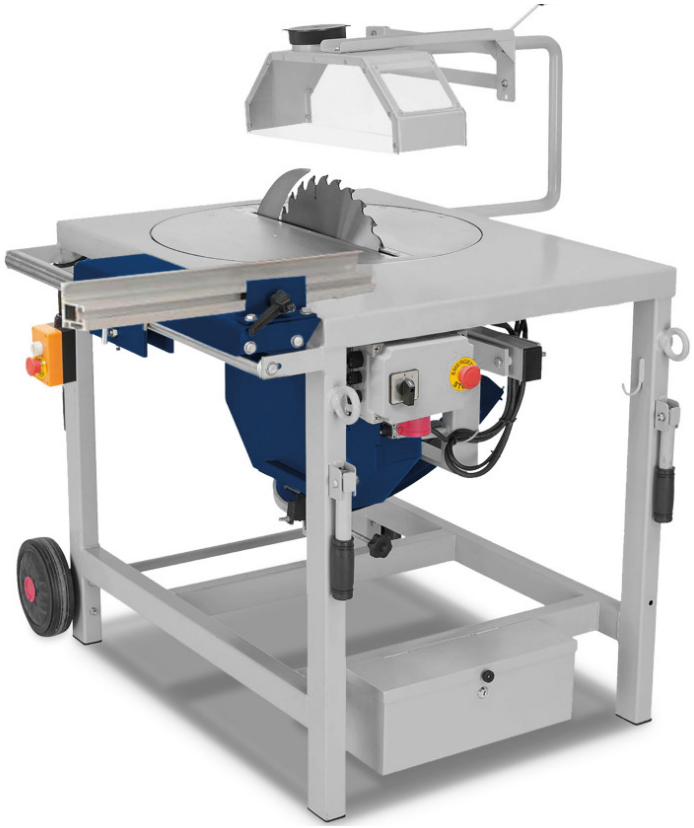
holzkraft
Holzbearbeitungsmaschinen

Instruction Manual

Circular saw

TKS-Z 400



TKS-Z 400

TKS-Z 400

Imprint

Product identification

Circular saw	Item number
TKS-Z 400	5741400

Manufacturer

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Indications regarding the operating instructions

Original operating instructions

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Indications regarding the copyright

Contents

1 Introduction

You have made a good choice by purchasing a HOLZ-KRAFT Circular saw.

Carefully read the operating instructions prior to commissioning.

They describe correct commissioning, intended use and safe as well as efficient operation and maintenance of your Circular saw.

The operating instructions form part of the Circular saw. Keep these operating instructions at the installation location of your Circular saw. Also observe the local accident prevention regulations and general safety regulations for the use of the Circular saw.

1.1 Copyright

The contents of these operating instructions are protected by copyright. Their application is permitted within the context of the use of the Circular saw. Any further use shall not be permitted without written consent by the manufacturer.
For the protection of our products, we shall register trademark, patent and design rights, as this is possible in individual cases. We strongly oppose any infringement of our intellectual property.

1.2 Customer service

Please contact your specialist retailer if you have any questions regarding your Circular saw or require any technical information. Your specialist retailer will be happy to support you with specialist advice and information.

Germany:
Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt

Repair service:
Fax: 0951 96555-111
E-Mail: service@stuermer-maschinen.de
Internet: www.holzkraft.de

Spare parts orders:
Fax: 0951 96555-119
E-Mail: ersatzteile@stuermer-maschinen.de

We are always interested in valuable experience and knowledge gained from using the application, whichthen could be shared and be valuable to develop our products even further.

1.3 Disclaimer

All data in these operating instructions has been com-piled on the basis of the state-of-the-art, valid standards and guidelines as well as our many years of expertise and experience.

The manufacturer shall not be liable for damage in the following cases:

- Non-observance of these operating instructions
- Unintended use
- Deployment of untrained staff
- Conversions at one's own responsibility
- Technical modifications
- Use of unauthorised spare parts

The actual scope of delivery may deviate from the descriptions and illustrations in this document as a result of special variants, optional extras or recent, technical modifications.

The obligations defined in the supply contract shall apply in addition to the general terms and conditions and the manufacturer's general terms and conditions as well as the statutory regulations valid at the time of the conclusion of the contract.

2 Safety

This section provides an overview of all important safety packages for personal protection as well as safe and reliable operation. The sections on individual service life phases contain additional, specifically applicable safety information.

2.1 Legend of symbols

Safety Instructions

Safety instructions in these operating instructions have been highlighted with symbols. Safety instructions are indicated by signal terms that express the degree of risk involved.

DANGER!

This combination of symbol and signal term indicates a directly dangerous situation which may cause death or serious injury if not averted.

WARNING!

This combination of symbol and signal term indicates potentially hazardous situations which may cause death or serious injury if not averted.

CAUTION!

This combination of symbol and signal term indicates a potentially hazardous situation which may cause minor or light injuries if it is not averted.

ATTENTION!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.

NOTE!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.

Tips and recommendations

Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for efficient and reliable operation.

Observe the safety information in these operating instructions to minimise the risk of personal injury as well as material damage and prevent hazardous situations

2.2 Obligations of the operating company

Of the operator

The operator is the person who operates the table saw for commercial or commercial purposes or gives it to a third party for use or application and bears legal product responsibility for the protection of the user, personnel or third parties during operation.

Obligations of the operating company

If the table saw is used for commercial purposes, the operating company of the table saw must comply with the legal working safety regulations. Therefore, the safety notes in this operating manual, as well as the safety, accident prevention and environment protection regulations applying for the area of application of the table saw must be met. The following applies in particular:

- The operator must inform himself about the applicable occupational health and safety regulations and determine additional hazards in a hazard assessment which are caused by the special working conditions at the place of use of the machine. These must be implemented in the form of operating instructions for the operation of the machine.
- During the entire period of use of the machine, the operator must check whether the operating instructions issued by him correspond to the current state of the rules and regulations and, if necessary, adapt them.
- The operator must clearly regulate and define the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- The operator must ensure that all persons handling the machine have read and understood these instructions. In addition, he must train the personnel at regular intervals and inform them about the dangers.
- The operator must provide the personnel with the necessary protective equipment and instruct them to wear the required protective equipment in a binding manner.

Furthermore, the operator is responsible for ensuring that the machine is always in perfect technical condition. The following therefore applies:

- The operator must ensure that the maintenance intervals described in these instructions are observed.
- The operator must have all safety devices regularly checked for operability and completeness.

2.3 Requirements to staff

The different tasks described in this manual represent different requirements to the qualification of the persons entrusted with these tasks.

WARNING!

Danger in case of insufficient qualification of the staff!

Insufficiently qualified persons cannot estimate the risks while using the table saw and expose themselves and others to the danger of severe or lethal injuries.

- Have all works only performed by qualified persons.
- Keep insufficiently qualified persons out of the working area.

Only persons reliable working procedures can be expected from, are allowed to perform all works. Persons the responsiveness of which is affected by e. g. drugs, alcohol or medication, are not allowed to work with the machine. The qualifications of the personnel for the different tasks are mentioned below:

Operator

The operator is instructed by the operating company about the assigned tasks and possible risks in case of improper behaviour. Any tasks which need to be performed beyond the operation if it is indicated in these instructions and if the operating company expressively commissioned the operator.

Qualified personnel

Due to their professional training, knowledge and experience as well as their knowledge of relevant regulations the specialist staff is able to perform the assigned tasks and to recognise and avoid any possible dangers themselves.

Manufacturer

Certain works may only be performed by specialist personnel of the manufacturer. Other personnel is not authorized to perform these works. Please contact our customer service for the execution of all arising work.

2.4 Personal protective equipment

The personal protective equipment serves to protect persons against impairments of safety and health while working. The staff member has to wear personal protec-tive equipment while performing different tasks on and with the machine which are indicated in the individual paragraphs of these instructions.

The personal protective equipment is explained in the following paragraph:

Dust mask

The dust mask protects the airways from dust.

Eye protection

Protective glasses protect the eyes against projected parts and splashes of liquid.

Protective gloves

The protective gloves provide protection for the hands against sharp-edged components, as well as against friction, abrasions or deeper injuries.

Safety boots

The safety boots protect the feet against crushes, falling parts and slipping over on slippery underground.

