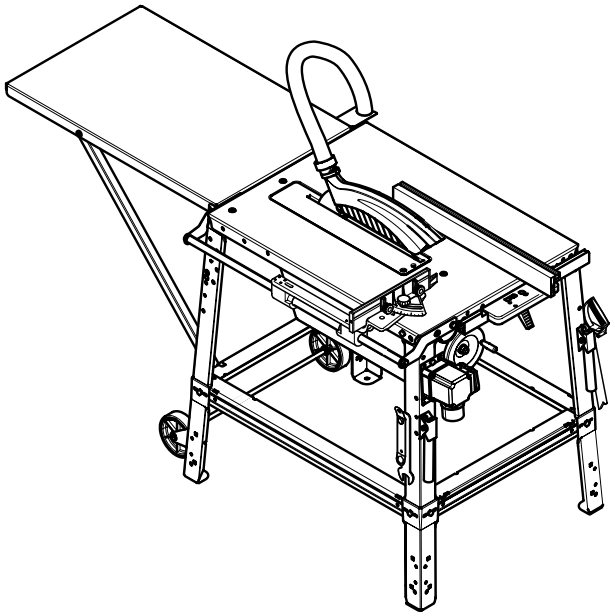
ELEKTRA BECKUM

metabo germany

English only



TKHS 315 M

115 169 3748 / 0804 - 1.1

D DEUTSCH

KONFORMITÄTSERKLÄRUNG

Wir erklären in alleiniger Verantwortlichkeit, dass dieses Produkt mit den folgenden Normen übereinstimmt* gemäß den Bestimmungen der Richtlinien**
EG-Baumusterprüfung *** durchgeführt von ****

F FRANÇAIS

DECLARATION DE CONFORMITE

Nous déclarons, sous notre seule responsabilité, que ce produit est en conformité avec les normes ou documents normatifs suivants* en vertu des dispositions des directives **
Contrôle européen du modèle type *** effectué par ****

IT ITALIANO

DICHIARAZIONE DI CONFORMITÀ

Noi dichiariamo sotto la nostra esclusiva responsabilità che il presente prodotto è conforme alle seguenti norme* in conformità con le disposizioni delle normative ** Omologazione CE *** eseguita da ****

PT PORTUGUÊS

DECLARAÇÃO DE CONFORMIDADE

Declaramos sob nossa responsabilidade que este produto está de acordo com as seguintes normas* de acordo com as directrizes dos regulamentos ** controle de amostra de Construção da CE *** efectuado por ****

FIN SUOMI

VAATIMUKSENMUKAISUUSVAKUUTUS

Vakuutamme, että tämä tuote vastaa seuraavia normeja* on direktiivien määräysten mukainen**
EY-tyyppitarkastustesti *** testin suorittaja: ****

DA DANSK

OVERENSSTEMMELSESATTEST

Hermed erklærer vi på eget ansvar, at dette produkt stemmer overens ed følgende standarder* iht bestemmelserne i direktiverne** EF-typekontrol *** gennemført af ****

EL ΕΛΛΗΝΙΚΑ

ΔΗΛΩΣΗ ΑΝΤΙΣΤΟΙΧΕΙΑΣ

Δηλώνουμε με ιδία ευθύνη ότι το προϊόν αυτό αντιστοιχεί στις ακόλουθες προδιαγραφές*
σύμφωνα με τις διατάξεις των οδηγιών**
Έλεγχος-ΕΟΚ δομικού πρωτοτύπου*** πραγματοποιούμενος από το****

ENG ENGLISH

DECLARATION OF CONFORMITY

We herewith declare in our sole repsonsibility that this product complies with the following standards*
in accordance with the regulations of the undermentioned Directives**
EC type examination *** conducted by ****

NL NEDERLANDS

CONFORMITEITSVERKLARING

Wij verklaren als enige verantwoordelijke, dat dit product in overeenstemming is met de volgende normen*
conform de bepalingen van de richtlijnen** EG-typeonderzoek *** uitgevoerd door ****

ES ESPAÑOL

DECLARACION DE CONFORMIDAD

Declaramos bajo nuestra exclusiva responsabilidad, que el presente producto cumple con las siguientes normas* de acuerdo a lo dispuesto en las directrices** Homologación de tipo CE *** llevada a cabo por ****

SV SVENSKA

FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

Vi försäkrar på eget ansvar att denna produkt överensstämmer med följande standarder* enligt bestämmelserna i direktiven**
EG-materialprovning *** genomfört av ****

NO NORGE

SAMSVARSERKLÆRING

Vi erklærer under eget ansvar at dette produkt samsvarer med følgende normer* henhold til bestemmelsene i direktiv**
EU-typegodkjennelse *** utstilt av ****

POL POLSKI

OŚWIADCZENIE O ZGODNOŚCI

Oświadczamy z pełną odpowiedzialnością, że niniejszy produkt odpowiada wymogom następujących norm* według ustaleń wytycznych **Kontrola wzorców UE *** przeprowadzone przez ****

HU MAGYAR

MEGEGYEZŐSÉGI NYILATKOZAT

Kizárólagos felelősségünk tudatában ezennel igazoljuk, hogy ez a termék kielégíti az alábbi szabványokban lefektetett követelményeket* megfelel az alábbi irányelvek előírásainak**
által végzett vizsgálat szerint megegyezik az alábbi építési mintapéldánnyal *** a ****

