operation!

7.5.1 Height adjustable protection device

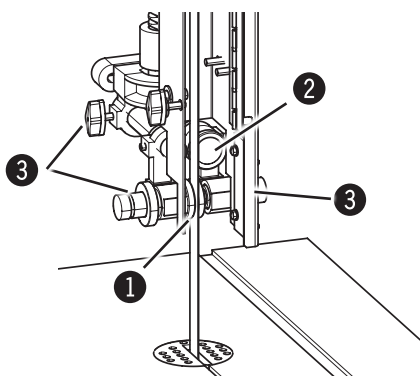


The upper saw blade guide has to be lowered as closely as possible to the work-piece (5–10 mm). To set the height, open the clamping screw and turn the hand wheel until the desired height has been reached. Tighten the clamping screw once again.

- ① Clamping screws
- ② Blade guide height adjustment

Fig. 7-5: Bearings

7.5.2 Saw blade guide upper / down (Optional with the N2-38)



The side guide rollers should touch the saw blade slightly so as to obtain a straight and vibration-free cut.

The rear support roller prevents the saw blade thrusting backwards whilst cutting.

To adjust the position of the rollers, simply loosen the clamping screw.

- ① Bearings
- ② Support roller
- ③ Clamping screws

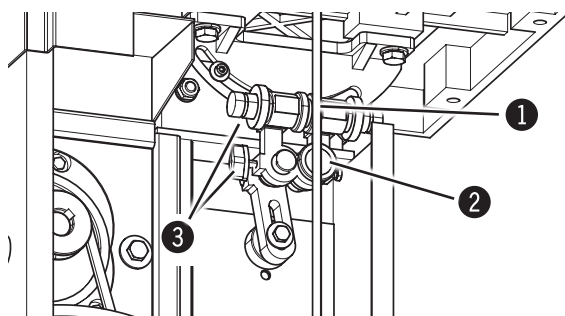


Fig. 7-6: Saw blade guide

Operation

7.5.3 Saw blade guide - General guidelines

! Attention! Risk of material damage!

The saw band guides can only be adjusted after the band tension and band run have been set correctly. The saw band guides must be readjusted after each saw band change.

Make the following settings precisely to prevent possible ignition sparks.

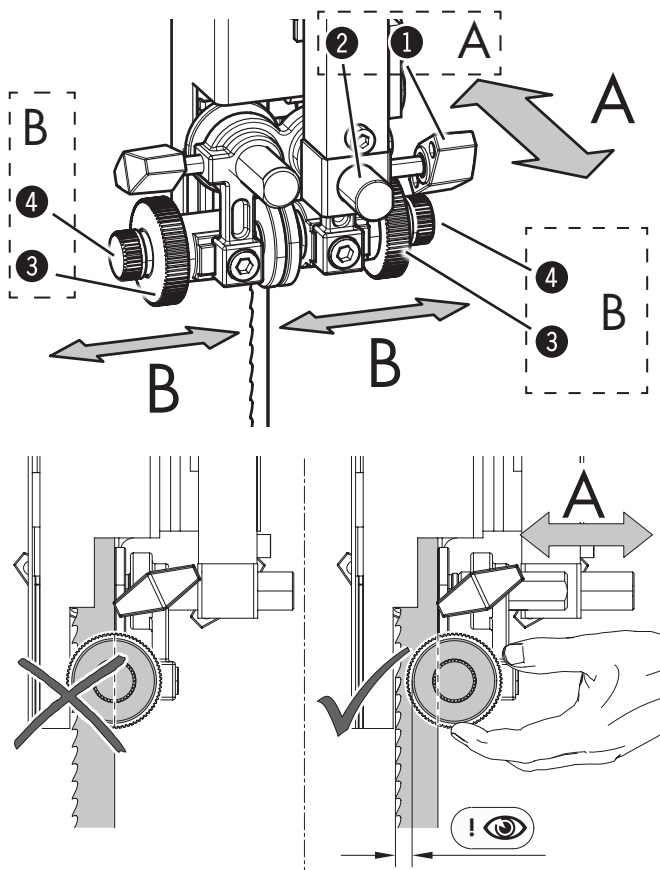


Fig. 7-6.1: Setting the side guiding elements

Setting the side guiding elements

direction A

1. Loosen the clamping screw.
2. Move the saw band guide on the adjusting pin.
The side guides must be positioned behind the main teeth of the saw blade, and even when cutting, must not be able to come in contact with the teeth.
3. Tighten the clamping screw.

direction B

1. Loosen the thumb nut.
2. Adjust the distance with the adjusting screw.
The side guide rollers should touch the saw blade slightly so as to obtain a straight and vibration-free cut.
3. Secure the thumb nut.