Hearing protection

The hearing protection protects the ears against damages of hearing due to noise.

Protective clothes

Protective work clothing means tight-fitting clothing with low tear resistance.

2.5 Safety labels on the Circular saw

The following safety signs are applied on the circular saw (Fig. 1), which need to be observed and followed.

Fig. 1: Safety labels

If safety labels on the machine are damaged or missing, this can cause errors, personal injury and material damage. The safety symbols attached to the machine must not be removed. Damaged safety symbols must be replaced immediately.
As soon as the signs are not clearly visible and comprehensible at first glance, the machine must be stopped until new signs have been attached.

2.6 General safety information

NOTE!

When using this machine, observe the following safety instructions to prevent the risk of personal injury or material damage.
Please also note the special safety instructions in the respective chapters. If necessary, follow the legal guidelines or regulations for the prevention of accidents when using the carpentry table saw.

- The circular saw may only be operated and operated by persons familiar with the table saw and aware of the dangers of using table saws.
- Do not operate the device under the influence of drugs, alcohol or medication.
- Do not overload the machine - use it only within the performance range for which the machine was designed.
- Make sure that no tools or loose parts remain on or near the machine when it is switched on (eg after maintenance work).
- Always keep the table saw and the work area of the table saw clean and tidy. A messy work area can lead to accidents.
- Prevent unfavorable postures, keep your feet stable and keep your balance at all times. Use suitable workpiece supports when cutting long material. Persons under the age of 18 may use the table saw only as part of a vocational training and under the supervision of a trainer.
- When installing, operating, maintaining and repairing the table saw, observe the European standards. For the European standards that have not yet been transposed into the relevant national law, the country-specific regulations still applicable must be applied.
- Operators of table saws outside the scope of the European standards are obliged to comply with the safety and accident prevention regulations in force in the country of operation. If necessary, appropriate measures to comply with country-specific regulations must be taken before commissioning the table saw.
- Always disconnect the table saw from the electrical power supply when making adjustments, inspection, cleaning or maintenance.
- Use the table saw only in the specified power range and only for the purpose for which it is intended.
- Check the circular saw for damage before each use. Do not use the circular saw if the on / off switch is defective. Keep handles free of oil and grease.
- Do not operate the device in a damp or wet environment.
- Do not use the table saw in rain or in humid environments. Ensure adequate lighting.
- Do not use the table saw near flammable liquids or gases.
- Make sure no body parts or garments can be caught and pulled by rotating components (no ties, no loose-fitting garments, tie long hair under a hairnet).
- Avoid contact of the body with earthed objects such as heaters or pipes as soon as you work on the machine.
- Do not use the power cord for purposes it is not intended for.
- Do not operate the machine without the guards installed and always maintain a sufficient distance from the saw blade.
- Do not try to stop the saw blade by pressing the workpiece against the side of the saw blade.
- Before servicing, make sure the tool is disconnected from the power supply.
- Turn off the device when not in use.
- Wear gloves when changing the cutting tools.
- The use of blunt tools is not permitted due to the risk of kickback, overloading the machine and creating a poor surface during machining.
- Always work with a properly set splitting knife.
- Cut thin or thin-walled workpieces only with fine-toothed saw blades. Always use sharp saw blades.

- Check the workpiece for foreign objects (eg nails, wires, cables or screws).
- Never cut multiple workpieces at the same time - or bundle with several individual pieces.
- When cutting round stock, use a suitable template to prevent the workpiece from rotating.
- Repairs should only be carried out by a qualified specialist.
- Always use original HOLZKRAFT spare parts and accessories.

NOTE!

Sanding dust can contain chemicals that have a negative impact on personal health. Work on the machine only in well-ventilated rooms and with a suitable dust mask perform!

2.7 Safety devices

Riving knife

The Riving knife (Fig. 2, a) prevents a workpiece from being caught by the rising teeth and thrown against the operator. The riving knife must always be mounted during operation.

Chip hood

The chip hood (Fig. 2, b) protects against accidental contact with the saw blade and flying chips. The chipbreaker must always be mounted during operation.

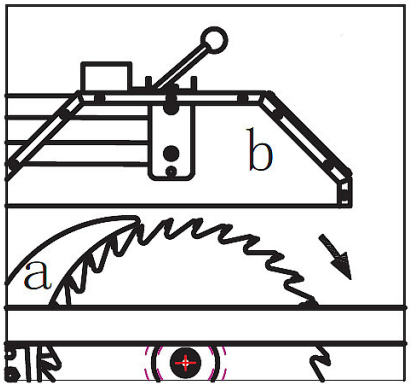

Fig. 2: Splitting wedge and chip hood

Push stick

The push stick serves as an extension of the hand and protects against accidental contact with the saw blade. The push stick must always be used if the distance between the stop profile and the saw blade is less than or equal to 120 mm.

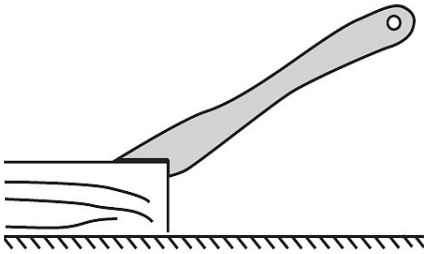

Fig. 3: Working with the help of the push stick

Limit switch

The limit switch prevents unintentional starting of the machine. Open the cover to interrupt contact with the limit switch, eg when changing the saw blade or performing cleaning work.

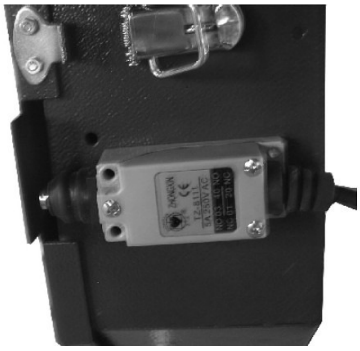

Fig. 4: Limit switch

3 Inteded Use

The Circular saw TKS-Z 400 is designed exclusively for cutting wooden materials (solid, chipboard, veneered, etc.). Material with round or uneven cross-section may not be processed without appropriate fixation. Circular saw is designed and built for use in non-hazardous environments. The machine must be operated with a suitable extraction system.

When working with the table saw, suitable ear protection must be worn.

Proper use also includes compliance with all information in this manual. Any use beyond the intended use or otherwise is considered misuse.

WARNING!

Danger in case of misuse!

Misuse of the table saw can lead to dangerous situations.

- Modifications and changes to the operating values of the table saw are prohibited. They are dangerous to people and can damage the table saw.
- Never machine several workpieces at the same time.

Stürmer Maschinen GmbH assumes no liability for constructive and technical changes to the table saw.

Claims of any kind due to damage due to improper use are excluded.

4 Residual risks

The machine has been constructed in accordance with the state of the art and the recognised safety regulations. However, individual residual risks may occur during operation.

- Danger of injury to fingers and hands due to the rotating saw blade if the workpiece is handled improperly.
- Injuries from the workpiece being ejected due to improper posture or guidance, such as work without a stop.
- Health hazards due to noise. When working, the permissible noise level is exceeded. Be sure to wear personal protective equipment such as ear protection.
- Injuries due to defective saw blade. Check the saw blade regularly and before each use for integrity.
- Danger due to current, when using improper electrical connection cables.
- When using special accessories, the operating instructions enclosed with the optional accessories must be observed and read carefully.
- Furthermore, despite all the precautions taken can not be obvious residual risks.
- Residual risks can be minimized if the safety instructions and the intended use, as well as the operating instructions are observed as a whole.