TKHS 315 M

2,5 WNB - 3,1 WNB - 3,4 DNB - 4,2 DNB

*EN 1870-1, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3, DIN EN 62079

** 98/37/EG, 89/336/EWG, 73/23/EWG, 93/68/EWG

*** M6 03 08 13037 057

**** TÜV Product Service, Sylvesterallee 2, D - 22525 Hamburg

Ing. grad. Hans-Joachim Schaller
Leitung Entwicklung und Konstruktion

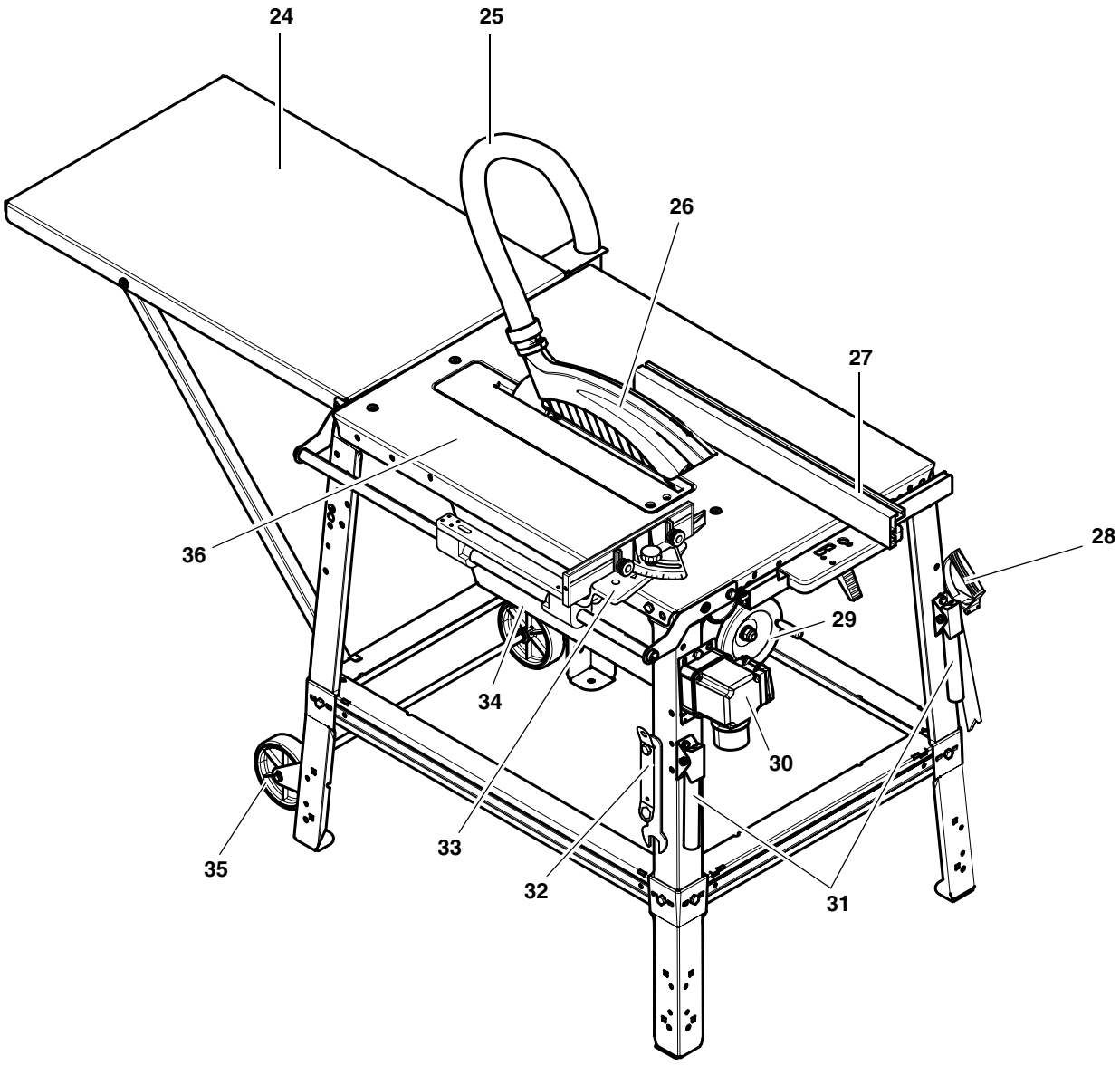
CE

Metabowerke GmbH
Business Unit Elektra Beckum
Daimlerstr. 1
D - 49716 Meppen

Meppen, 26.08.2003

1001118

2. Machine overview



24 Table rear extension

25 Suction hose

26 Blade guard

27 Rip fence

28 Accessory holders for push stick / feeding aid and push block handle

29 Crank for cutting height setting, stepless
from 0 – 85 mm

30 ON/OFF switch

31 Transport handles

32 Accessory holder for saw blade change wrenches

33 Mitre fence

34 Motor carrier unit – angle of inclination steplessly adjustable from 0° through 47°

35 Wheel set

36 Table top

Table of contents

3. Please read first!

These instructions have been written in a way which facilitates learning of how to safely operate your saw. Here is a guide on how you should read these instructions:

- Read instructions before use. Pay special attention to the safety information.
- These instructions are intended for persons having a basic technical knowledge of the operation of machines such as the one described herein. If you have no experience whatsoever, we strongly recommend to seek the advise of an experienced person.
- Keep all documents supplied with this machine for future reference. Retain proof of purchase in case of warranty claims.
- If you lend or sell this machine be sure to have these instructions go with it.
- The equipment manufacturer is not liable for any damage resulting from neglect of these operating instructions.

Information in these instructions is denoted as under:

Danger!
Risk of personal injury or environmental damage.

Risk of electric shock!
Risk of personal injury by electric shock.

Drawing-in/trapping hazard!
Risk of personal injury by body parts or clothing being drawn into the rotating saw blade.

Caution!
Risk of material damage.

Note:
Additional information.

- Numbers in illustrations (**1**, **2**, **3**, ...)
  - denote component parts;
  - are consecutively numbered;
  - relate to the corresponding number(s) in brackets **(1)**, **(2)**, **(3)** ... in the neighbouring text.
- Instructions to be carried out in a certain sequence are numbered.
- Instructions which can be carried out in any sequence are indicated by a bullet.
- Listings are indicated by an En Dash.

4. Safety instructions

4.1 Specified conditions of use

This machine is intended to rip and crosscut grown timber, faced boards, chip board and wood-core plywood sheets, and similar wood-derived materials.
Do not cut round stock without suitable jigs or fixtures. The rotating saw blade could turn the workpiece.

Any other use is considered to be not as specified and not allowed. The manufacturer is not liable for any damage caused by unspecified use.

Modification of the machine or use of parts not approved by the equipment manufacturer can cause unforeseeable damage!