- ① Clamping screw
- ② Sliding link pins
- ③ Thumb nut
- ④ setscrew

Setting the rear guides

1. Loosen the clamping screw.
2. Move the back guide.
Adjust the back guide parallel to the saw band back with a small distance.
3. Tighten the clamping screw.

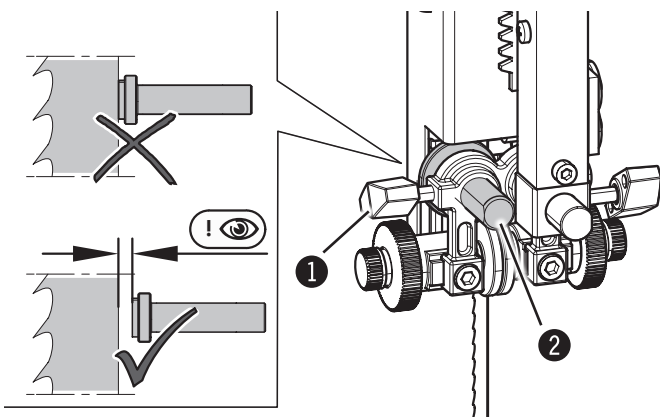


Fig. 7-6.2: Setting the rear guides

- ① Clamping screw
- ② back guide

Operation

7.6 Switching on the machine / Switching off the machine

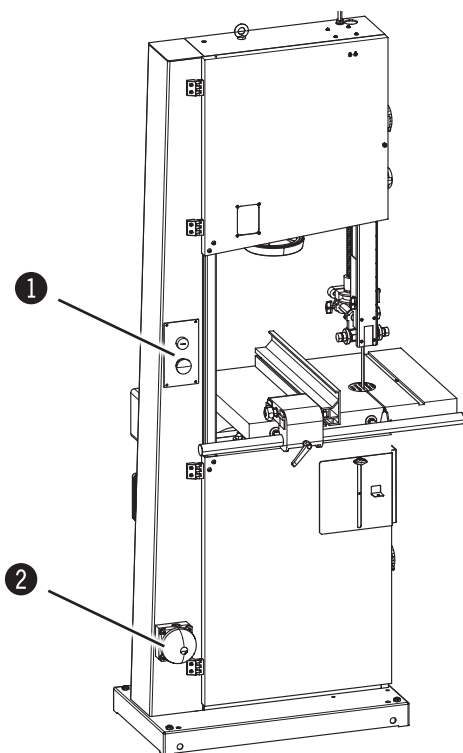


Warning! Risk of injury due to insufficient preparation!

It is only permitted to switch on the machine if, for the work at hand, the required preconditions are fulfilled and any preliminary work is completed. Therefore, the adjusting, fitting and operating instructions (see the corresponding chapters) must be read before switching on the machine.



Attention! The machine will not start with the doors open and will automatically stop if doors are opened during operation. (Only valid for the CE-version !)



The bandsaw has an On- and Off switch.

Green push button:
Switch machine on

Red push button:
Switch off the machine.