5 Technical Data

Model	TKS-Z 400
Length	1350 mm
Width / Depth	1100 mm
Height	1180 mm
Weight	131 kg
Supply voltage	400 V
Max. cutting width with rip fence	640 mm
Max. cross cut width left from saw blade	410 mm
Saw blade angle	90° / 45°
Max. cutting height 90°	120 mm
Max. saw blade protrusion 45°	90 mm
Max. saw blade protrusion 90°	120 mm
Max. saw blade protrusion 45°	90 mm
Saw blade diameter	400 mm
Saw blade speed	2800 min^{-1}
Extraction port diameter bottom	100 mm
Saw blade protection extraction port diameter	100 mm
Sliding carriage length	560 mm
Sliding carriage width	140 mm
Sliding carriage height	40 mm
Dimensions work table	945 x 715 x 845 mm
Drive motor output	2,2 kW
Absorbed power drive motor	2,8 kW
Total current draw	5,5 A
Sound power level	96,7 dB (A)
Sound pressure level	80,7 dB (A)

5.1 Type plate

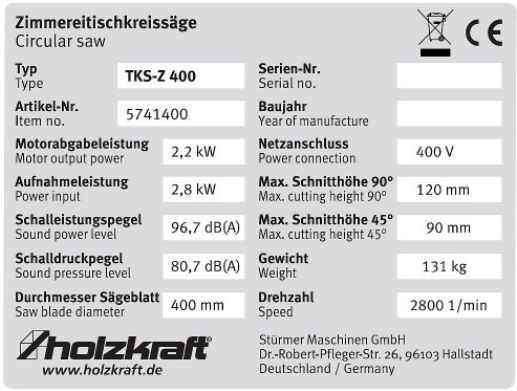

Fig. 5: Type plate TKS-Z 400

6 Transport, packaging, storage

6.1 Delivery and transport

Delivery

After delivery, check the circular saw for visible transport damage. If you find any damage to the circular saw, report it immediately to the shipping company or dealer.

DANGER!

To avoid injury, do not attempt to assemble the machine if any parts are missing. Do not plug in the power cord and only switch on the machine once the missing parts have been procured and installed correctly.

Transport

WARNING!

Danger to life!

If the weight of the unit and the permissible load capacity of the lifting equipment are not observed during transport or lifting work, the unit may tilt or fall.

- During transport and lifting work, observe the weight of the unit and the permissible load capacity of the lifting equipment.
- Check hoists and load slings for perfect condition.

NOTE!

The saw is a heavy machine. Do NOT overwork while unpacking or moving your machine. Get support for transporting the machine.

Transport with a forklift / pallet truck:

For shipment, the boxed unit is delivered on a pallet so that it can be transported by forklift or pallet truck.

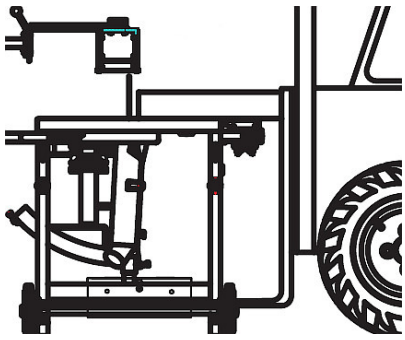

Fig. 6: Transport with a forklift

Transport with a crane

It is forbidden to attach the crane straps to the saw arm, girder or to the saw columns. The attachment points on the frame must be used. Avoid swinging the machine while transporting with a crane.

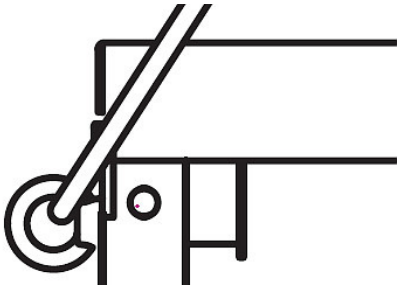

Fig. 7: Transport with a crane

6.2 Packaging

All of the machine‘s packaging materials and packing aids are suitable for recycling and must always be disposed of using material-based recycling systems.

Packaging materials made of cardboard must be shredded and disposed of as part of waste paper recycling.

The foils are made of polyethylene (PE), padding is made of polystyrene (PS). Dispose of these substances at a recycling centre or hand them over to the relevant waste disposal company.

6.3 Storage

DANGER!

Do not store the table saw unprotected outdoors or in a humid environment.

Thoroughly clean the Circular saw in a dry, clean and frost-free environment. Keep the saw in such a way that it can not be put into operation by unauthorized persons and nobody can injure themselves with the standing saw. Cover the machine with a protective tarpaulin.

7 Description of the device

Illustrations in these operating instructions may deviate from the original.

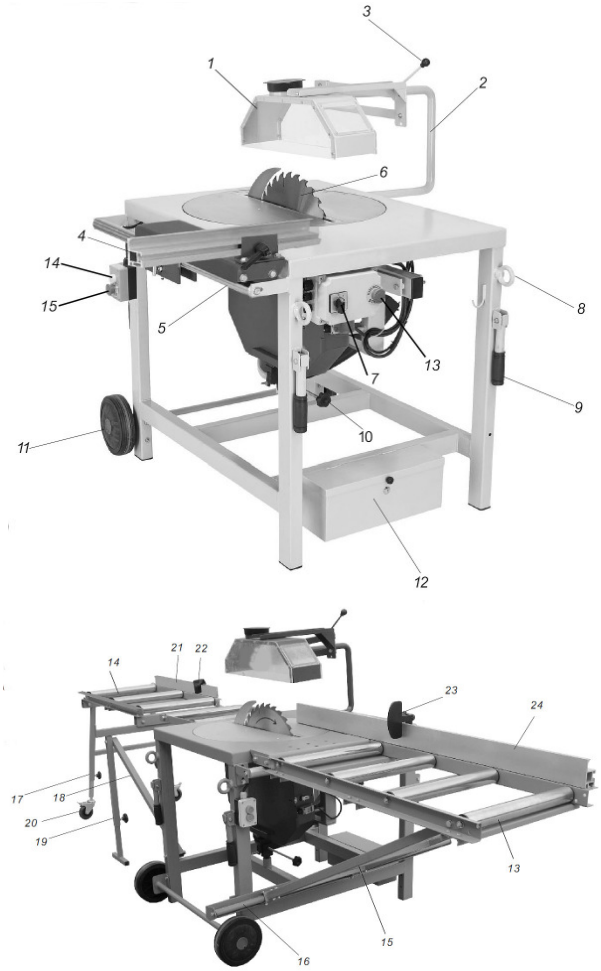

Fig. 8: Circular saw TKS-Z 400

1 Blade safe guard
2 Blade safe guard holding bracket
3 Blade safe guard adjust lever
4 Rip fence
5 Rip fence rail
6 Saw blade
7 Power switch
8 Hoist ring
9 Machine carrier lever
10 Blade tilting lock knob
11 Wheel kit
12 Tool kit
13 Emergency stop (above) / Workpiece roller (below)
14 Motor switch (above) / Workpiece roller (below)
15 Emergency stop (above) / Infeed roller support (below)
16 Infeed roller support guide
17 Outroller support A
18 Outroller support B
19 Outroller support C
20 Wheel kit for outroller
21 Rip fence for outfeed
22 Stop for outfeed
23 Stop for Infeed
24 Rip fence for Infeed

7.1 Scope of delivery

- Chassis
- Saw blade guard with suction connection
- Push stick
- Toolbox
- Carbide saw blade 400 x 4.0 x 30 mm, Z 28
- Operating tool

7.2 Accessories

- Transport Set
Item number: 5741404
- HM-Saw blade 400x30x4 mm , Z28
Item number: 5741405
- Saw blade 400x30x3,5 mm , Z36
Item number: 5264036
- Saw blade 400x30x3,5 mm , Z96
Item number: 5264096

8 Setting up and connecting

8.1 Requirements for the installation location

The saw must be placed securely on a level and firm surface. Ensure that there is sufficient freedom of movement for working. The installation location should meet the following criteria:

- The substrate must be level, firm and vibration-free.
- The substrate must not let any lubricant through.
- The installation or working room must be dry and well ventilated.
- Do not operate machines that cause dust and chips near the machine.
- There must be sufficient space for the operating personnel, for material transport as well as for adjustment and maintenance work.
- The site must have good lighting.
- There must be a suction device with min. 690 m3 / h extraction capacity, min. 20 m / s flow velocity at the suction connection; Hose diameter 100 mm, max. Hose length 4 m.

8.2 Set up the Circular saw

CAUTION!

Risk of injury due to a machine that is not stably erected! Check the stability of the machine after placing it on stable ground.

ATTENTION!

Some metal parts can be sharp-edged. Check all metal parts to avoid injury.

ATTENTION!

Pay attention to the weight of the machine!
The machine may only be set up by two persons.
Check the aid accordingly for sufficient dimensioning and load capacity.

DANGER!

To ensure sufficient stability of the machine, it should be screwed to the ground.