4.2 General safety instructions

- When using this tool observe the following safety instructions, to exclude the risk of personal injury or material damage.
- Please also observe the special safety instructions in the respective chapters.
- Where applicable, follow the legal directives or regulations for the prevention of accidents pertaining to the use of circular saws.

General hazards!

- Keep your work area tidy – a messy work area invites accidents.
- Be alert. Know what you are doing. Set out to work with reason. Do not operate tool while under the influence of drugs, alcohol or medication.
- Consider environmental conditions: keep work area well lighted.
- Prevent adverse body positions. Ensure firm footing and keep your balance at all times.
- Use suitable workpiece supports when cutting long stock.
- Do not operate the tool near inflammable liquids or gases.
- The saw shall only be started and operated by persons familiar with circular saws and who are at any time aware of the dangers associated with the operation of such tool. Persons under 18 years of age shall use this tool only in the course of their vocational training, under the supervision of an instructor.
- Keep bystanders, particularly children, out of the danger zone. Do not permit other persons to touch the tool or power cable while it is running.
- Do not overload tool – use it only within the performance range it was designed for (see "Technical specifications").

Danger! Risk of electric shock!

- Do not expose tool to rain.
  Do not operate tool in damp or wet environment.
  Prevent body contact with earthed objects such as radiators, pipes, cooking stoves, refrigerators when operating this tool.
- Do not use the power cable for purposes it is not intended for.

Risk of personal injury and crushing by moving parts!

- Do not operate the tool without installed guards.

- Always keep sufficient distance to the saw blade. Use suitable feeding aids, if necessary. Keep sufficient distance to driven components when the operating electric tool.
- Wait for the saw blade to come to a complete stop before removing cutoffs, scrap, etc. from the work area.
- Do not attempt to stop the saw blade by pushing the workpiece against its side.
- Ensure the tool is disconnected from power before servicing.
- Ensure that when switching on (e.g. after servicing) no tools or loose parts are left on or in the tool.
- Turn power off if the tool is not used.

Cutting hazard, even with the cutting tool at standstill!

- Wear gloves when changing cutting tools.
- Store saw blade in such manner that nobody will get hurt.

Risk of kickback (workpiece is caught by the saw blade and thrown against the operator):

- Always work with a properly set riving knife.
- Do not jam workpieces.
- Make sure the saw blade is suitable for the workpiece material.
- Cut thin or thin-walled workpieces only with fine-toothed saw blades.
- Always use sharp saw blades.
- If in doubt, check workpiece for inclusion of foreign matter (e.g. nails or screws).
- Cut only stock of dimensions that allow for safe and secure holding while cutting.
- Never cut several workpieces at the same time – and also no bundles containing several individual pieces. Risk of personal injury if individual pieces are caught by the saw blade uncontrolled.
- Remove small cutoffs, scrap, etc. from the work area – when doing so the saw blade must be at a complete standstill.

Drawing-in/trapping hazard!

- Ensure that no parts of the body or clothing can be caught and drawn in by rotating components (**no** neckties, **no** gloves, **no** loose-fitting clothes; contain long hair with hairnet).
- Never attempt to cut any workpieces which contain
  - ropes,
  - strings,
  - cords,
  - cables or
  - wires, or to which any of the above are attached.

Hazard generated by insufficient personal protection gear!

- Wear hearing protection.
- Wear safety glasses.
- Wear dust mask.
- Wear suitable work clothes.
- When working outdoors wearing of non-slip shoes is recommended.

Risk of injury by inhaled wood dust!

- Dust of certain timber species (e.g. beech, oak, ash) can cause cancer when inhaled. Work only with a suitable dust collector attached to the saw. The dust collector must comply with the data stated in the technical specifications.
- Ensure that as little as possible wood dust will get into the environment:
  - remove wood dust deposit in the work area (do not blow away!);
  - fix any leakages on the dust collector;
  - ensure good ventilation.

Hazard generated by modification of the machine or use of parts not tested and approved by the equipment manufacturer!

- Assemble tool in strict accordance with these instructions.
- Use only parts approved by the equipment manufacturer. This applies especially for:
  - saw blades (see "Technical specifications" for stock nos.);
  - safety devices (see "Technical specifications" for stock nos.).
- Do not change any parts.

Hazard generated by tool defects!

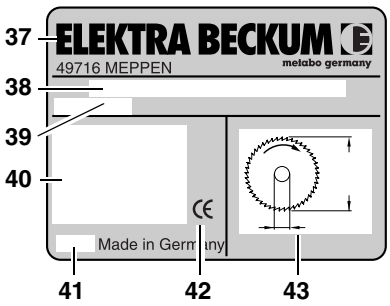
- Keep tool and accessories in good repair. Observe the maintenance instructions.
- Before every use check tool for possible damage: before operating the tool all safety devices, protective guards or slightly damaged parts need to be checked for proper function as specified. Check to see that all moving parts work properly and do not jam. All parts must be correctly installed and meet all conditions necessary for the proper operation of the tool.
- Damaged protection devices or parts must be repaired or replaced by a qualified specialist. Have damaged switches replaced by a service centre. Do not operate tool if the switch cannot be turned ON or OFF.
- Keep handles free of oil and grease.

Risk of injury by noise!

- Wear hearing protection.
- Make sure the riving knife is not bend. A bent riving knife will push the workpiece against the side of the saw blade, causing noise.

4.3 Symbols on the machine

Information on the nameplate:



(37) Manufacturer

(38) Serial number

(39) Machine designation

(40) Motor specifications (see also "Technical specifications")

(41) Year of make

(42) CE-mark – This machine conforms to the EC directives as per Declaration of Conformity

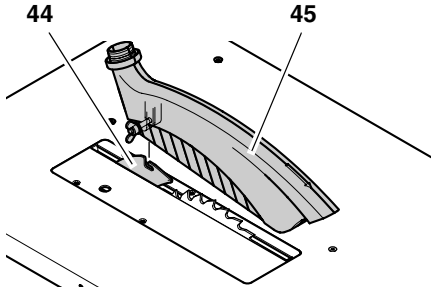
(43) Dimensions of permissible saw blades

4.4 Safety devices

Riving knife

The riving knife **(44)** prevents the workpiece from being caught by the rising teeth of the saw blade and being thrown against the operator.