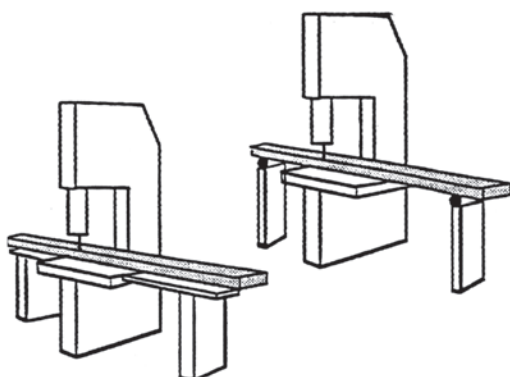
Optional equipment: Additional emergency stop

- ① On/Off switch
- ② Additional emergency stop

Fig. 7-7: On- and Off switch

7.7 Authorised working techniques

7.7.1 Longitudinal cut along the marked line



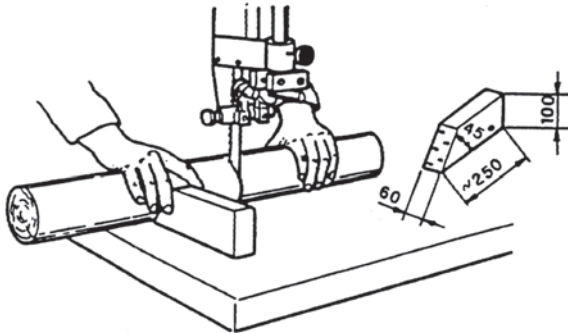
All uses which differ from the following work techniques have not been intended for this machine and are therefore not authorised.

Feed the workpiece with constant speed and pressure forwards without applying sideways pressure. Do not interrupt the cut and do not pull the workpiece backwards. When cutting large pieces, use appropriate table extensions or roll supports.

Fig. 7-8: Rip cut

Operation

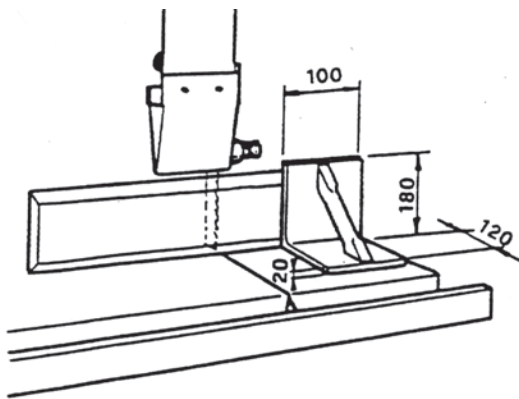
7.7.2 Cutting round workpieces in the transverse direction



Use an appropriate device with the minimum measurements as depicted in Fig. to avoid the workpiece twisting during the cutting process.

Fig. 7-9: Cutting a circular workpiece

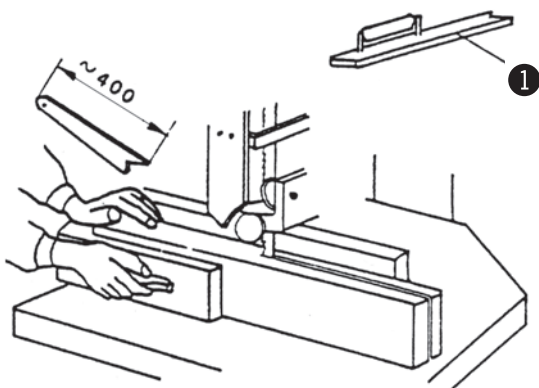
7.7.3 Cutting workpieces on the upright edge



Use an auxiliary fence with the minimum measurements to guide the workpiece safely.

Fig. 7-10: Auxiliary fence

7.7.4 Longitudinal cut of narrow or thin workpieces with the longitudinal guide fence



Use a push stick as depicted in Fig. to prevent your hands from coming too close to the saw blade.

① Push stick

Fig. 7-11: Push stick

Operation

7.7.5 Mitre cuts

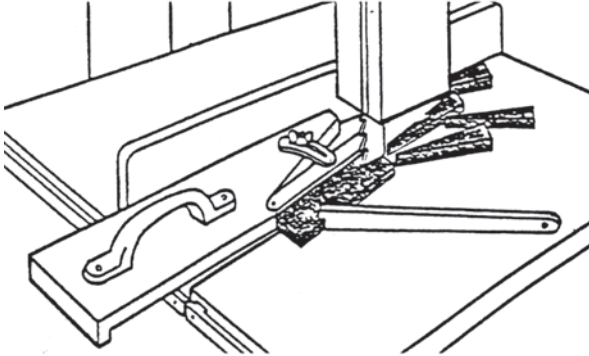


Fig. 7-12: Mitre cuts

Use auxiliary equipment as depicted in the figure.