Check the state of the table saw immediately upon receipt and immediately claim any damage from the last carrier, even if the packaging is not damaged. In order to secure claims against the carrier, we recommend that you leave your machinery, equipment and packaging materials in the condition in which you found them when the damage was discovered. We kindly ask you to inform us of any other complaint within six days after receipt of the delivery.

DANGER!

- Read each step before executing it.
- Take care of the corresponding parts for each work step.

Required tools:

- 1 Wrench 17 mm
- 1 Wrench 8 mm
- 1 Wrench 12mm
- 1 Wrench 10mm
- 1 Wrench 15 mm
- 1 Wrench 19 mm

The machine is mostly delivered assembled. Before use, the following parts must be mounted or adjusted:

blade guard

Step 1: Pass the end of the blade guard Insert the retaining clip (A) into the underside of the table (B) and lock it by tightening the screw (M10x25mm) to ensure the stability of the entire blade guard.

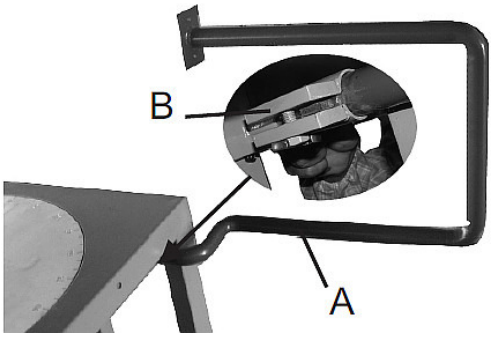

Fig. 9: Mounting the saw blade guard

Step 2: Connect the saw blade guard and the saw blade guard bracket as shown in step 1 and step 2 in Fig. 10.

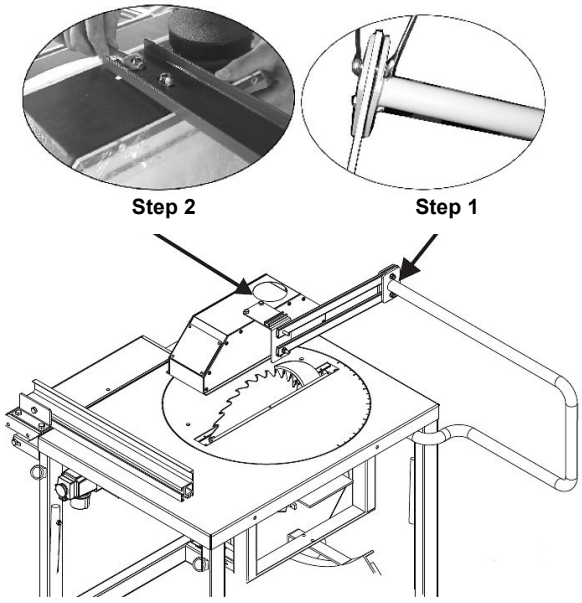

Fig. 10: Assembly of the retaining clip

Assembly of the wheels

Step 1: Mount the transport wheels on the two adjustable feet using the 4 screws (M8x80mm).

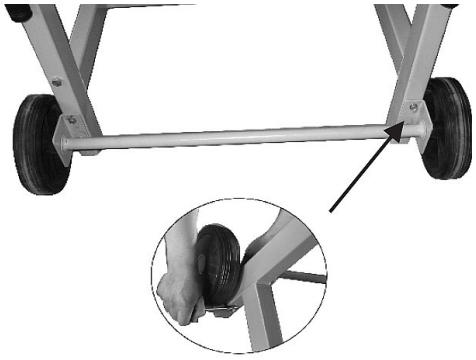

Fig. 11: Assembly of the wheels

Assembly of the rip fence

Step 1: Place the carrier (A) on the sliding table and attach the rip fence (B) to the carrier, but do not tighten the screws (C) that secure the rip fence.

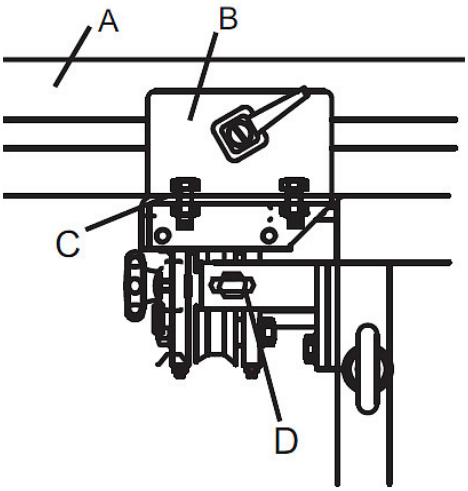

Fig. 12: Assembly of the rip fence

Step 2: Loosen the locking screws (D) and adjust the stop guide so that it runs parallel to the edge of the worktable. Hold the sliding table and worktable at the same height and tighten the locking screws (D).

Step 3: Measure the distance between rip fence and main knife, set the rip fence slightly to make sure L1 = L2, and then tighten the locking screws (C).

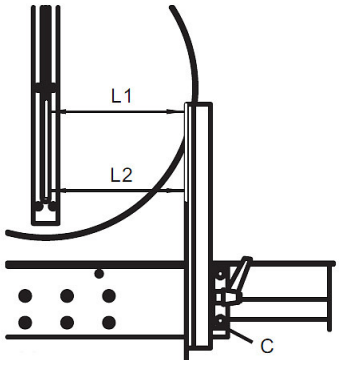

Fig. 13: Checking the rip fence

Assembly of material supply and material removal

Please assemble the material supply and material discharge according to the exploded view on page 22.

8.3 Settings

NOTE!

Before each adjustment make sure that the machine has been disconnected from the mains.

Set miter cutting angle

Step 1: Release the star grip (A) under the table. Now turn the table until the pointer "0 °" with the pointer on the mounting matches.

Step 2: Fix the bolt (B) against the lock plate (C) under the table and lock it.

Step 3: Turn the table and align the 90 degree angle with the pointer on the mounting table.

Step 4: Mount another screw (B) against the locking plate (C) under the table.

Step 5: When you want to set the table to the desired cutting angle, tighten the locking knob.

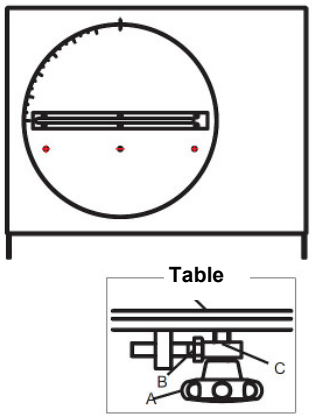

Fig. 14: Set miter cutting angle

Adjusting the saw blade inclination

The saw blade can be tilted from 90 ° to 45 ° using the following steps.

Step 1: Loosen the locking screw (A) and tilt the saw unit to the desired position.

Step 2: Retighten the locking screw (A)

Step 3: To precisely adjust the stop (0 ° and 90 °), loosen the nuts (D) on the screws (B) on the frame of the saw. Adjust the blade tilt by turning the screws slightly.

Step 4: After successfully adjusting the saw blade inclination, retighten the lock nut.

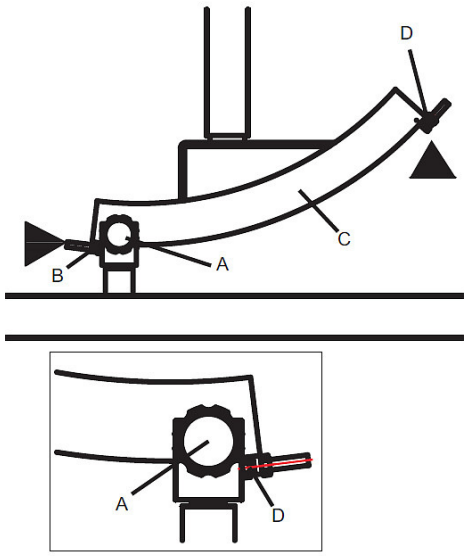

Fig. 15: Adjusting the saw blade inclination

Replacing the saw blade

NOTE!

Before each adjustment make sure that the machine has been disconnected from the mains.

Step 1: Turn off the saw, disconnect it from the mains, and lower the saw blade completely.

Step 2: Open the cover of the saw blade.