Always have the riving knife installed during operation.



Blade guard

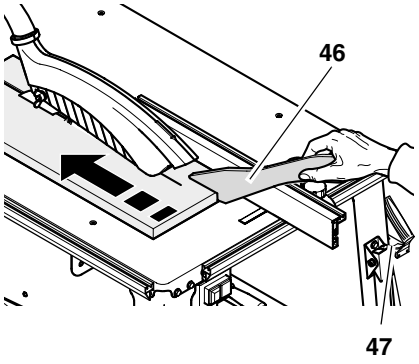
The blade guard **(45)** protects against unintentional contact with the saw blade and from chips flying about.

Always have blade guard installed during operation.

Push stick

The push stick **(46)** serves as an extension of the hand and protects against accidental contact with the saw blade.

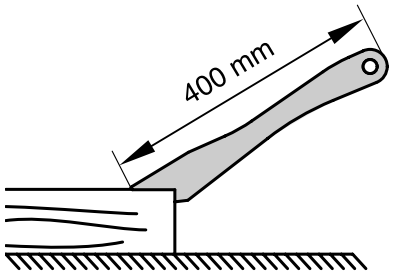
Always use the push stick if the distance between saw blade and rip fence is less than 120 mm.



Guide the push stick at an angle of 20° … 30° against the saw table's surface.

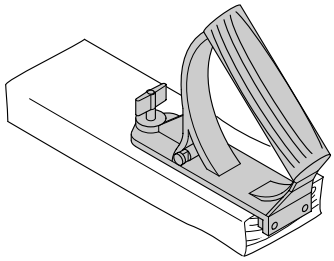
When the push stick is not used, it can be hung to the holder **(47)** provided.

Replace the push stick if damaged.



Handle for push block

To be affixed to a suitable board. For the safe guiding of small stock.



5. Special product features

- Steplessly adjustable bevel tilt from 0° to 47°.
- Stepless depth of cut setting to 85 mm.
- An undervoltage relay prevents the machine from starting up when power is restored after a power failure.
- Mitre fence with adjustable fence extrusion.
- All operating elements are located at the machine's front.
- Table extension for variable use is standard delivery:
  - firmly attached to the machine stand, or
  - only hooked into the machine stand for convenient folding away without the need for using tools.
- Robust sheet steel construction – high load-bearing capacity and permanently protected against corrosion.
- Steplessly adjustable rip fence.

6. Operational controls

Main switch

- To turn power supply ON = set rotary switch **(49)** to position “I”.
- To turn power supply OFF = set rotary switch **(49)** to position “O”.

ON/OFF switch

- To turn machine ON = set rotary switch **(50)** to position “I”.
- To turn machine OFF = set rotary switch **(50)** to position “O”.

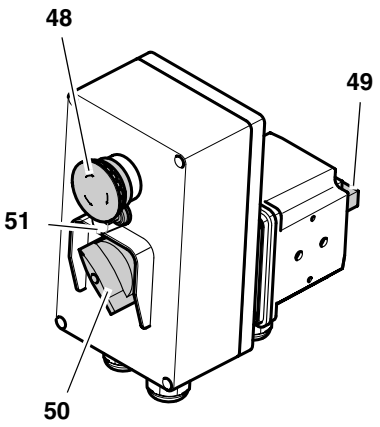
Emergency-stop button

- To turn the machine OFF in case of emergency = press the E-STOP button **(48)**.
- To make machine operational again after actuating the E-STOP button = turn E-STOP button **(48)** in direction of arrow. The E-STOP button will be released from the locked E-Stop position and returned to the normal operating position.

Protection against overheating

The overload protection prevents the overheating of the motor under permanent load. The motor is then turned off and the reset pin **(51)** pops out.

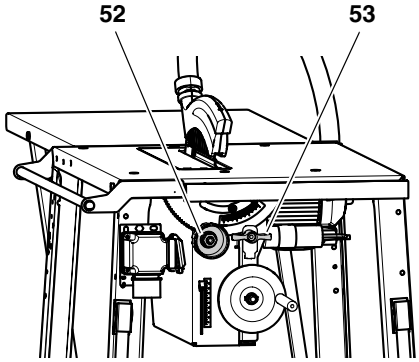
1. Set the ON/OFF switch to position “O” if the machine is turned OFF by the overload protection.
2. Push the reset pin **(51)** back in to reset the overload protection.
3. Wait for the motor to cool down before restarting the machine.



Note:
In the event of a power failure an undervoltage relay will be tripped to prevent the starting of the machine when the power is restored. To restart the machine turn the switch ON again.

Setting device for saw blade tilt

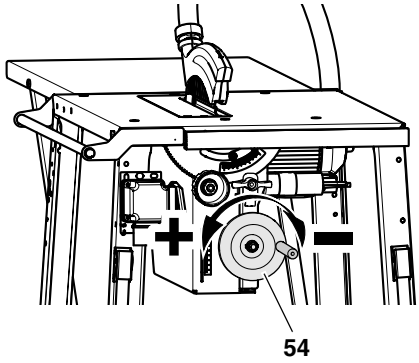
With the handwheel **(52)** the saw blade is steplessly tilted from 0° to 47°.



To keep the set angle of inclination from changing when sawing, it is locked by means of of the wingnut **(53)** at the front of the chipcase.

Crank for cutting height adjustment

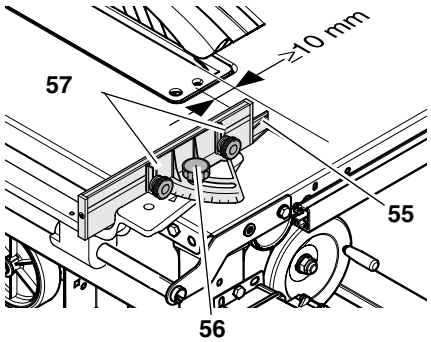
The cutting height is adjusted by turning the crank **(54)**.



Fence

The saw is equipped with two fences:

- Mitre fence (for cross/mitre cuts):



For use as mitre fence the short fence extrusion must be installed.