7.7.6 Circular cuts

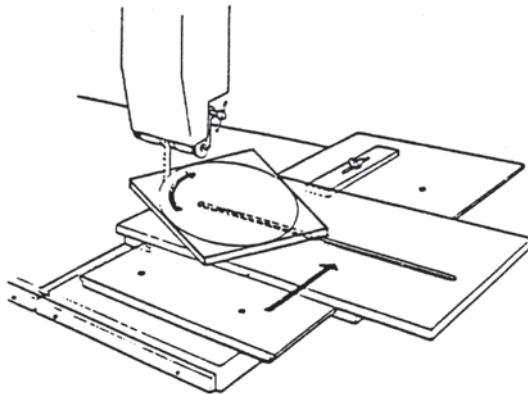


Fig. 7-13: Circular cuts

Use auxiliary equipment as depicted in the figure.

Accessories Order no.:
01.1.300

7.7.7 Diagonal cross-cut of rectangular workpieces

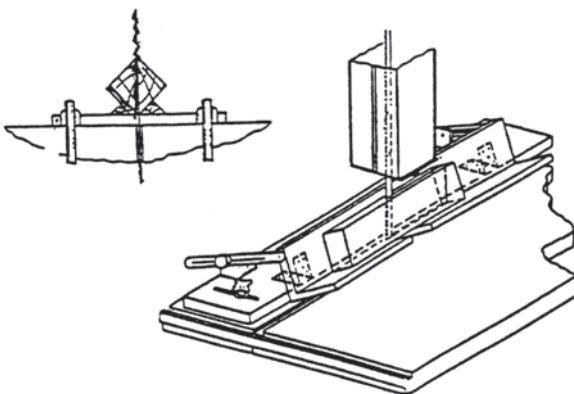


Fig. 7-14: Cross cut

Use auxiliary equipment as depicted in the figure.

Service

8 Service

8.1 Safety instructions



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

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



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

8.2 Tightening/replacing the drive belt

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

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

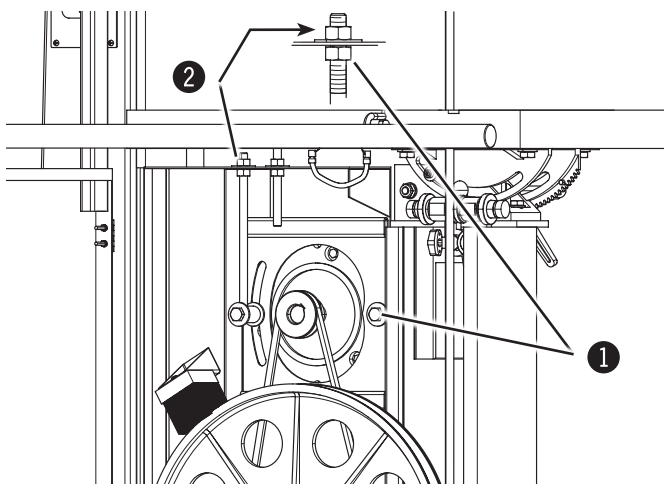


Fig. 8-1: Drive belts

- ① Nut
- ② Tightening screw

Following the first few operating hours, the belt tension has to be controlled, as the belt will extend.

To check the tension, press inwards onto the belt in the middle with a weight of 3-4 kg. The belt deflection should not be more than 5-6 mm.

Retensioning the drive belt:

1. Loosen the nuts.
2. Use the belt tensioning screw to tension the drive belt.
3. Tighten the nuts.

It is important to always maintain the correct belt tension, as belts which are too loose will weaken the drive power and the brake power and belts which are overtightened will lead to overheating.