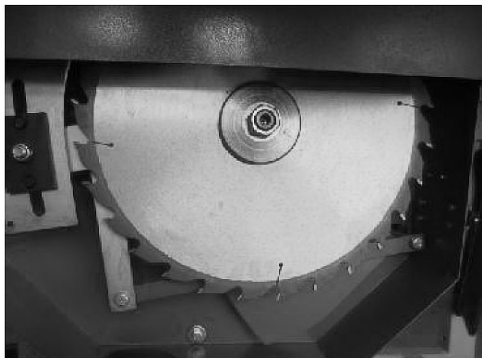

Fig. 16: Open the cover of the saw blade

Wearing safety gloves!

DANGER!

Risk of cutting the saw blade. Wear protective gloves when mounting the saw blade.

Step 3: Loosen the lock nut with a 17 mm wrench and an M8 hex wrench.

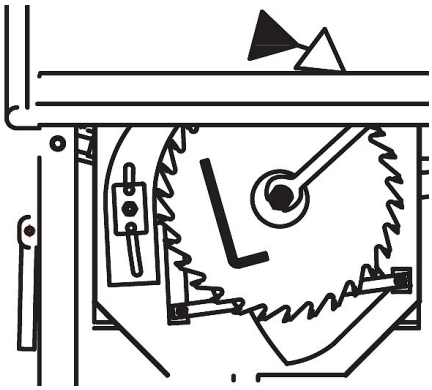

Fig. 17: Release the saw blade

Step 4: Remove the left nut (A) and the saw blade (C) from the flange (B).

Step 5: Insert the new saw blade (C), install the flange (B) and tighten the left nut (A).

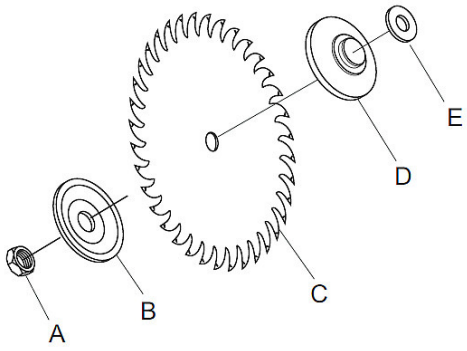

Fig. 18: Installation saw blade

Step 6: Align the splitting wedge and the blade on one level and check the gap between splitting wedge and blade to 3-8 mm if necessary.

Step 7: Close the saw blade cover again and lock.

NOTE!

Observe the direction of rotation of the saw blade!

Adjusting the splitting wedge

Wearing safety gloves!

DANGER!

The riving knife is one of the safety devices and must be correctly installed for safe operation.

Step 1: Open the two quick release clamps on the left and right of the suction housing and fold down the protective flap.

Step 2: Slightly loosen the hexagon nut with the help of a wrench.

Step 3: Adjust the riving knife so that the distance to the saw blade is 3-8 mm. Then tighten the hexagon nut again.

Step 4: Close the protective cover and lock it again.

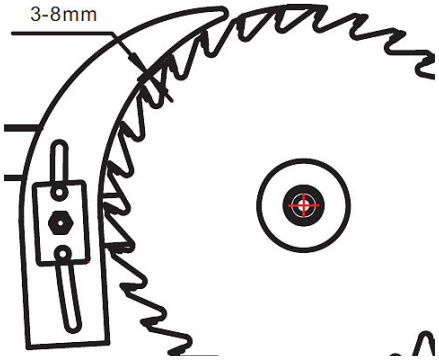

Fig. 19: Adjusting the splitting wedge

NOTE!

If the machine can not be switched on after adjusting the splitting wedge, it may be that the stop plate does not actuate the limit switch. Therefore push the stop plate slightly towards the limit switch.

8.4 Electrical connection

DANGER!

Risk of death due to electric shock!

Contact with live components may result in fatal injury. Switched-on electrical components can make uncontrolled movements and lead to serious injuries.

DANGER!

All work on the electrical installation may only be carried out by a qualified electrician.

ATTENTION!

The connection of the three phases (model TKS-Z 400 400V) must be made so that the direction of rotation coincides with the direction of rotation arrow on the saw blade.

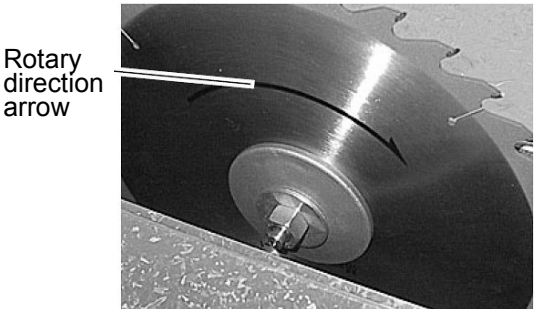

Fig. 20: Saw blade with direction of rotation arrow

When making electrical connections, make sure that the characteristics (voltage, mains frequency, protection) match those on the rating plate and for the motor.

Only use the table saw in a dry environment. Operate the table saw only on an electrical supply that meets the following requirements:

- Check that the voltage and the current frequency correspond to the information given on the rating plate.
- Use only one earthing contact socket (correctly grounded socket) or one CEE 400 V connection cable for circular saw table saws. There must be a right spin.
- Lay the power cord so that it does not interfere with work and can not be damaged.
- Protect the power cord from heat, aggressive liquids and sharp edges.

9 Operation of the Circular saw

DANGER!

Danger of electrocution!

Contact with live components may cause mortal danger. Switched on electrical components can cause uncontrolled movements and lead to serious injuries.

- Disconnect the power before starting any adjustments to the machine.

WARNING!

Danger to life!

There is danger to life for the operator and other persons if they do not adhere to the following rules.

- Circular saw may only be operated by a trained and experienced person.
- The operator may not work while under the influence of alcohol, drugs or medication.
- The operator must not work when he is tired or suffering from concentration-impairing illnesses.
- Circular saw may only be operated by one person. Other persons, especially children, must keep away from the work area during operation.

CAUTION!

Risk of crushing!

Incorrect work on the machine can cause injury to the upper limbs.

DANGER!

The push stick must always be used if the distance between the stop profile and the saw blade is less than or equal to 120 mm.

When sawing small sections of wood, use the material deflector to prevent wooden parts from jamming between the saw blade and the table insert.

WARNING!

Some wood dust species can cause cancer when inhaled. Only work indoors with a suitable chip extraction system

- Fits the outer diameter of the extraction nozzle (100 mm)
- Air velocity at the extraction nozzle> 20 m / s

DANGER!

Danger due to kickback of workpieces:

The workpiece can be gripped by the saw blade and thrown against the operator.

- Only work with correctly adjusted splitting wedge. Always use sharp saw blades and do not tilt the workpieces.

DANGER!

Danger from objects caught by the saw blade during sawing, e.g.

- Tools on the saw table
- hidden metal parts in the workpiece.
- Never saw several workpieces at once.

DANGER!

Operation without chip extraction system is only possible:

- outdoors.
- when only few chips are produced with narrow workpiece thicknesses.
- with dust mask.

DANGER!

Before using the table saw, make sure that by:

- No danger to persons arises.
- No things are damaged.
- Refrain from any safety-related working method
- Use personal protective equipment.
- When sawing, keep sufficient distance to the saw blade. If necessary, use a push stick. Avoid unfavorable postures. Ensure a secure footing and maintain balance at all times.
- After sawing, drive the saw blade until the chip hood rests on the saw table.
- Use gloves when changing the saw blade.

DANGER!

Check the circular saw for damage before each use.

Check each time before switching on whether keys or setting tools are removed.

Do not use the circular saw if the on / off switch is defective.

DANGER!

For long workpieces, use suitable workpiece supports.

Never slow down the saw blade by pushing it sideways. The saw blade must come to a standstill within 10 seconds.

Use hearing protection!

Use eye protection!

Dust mask wear in dust-generating work!

Wear safety boots!

Wear protective clothes!

ON-OFF switch

Switching on the power - Turn switch "A".

Switching on / off - Press button "C".