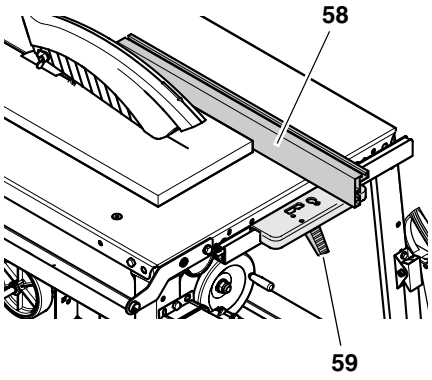
The mitre fence is mounted on a guide bar, which is fastened to the left-hand side of the saw table.

- Star-knob screw **(56)** for mitre setting. The setting range is 45°.

When sawing with the mitre fence the star-knob screw **(56)** must be firmly tightened.

– Knurled nuts **(57)** for fence extrusion position adjustment. The plastic lug **(55)** of the fence extrusion must point toward the saw blade, at a minimum distance of 10 mm to the saw blade.

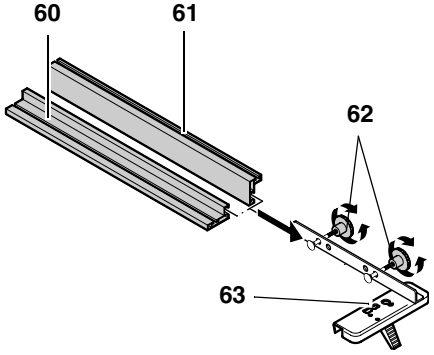
– Rip fence (for ripping):



For use as rip fence the long fence extrusion **(58)** must be installed. It is mounted on the guide extrusion at the front of the saw table.

– For ripping the fence extrusion **(58)** must be parallel with the saw blade and locked in position by lock lever **(59)**.

– Knurled nuts **(62)** for attaching the fence extrusion. After loosening the two knurled nuts **(62)**, the fence extrusion can be removed and shifted:



(60) Small edge:

– for cutting thin stock;

– when the saw blade is tilted.

(61) Wide edge:

– for cutting thick stock.

The rip fence has an opening with a scale reading edge **(63)**.

Note:
The scale's zero position is adjusted so that is corresponds to the high edge (see “Adjusting the rip fence” in chapter “Assembly”.
If the small edge of the fence extrusion is installed there will be 47 mm offset from the reading.

7. Assembly

Danger!
Modifications of the saw or the use of parts not tested and approved by the equipment manufacturer can lead to unforeseen damage during operation!

– **Assemble the saw in strict accordance with these instructions.**

– **Use only the parts supplied as standard delivery.**

– **Do not change any parts.**

Only if you follow the instructions exactly does the saw conform to the safety regulations and can be safely operated.
If you also observe the following notes, the assembly will cause no problems:

- Read the instructions for each step before executing it.
- Lay out the parts required for each assembly step.

Required tools

– Allen key 4 mm
– Allen key 6 mm
– Phillips screwdriver
– Spanner SW 10
– Spanner SW 13
– Spanner SW 19 (supplied)
– Ring spanner 46 mm (supplied)

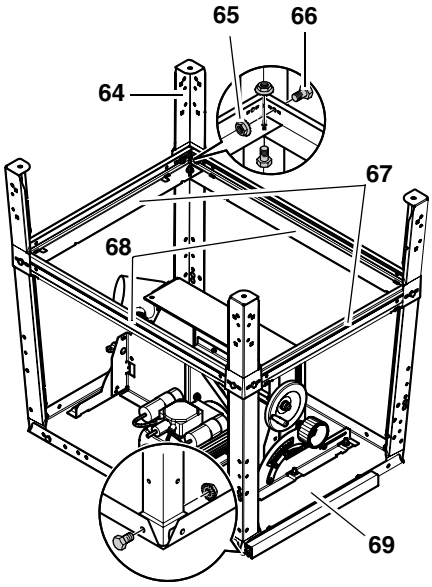
Stand assembly

Item	Description	Qty.
64	Leg	4
65	Flange nut M8	20
66	Hexagon head screw M8 x 16 M8 x 20	 18 2
67	Stanchion, short	2
68	Stanchion, long	2
69	Table top with chip-case	1

1. Place table panel **(69)**, motor facing up, on a stable support.

Caution!
Saw blade and riving knife must not rest on the support! To prevent damage to the saw or support, the table panel should be placed onto two sawhorses.

2. Attaching the four legs **(64)** to the inside of the table panel's corners:
   – Insert the hexagon head screws **(66)** from the outside;
   fit the two screws M8 x 20 to the rear edge of the table (for the table extension);
   – screw on the flange nuts **(65)** from the inside – do not fully tighten yet, this is done only after installation of the table extension.

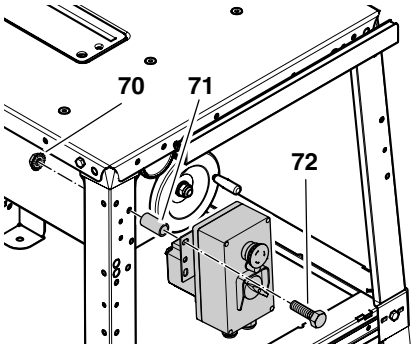


3. Fit long stanchions **(68)** between the side legs, short stanchions **(67)** between the front and rear legs:
   – the wide sides of the stanchions face the table panel;
   – the nibs and recesses must fit into each other;
   – fit hexagon head screws into holes from the outside;
   – from the inside screw on flange nuts – do not yet tighten fully.
4. Screwing up the stanchions with each other:
   – Fit hexagon head screws from the side of the table top;
   – Screw on flange nuts from the opposite side.
   – With the help of another person, turn the saw over and stand it on a level floor.

Installing the ON/OFF switch

Item	Description	Qty.
70	Flange nut	2
71	Distance sleeve	2
72	Hexagon head screw	2

1. Loosen the shipping brace of the ON/OFF switch.
2. Put hexagon head screws **(72)** through the switch plate of the ON/OFF switch.
3. Fit one each distance sleeve **(71)** onto the hexagon head screws.
4. Attach the ON/OFF switch with the hexagon head screws **(72)** and flange nuts **(70)** to the left-hand front leg as illustrated.