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

Service

8.3 Replacing the rubber wearing surface of wheels

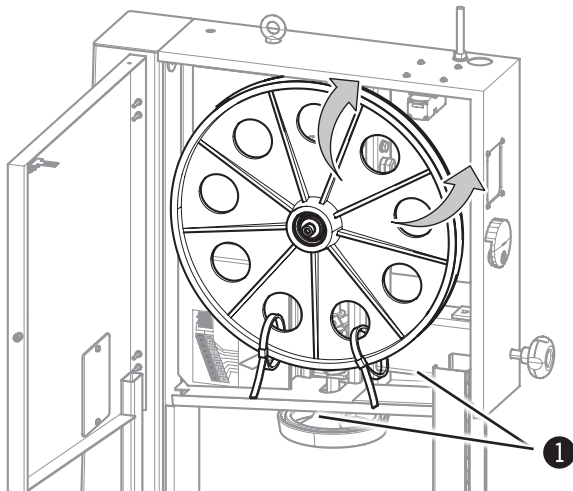


Fig. 8-2: Replacing the rubber wearing surface of the upper wheel

It's highly recommended that this work is only carried out by a specialist or the manufacturer.

Removing the saw blade See chapter entitled: Saw blade replacement/tension

1. Remove the old wheel surface.
2. Attach and fix the new tread to the lower side of the wheel. (use cable ties if required)
3. Slide the tread over the top of the wheel.
4. Remove the fixing.
5. Ensure that the rubber wearing is seated properly with a few manual turns!

① Cable ties

8.4 Cleaning and lubrication

Clean the inside of the machine regularly with a vacuum to remove saw dust deposits and remove resin deposits from the wheel surfaces. The wheel bearings are sealed and do not need to be lubricated again.

It is not necessary to grease any parts on the machine, as the circulating saw dust would otherwise immediately stick to every greased or oiled surface, and would hamper the sliding properties of, for example, the blade

guidance or the belt tension unit. Regularly control the cleanliness of the wheel wearing surfaces, especially after resinous materials or chipboards have been cut. Only clean the wearing surfaces once the machine is idle and ensure that the wearing surfaces are not damaged during the process.

8.5 Direction of cut and parallelism

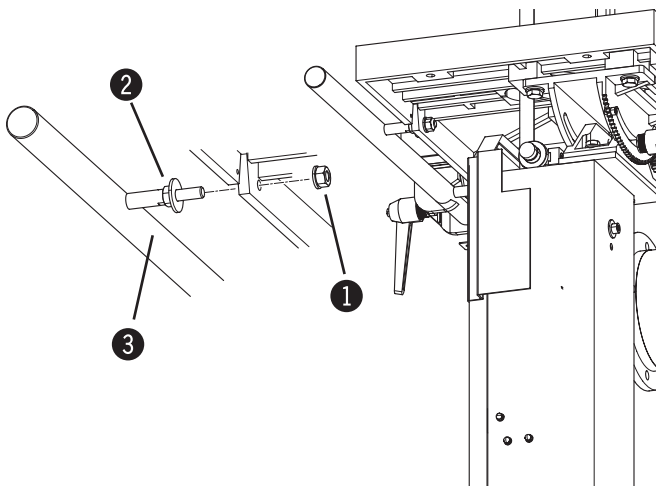


Fig. 8-3: Direction of cut and parallelism

If the cut, using the longitudinal stop, is still not parallel, the following are possible causes:

- Incorrect saw belt grinding and set
- Insufficient saw belt tension
- Incorrect longitudinal stop setting in relation to the saw belt.

Set the fence plate (guide):