Emergency stop button - Press button "B"

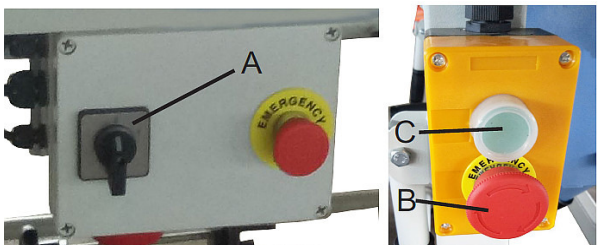

Fig. 21: ON-OFF switch TKS-Z 400

In the event of a power failure or unplugging the power plug from the power outlet before turning off the machine, the machine will not restart unless it is turned on again with the ON / OFF switch.

9.1 Saws with longitudinal stop

DANGER!

If the distance between the longitudinal stop and the saw blade is less than 120 mm, the push stick must be used.

NOTE!

In order to be able to use the full adjustment range of 45 °, the cutting height must be reduced accordingly.

Step 1: Adjust the cutting height of the saw blade by adjusting the handle (A) on the rear of the machine according to the height of the piece of wood. Tighten the tension lever (B) to lock the height.

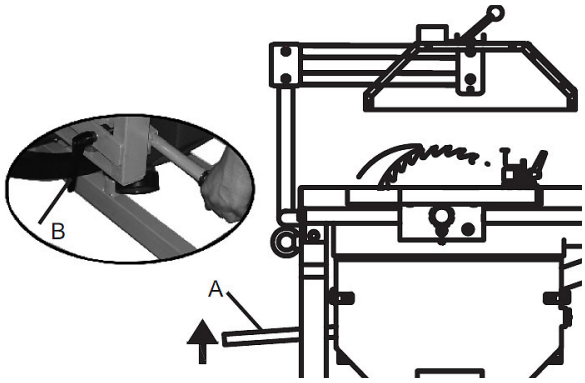

Fig. 22: Adjust the blade height

Step 2: Check parallelism between saw blade and rip fence.

Step 3: Start the machine and cut the workpiece in one operation.

Step 4: Switch off the machine if no further cutting is to take place immediately afterwards.

9.2 Saws with cross stop

DANGER!

The stop profile must be at least 10 mm away from the cutting line.

Step 1: Set the cutting height of the saw blade according to how the slitting works.

Step 2: Check the vertical of the rip fence with the saw blade.

Step 3: Start the machine and cut the workpiece in one operation.

Step 4: Switch off the machine if no further cutting is to take place immediately afterwards.

9.3 Lift cutting

Step 1: Adjust the saw blade by adjusting the lifting handle (A) below the work table.

Step 2: Place the piece of wood on the table and against the rip fence, move the piece of wood over the saw blade and lock the rip fence by turning the handle (B).

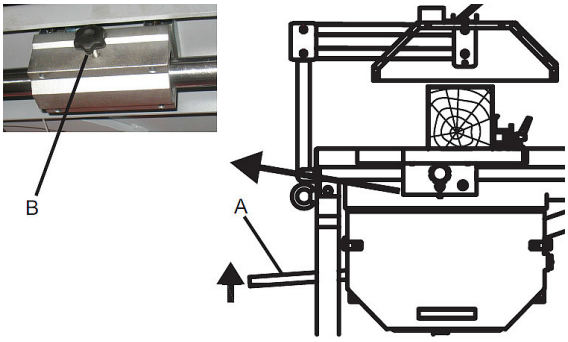

Fig. 23: Lift cutting

Step 3: Start the machine and raise the handle (A) to cut the piece of wood.

Step 4: Switch off the machine if no further cutting is to take place immediately afterwards.

9.4 Cutting chamfers

Step 1: Loosen the locking screw (A), press the saw blade box and tilt it 45 degrees. Tighten the locking screw to secure the saw blade box.

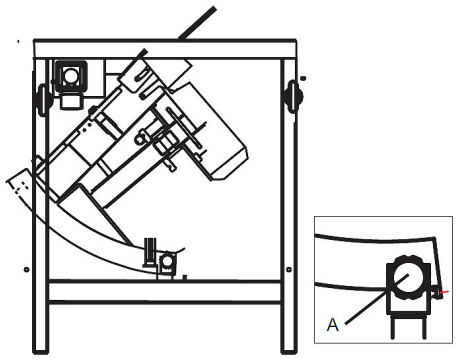

Fig. 24: Cutting chamfers

Step 2: Perform the cut according to the above instructions.

Step 3: Switch off the machine if no further cutting is to take place immediately afterwards.

NOTE!

When slitting, the width of the piece of wood is less than 120mm, please turn the rip fence to use the bottom to guide the workpiece.

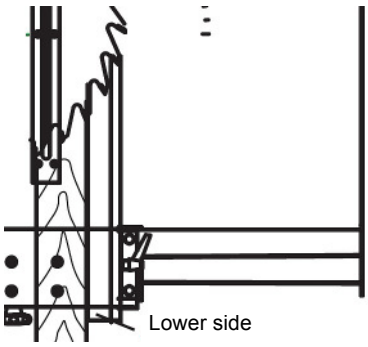

Fig. 25: Turn the rip fence

9.5 Make a miter cut

Step 1: Loosen the locking screw (A) under the work table and turn the table to the desired degree. Then tighten the locking screw.

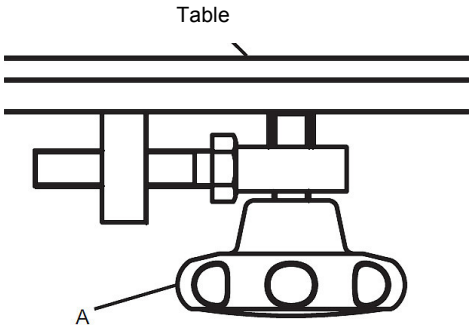

Fig. 26: Make a miter cut

Step 3: Start the machine and perform the cut.

Step 4: Switch off the machine if no further cutting is to take place immediately afterwards.

10 Care, maintenance and repair

DANGER!

Risk of death due to electric shock!

Contact with live components may cause mortal danger. Switched on electrical components can cause uncontrolled movements and lead to serious injuries.

- Before starting cleaning and maintenance work, switch off the machine and disconnect the mains plug.
- Connections and repairs to the electrical equipment may only be carried out by a qualified electrician.

NOTE!

After care, maintenance and repair work, check that all guards and protective devices have been properly mounted on the machine and that there are no tools left inside the machine or in its working area. Damaged safety devices and equipment parts must be repaired or replaced by customer service or a specialist workshop.

10.1 Care after work

Use protective gloves!

NOTE!

Never use strong cleaning agents for any cleaning work. This can damage or destroy the device.

Step 1: Disconnect the power plug from the power outlet.

Step 2: Empty and clean the suction device.

Step 3: Extract the machine from sawdust and sawdust and clean it with a dry cloth and / or compressed air (wear protective goggles!). In particular, the guide rails must be kept clean. Always keep the surfaces of the support tables clean. In particular, remove resin residue with a suitable care spray.

Step 4: Spray all unpainted metal surfaces with some anti-rust spray.

Step 5: Inspect the machine for damage to the safety devices and saw blade. If necessary, carry out the repair or arrange for it, observing the safety instructions.

Step 6: Check the machine regularly and replace if necessary:

- Loose screws and nuts
- Worn or damaged switches
- Worn or damaged saw blade
- Worn or damaged blade guard

10.2 Maintenance and repair

Maintenance and repair work may only be carried out by qualified personnel.

If Circular saw does not work properly, contact a dealer or our customer service. The contact details can be found in chapter 1.2 Customer Service.

All protective and safety equipment must be reinstalled immediately after repair and maintenance work has been completed.

Visual inspection and maintenance

Maintenance interval	Maintenance work
before each use	Visually check that the saw blade protection cover is free of sawdust..
before each use	Visually check whether the distance between the riving knife and the saw blade is 3mm - 8mm.
before each use	Check the mains cable for damage and if necessary replaced it by a qualified electrician
after 40 hours	Check the function of the brake. The saw blade must stop within 10 seconds of being switched off.
monthly	Clean and oil the guide elements for adjusting the saw blade.
monthly	Remove sawdust with a vacuum cleaner or brush.
after 300 hours	Check all screw connections and tighten if necessary.
as required	Replace the motor if the braking function drops.