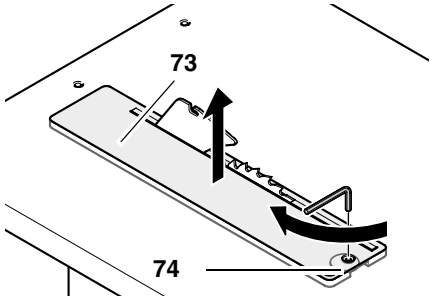


Caution!
Make sure the cable does not run over sharp edges and is not bent.

Adjusting the riving knife

To align the riving knife:

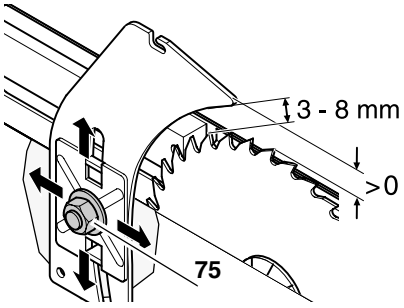
1. Remove blade guard.
2. Turn the flat head screw **(74)** of the table insert extrusion **(73)** clockwise by 1/4 turn and remove the table insert.



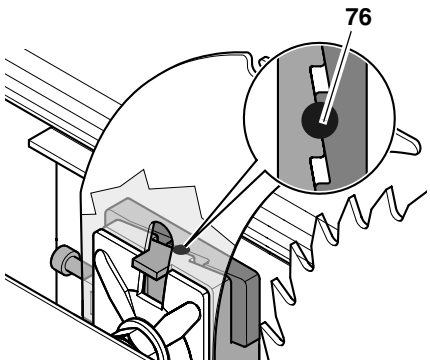
To adjust the riving knife position exactly to the saw blade, it is adjustable in two planes:

- in the distance to the saw blade;
- in its lateral alignment.

Distance to the saw blade:
The distance between the saw blade's peripheral edge and the riving knife shall be between 3...8 mm.
The riving knife must project at least the same distance over the saw table as the saw blade.



1. Loosen the Keps nut **(75)** holding the riving knife by one turn.
2. Adjust distance of the riving knife to the saw blade.



3. Make sure that both parts of the inner riving knife holder are not offset against each other (marking) **(76)**.
4. Tighten the Keps nut.

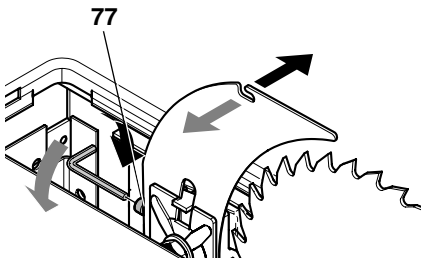
Lateral alignment:
riving knife and saw blade must be perfectly in line. The lateral riving knife position is factory preset and indicated by a marking **(76)**.

In case a fine setting should become necessary:

1. Loosen the Keps nut **(75)** holding the riving knife by one turn.
2. Adjusting the riving knife's lateral position:

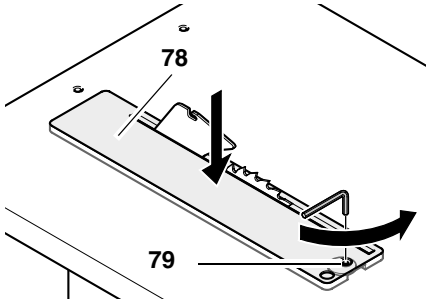
- To move riving knife to the left: turn hexagon socket screw **(77)** further in.
- To move riving knife to the right: turn hexagon socket screw **(77)** further out.
  When making this adjustment ensure the inner section of the inner riving knife holder rests against the hexagon socket screw.

3. Tighten the Keps nut.



After the alignment:

1. Fit table insert extrusion **(78)** flush into the saw table.

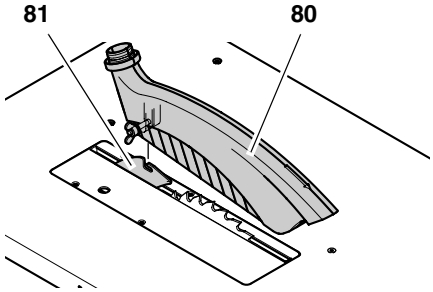


2. Turn the countersunk screw **(79)** counter-clockwise against the stop.
3. Install blade guard on the riving knife.

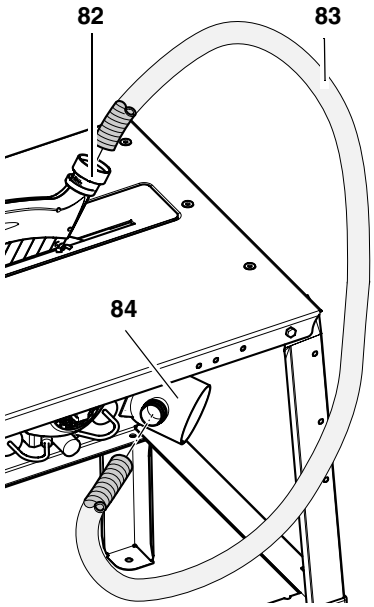
Installing the dust collection gear

Item	Description	Qty.
80	Blade guard	1
83	Suction hose	1
85	Flange nut M8 ( ) = already installed	1 (1)
87	Hexagon head screw M8 x 16 ( ) = already installed	1 (1)
87	Hose carrier with bracket for table extension	1

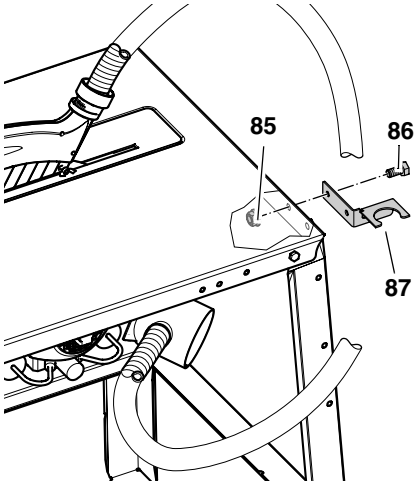
1. Raise saw blade fully.
2. Install blade guard **(80)** on the riving knife **(81)**.