1. Loosen the lock nuts.
2. Correct the position with the slotted round nut if required.
3. Tighten the lock nuts.

① Locking nuts

② Adjusting nut

③ Fence plate

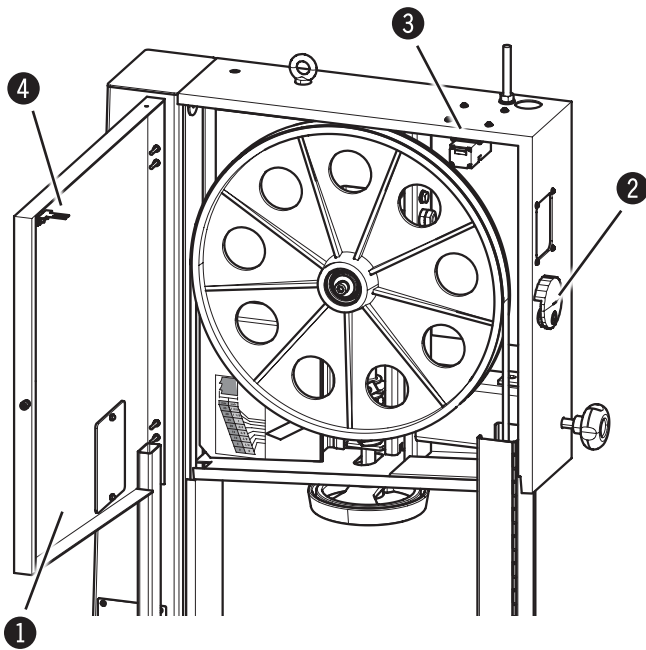
Service

8.6 Safety devices - Check efficiency



Note: The machine only runs when the end switch in the inside of the machine frame is engaged by the locking device: sliding cover or Flap is closed

Please contact the FELDER KG service department, if problems or a fault- function should occur!



Safety break switches - hinged lid

1. Prepare the machine to operate.
2. Switch the machine off and ensure that it cannot be switched on again.
3. Open wheel door
(Lock wheel - Wheel door)
4. Check efficiency:
The machine won't turn on, the glue pot must be lubricated. (Flap is open)
The machine only runs when the end switch in the inside of the machine frame is engaged by the locking device (Flap is closed)

Fig. 8-4: Safety break switches

- ① hinged lid (Wheel door)
- ② Lock wheel
- ③ Safety break switches
- ④ Lock system

Faults

9 Faults

9.1 Safety instructions



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



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

9.2 What to do if a fault develops

In most cases:

- In the event of a breakdown which creates danger for either personnel or equipment, the machine should be stopped immediately by activating the emergency stop.
- Also disconnect the machine from the mains and ensure it can not be switched on again.
- Inform those responsible for machine faults immediately.
- Type and extent of fault should be determined by an authorised professional, as well as the cause and repair.

9.3 What to do after rectifying the fault



Warning! Risk of injury!

Before switching the machine back on:

- The fault and its cause are professionally repaired.
- All safety equipment has been assembled according to regulations and is working correctly.
- Individuals are not located within the danger area of the machine.

Faults

9.4 Faults, causes and repairs

Fault	Cause and problem elimination
Machine does not start	Safety break switches are breaking the electric circuit ⇒ Ensure that the side doors are closed properly
	Emergency stop switch engaged ⇒ Unlock the emergency stop switch
Squeaking noises when starting up	Insufficient tension (Drive belt) ⇒ Retensioning the drive belt
The cuts are not straight	Check sharpness and set of saw blade
	Check the guide fence alignment
The saw blade is torn at the base of the individual teeth	Incorrect sharpness and constant overheating, or otherwise incorrect set of saw blade
	Width of saw blade is too thick in relation to the diameter of the wheel
	Defect or soiled wheel running surfaces
	Incorrectly aligned wheels ⇒ Contact service technician
The saw blade is rupturing on the rear side	Feed rate or pressure is too high during cutting
	Poor welded joint ⇒ Saw blade replacement
	The rear support roller of the saw blade guide is defective
The machine comes to a stillstand with the saw belt locked into the workpiece	Stop the motor and loosen the the brake. Enlarge the cutting gap with a wedge and remove the workpiece. Prior to switching the machine on again, check the condition of the saw belt and its position on the wheels
The saw belt is straying forwards and backwards	The belt is not aligned with the welded joints ⇒ Saw blade replacement
The saw blade is slipping to the back at the beginning of the cut	The saw blade is not sharp enough or is unsuitable for the type of material to be cut, or the surface of the wheel is defective

10 Circuit diagrams / Spare parts



Attention! The electrical diagrams supplied are only for the use of qualified electricians or the manufacturer's authorized technical personnel. These diagrams do not authorize you in any way to change the electrical parts or logic functioning.



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

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