11 Troubleshooting

Fault	Possible cause	Solution
Motor does not start	1.No mains voltage 2.Undervoltage relay was triggered by a short voltage drop 3.Motor overheated, e.g. due to blunt saw blade, excessive feed, chip accumulation in the housing	1.Have the power connection checked by qualified personnel 2.Switch on again 3.Eliminate the cause of the overheating, allow to cool for a few minutes and then switch on again
Saw blade turns upside down (three-phase mo-tor only)	Phases at connection reversed	Swap two of three phase conductors at the connection
Sawing power decreasing	Saw blade is blunt, the saw blade may have burn marks on the sides.	Replace the saw blade
Saw vibrates, saw blade beats	1.Saw blade does not comply with specification 2.Saw blade not sufficiently fastened 3.Saw blade is defective.	1.Check whether the saw blade is suitable for installation using the specifications in the technical data 2.Tighten the fixing screw 3.Check the saw blade for mechanical damage and replace if necessary
The workpiece is knocked back by the saw blade.	1.Fences are not correctly positioned 2.Cutting knife not aligned with the saw blade 3.Defective saw blade	1.Adjust the fences 2.Adjust the knife with the saw blade 3.Replace the saw blade
The saw braking time is longer than 10 seconds.	Brake components worn out.	Replace the motor.

12 Disposal, reusing used machines

In your own interest and to protect the environment make sure that all machine components are exclusively dis-posed of in as intended and permitted.

12.1 Decommissioning

Disused machines must be decommissioned immediately to prevent misuse at a later point and putting the environment or persons at risk.

Step 1: Remove all environmentally hazardous fluids from the old unit.

Step 2: If necessary, dismantle the machine into manageable and usable assemblies and components.

Step 3: Guide the machine components and operating materials to the appropriate disposal routes.

12.2 Disposal of electrical equipment

Note that electrical equipment contains a variety of recycling-capable materials and also environmentally hazardous components.

Please help to separate these components and dispose of them responsibly. In case of doubt, contact your local waste disposal authority. Consult a specialist disposal agent for recycling if needed.

12.3 Disposing of lubricants

Lubricant manufacturers provide disposal information for the lubricants used. If necessary, request product-specific data sheets.

13 Spare parts

DANGER!

Risk of injury by using wrong spare parts!

The use of incorrect or faulty replacement parts may cause danger to the operator and cause damage and malfunction.

- Only original spare parts from the manufacturer or replacement parts approved by the manufacturer must be used.
- In case of doubt, always contact the manufacturer.

Tips and recommendations

Using non-approved spare parts voids the manufacturer's warranty

13.1 Ordering spare parts

Spare parts are available from authorised retailers or directly from the manufacturer. The contact details have been listed in section 1.2 Customer service.

The following key data is required for queries or spare parts orders:

- Device type
- Item number
- Position number
- Year of construction
- Quantity
- Desired shipping type (post, freight, sea, air, express)
- Shipping address

Spare parts orders without the aforementioned data cannot be taken into account. The supplier shall determine the shipping type if no relevant data was provided.

Data on the machine type, item number and year of manufacture is listed on the type plate attached to the device.

Example

The saw blade for the Circular saw TKS-Z 400 must be ordered. The saw blade has the number 66 in the spare parts drawing 1.

By ordering spare parts, send a copy of the spare parts drawing (1) with the marked part (saw blade) and marked positon number (66) to the dealer or spare parts department and provide the following information:

- Type of device: **Circular saw TKS-Z 400**
- Item number: **5741400**
- Drawing number: **1**
- Position number: **66**

13.2 Spare parts drawing

The following spare parts drawings are intended to help identify the necessary spare parts. To order, please send a copy of the list of spare parts with the marked components to your dealer.