3. Push one end of the suction hose **(83)** on the blade guard's suction port **(82)**.
4. Fit other end of the suction hose to the dust extraction port **(84)** on the chipcase.



5. Installing the hose carrier **(87)**:
   - put two hexagon head screws from the outside through the hose carrier and table panel;
   - from the inside screw on flange nuts **(85)** – do not yet tighten fully.

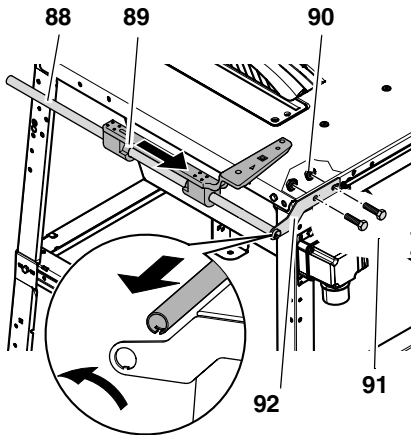


6. Align hose carrier, tighten hexagon head screws and flange nuts. Hook the suction hose into the hose carrier **(87)**.
7. Connect the saw's dust extraction port at the chipcase to a suitable dust collector (see "Dust collector" in chapter "Operation").

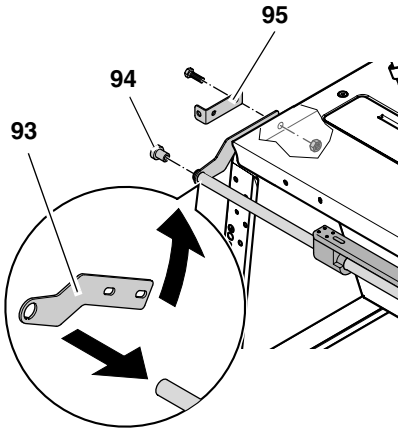
Mitre fence assembly

Item	Description	Qty.
88	Guide bar	1
89	Fence carrier, lower	1
90	Flange nut M8 ( ) = already installed	2 (2)
91	Hexagon head screw M8 x 20 ( ) = already installed	2 (2)
92 **93**	Mounting bracket	2
94	Plug	2
95	Bracket for table extension	1
97	Star-knob screw M8	1
98	Washer 8.4	1
99	Fence carrier, upper	1
100	Fence extrusion, short	1

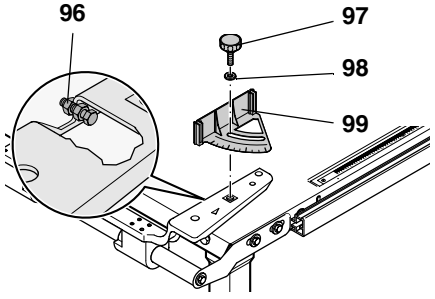
1. Attaching the front mounting bracket **(92)** to the left-hand front side of the saw:
   - Remove the hexagon head screws **(91)** from the left-hand front and rear side of the table panel.
   - Put two each hexagon head screws **(91)** fitted, from the outside through the mounting bracket **(92)** and the table panel;
   - from the inside screw on flange nuts **(90)** – do not yet tighten fully.
2. Mounting the guide bar **(88)**: Insert the guide bar into the mounting bracket **(92)** so that the nose fits into the slot in the guide bar. A slight turn of the guide bar keeps it from sliding off.
3. Slide the lower fence carrierl **(89)**, with the angle facing the front of the saw on the guide bar and swing it down.



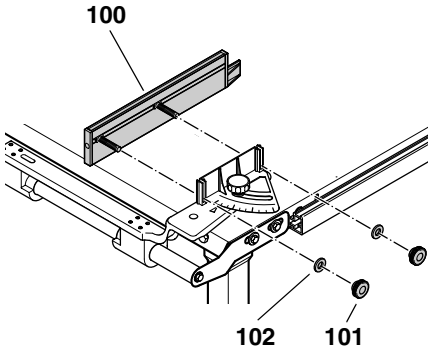
4. Put the rear mounting bracket **(93)** on the guide bar and secure by turning it sligthly.
5. Attach the rear mounting bracket, with the bracket **(95)** for table extension installation to the saw.
6. Align guide bar exactly parallel with the saw blade.
7. Tighten all screws holding the mounting brackets.
8. Fit plugs **(94)** to both ends of the guide bar.



9. Swing the lower fence carrier up.
10. Install the upper fence carrier **(99)** with washer **(98)** and star-knob screw **(97)**.



11. Put the short fence extrusion **(100)** on and secure with knurled nuts **(101)**:
    - the plastic nose of the fence extrusion must point towards the saw blade;
    - the washers **(102)** must be fitted between between upper fence carrier and knurled nuts.

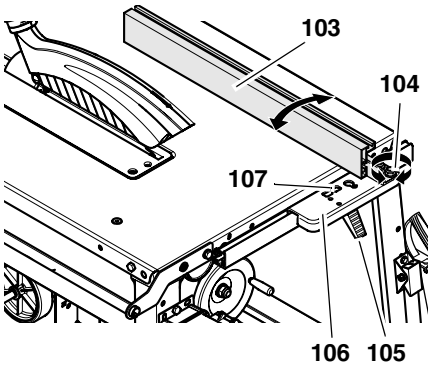


12. By means of the set screw **(96)** the fence extrusion can be set exactly square to the saw blade. The set screw **(96)** is accessible when the mitre fence is swung down.

Note:
When the mitre fence is not required swing it down, out of the way.

Adjusting the rip fence

1. Slide rip fence **(106)** on the guide rail adn lock with the lock lever **(105)**.
2. Install the fence extrusion **(103)** as illustrated below and secure it with the two knurled thumb screws.
3. Slightly loosen both set screws **(104)** of the rip fence and align the fence extrusion parallel with the saw blade. Retighten both set screws afterwards.