Spare parts drawing 1

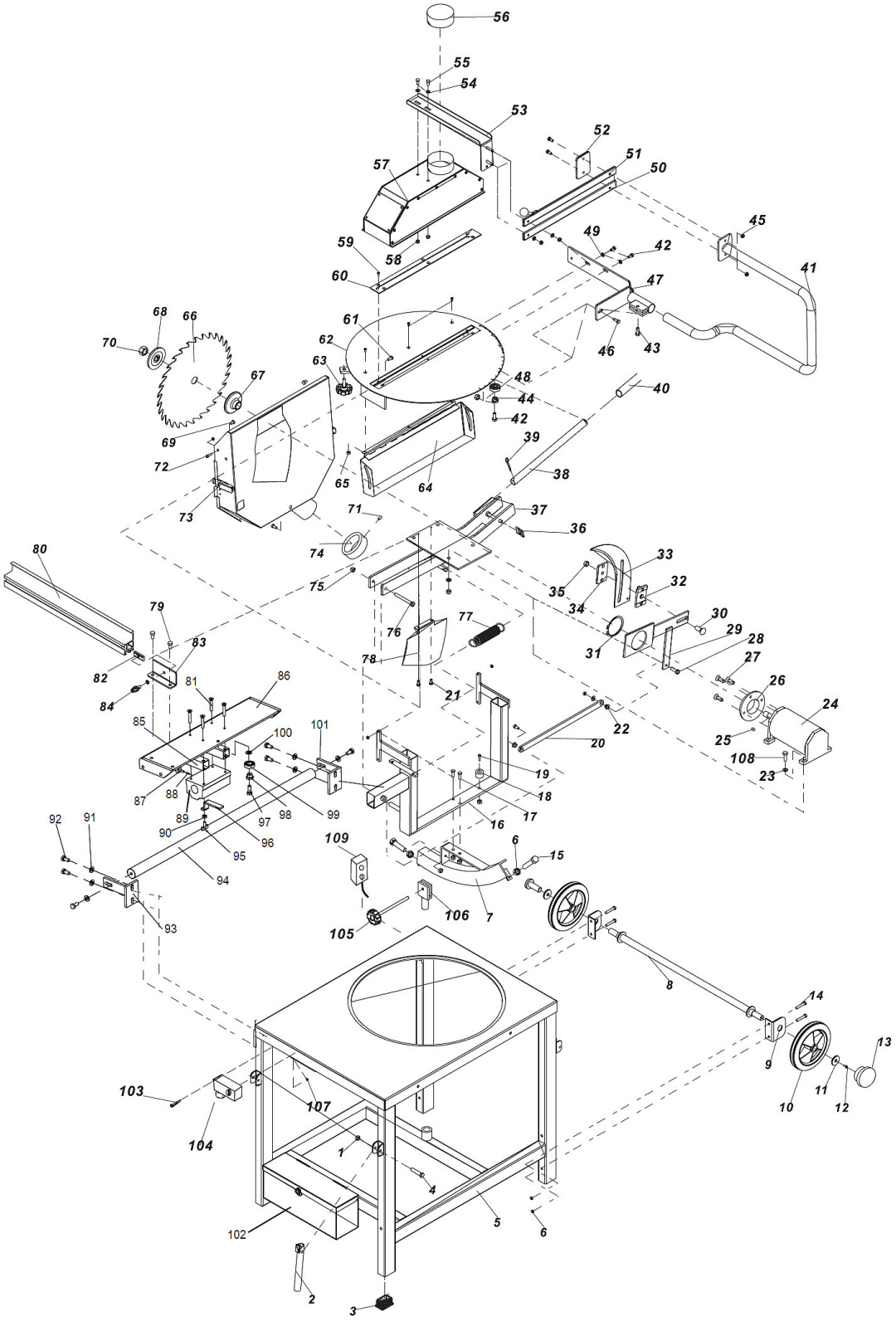

Fig. 27: Spare parts drawing 1 Circular saw TKS-Z 400

Spare parts drawing 2

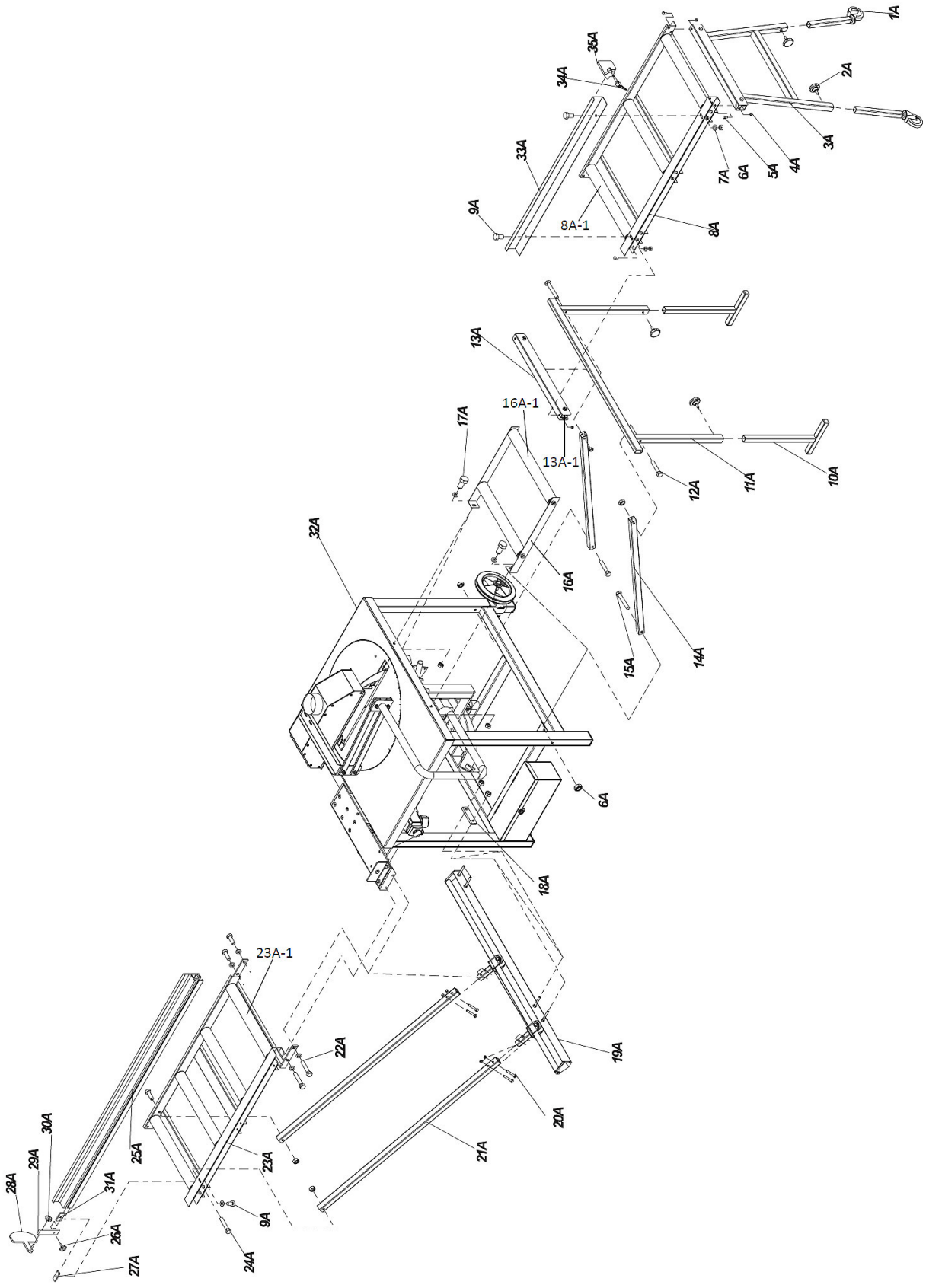

Fig. 28: Spare parts drawing 2 - Circular saw TKS-Z 400

14 Electrical circuit diagram

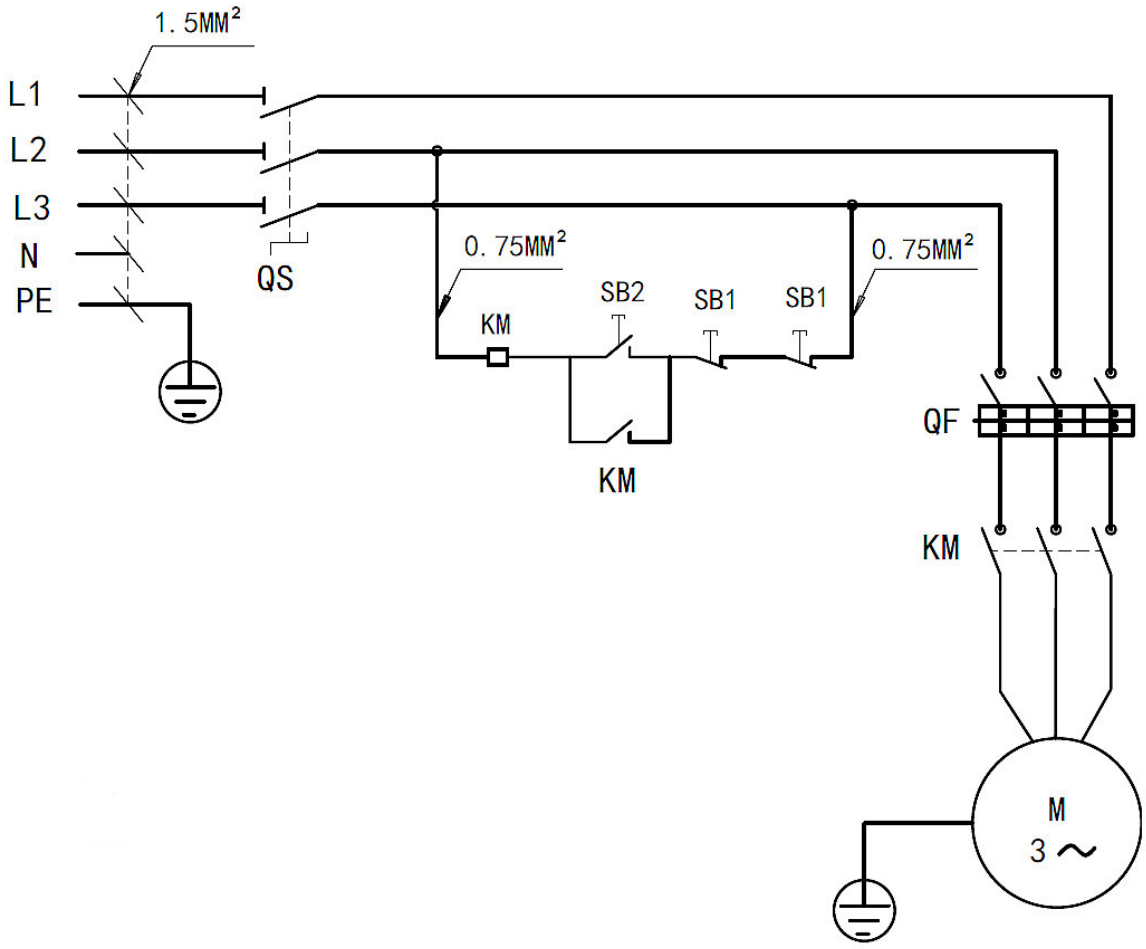

Fig. 29: Electrical circuit diagram TKS-Z 400

15 EC-Declaration of Conformity

As per machine directive 2006/42/EC, Appendix II 1.A

Manufacturer/seller:	Stürmer Maschinen GmbH Dr.-Robert-Pfleger-Str. 26 D-96103 Hallstadt

hereby declares that the following product

Product group:	Holzkraft® Woodworking machines
Machine type:	Circular saw
Designation of the machine:	TKS-Z 400
Item number:	5741400
Serial number:	_____
Year of manufacture:	20____

complies with all relevant regulations of the aforementioned directive as well as any other, applicable directives (subsequently added) – including the changes applicable at the time the declaration was made.

Relevant EU directives:	2014/30/EU	EMC-Directive
	2011/65/EU	RoHS-Directive
	2012/19/EU	WEEE-Directive

The following, harmonised standards have been applied:

DIN EN 1870-19:2013	Safety of woodworking machines - Circular sawing machines - Part 19: Circular saw benches (with and without sliding table) and building site saws
DIN EN 60204-1:2006+A1:2009+AC:2010	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
DIN EN 55014-1:2017	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
DIN EN 55014-2:2015	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard
DIN EN 61000-3-2:2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current <= 16 A per phase)
DIN EN 61000-3-3:2013	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection

Responsible for documentation: Kilian Stürmer, Stürmer Maschinen GmbH, Dr.-Robert-Pfleger-Str. 26, D-96103 Hallstadt

Hallstadt, 18.07.2019

Kilian Stürmer
Manager

CE

16 Notes


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OPTIMUM
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