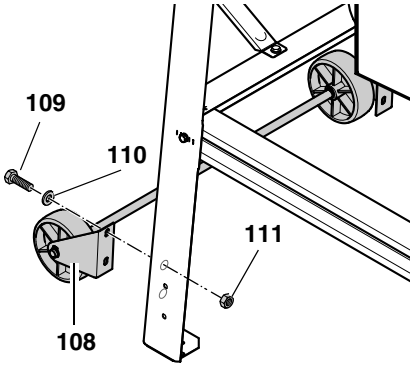
4. Set rip fence against the right-hand side of the saw blade, across its entire diameter. Crank saw blade up, if necessary.
5. Adjust scale so that its zero position coincides exactly with the scale reading edge **(107)** of the rip fence.
6. Tighten the scale fastening screw and verify the setting by making a trial cut.

Wheel set installation

Item	Description	Qty.
108	Wheel set	1
109	Hexagon head screw M6 x 16	4
110	Washer 6.4	4
111	Flange nut, M6	4

The wheel set attaches to the rear legs of the saw.

1. Through each of the wheel set brackets **(108)** two hexagon head screws **(109)** with washers fitted **(110)** must be put from the rear.
2. Screw on the flange nuts **(111)** from inside the leg.
3. Adjust position of brackets so that the wheels are approx. 1 mm above the floor when the saw is standing on all four legs.



4. Tighten flange nuts.

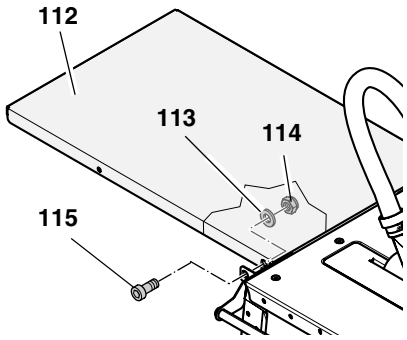
Table extension installation

Item	Description	Qty.
112	Plate, table rear extension	1
113 **116**	Washer 8.4	4
114 **117**	Flange nut M8	4
115 **119**	Bearing bolt M8 x 10	4
118	Support	2
120 **122**	Hexagon nut, prevailing torque-type M6	2
121 **123**	Countersunk screw M6 x 10	2

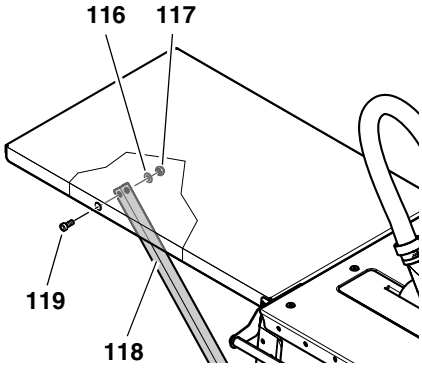
Caution!
When installing the rear table extension, both panel and support struts need to be held as long as they are only bolted to one end.

1. Fasten extension panel **(112)** with two bearing bolts **(115)**, two washers **(113)** and two flange nuts **(114)**to the two brackets as illustrated.

   If necessary, adjust the position of the brackets to match the width of the table extension – retighten the screw fitting.



2. Attach the supports **(118)** with one each bearing bolt **(119)**, washer **(116)** and flange nut **(117)** to the table extension (see illustration).

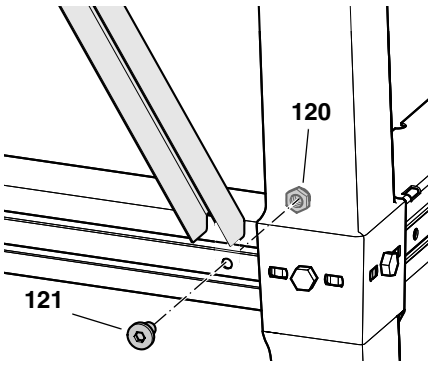


3. Tigthen all bolted connections of the table extension handtight using a suitable tool.

Note:
The supports of the table extensions can be stationary fastened. Alternatively they can be installed in such way that the table extension can swing down.

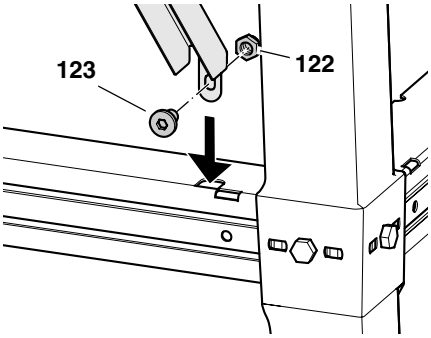
Installing the supports stationary

1. Insert the offset ends of the supports into the slots of the short strut at the reat of the saw and slide them towards the outside.
2. Fasten the supports with one each countersunk screw **(121)** and prevailing torque-type hexagon nut **(120)** to the strut as illustrated.



Installing the supports to allow the table extension to swing down

1. Attach one each countersunk screw **(123)** and prevailing torque-type hexagon nut **(122)** to the lower end of the struts.
2. Insert the lower ends of the supports into the slots of the short strut at the reat of the saw and slide them towards the outside (see illustration).



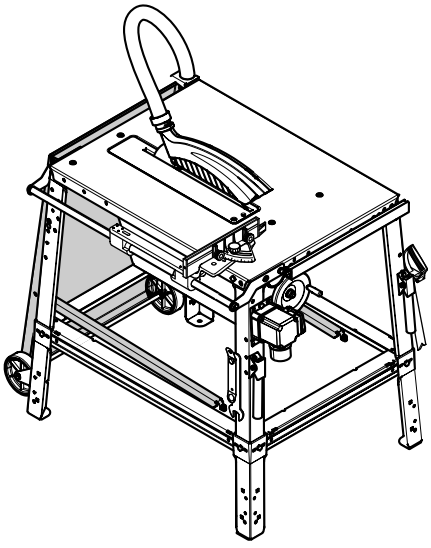
Tightening the bolted connections

- Check all bolted connections of the saw. Tighten all bolted connections hand-tight with a suitable tool.

  Observe the following when tightening the screws:
  - After tightening the machine must stand firmly and securely;
  - Table extension alignment: The top of the table extension must be parallel and level with the saw's table top.

Swinging the table extension down

1. Slide the lower ends of the supports towards each other.
2. Lift supports out of the strut and swing table extension down as illustrated.

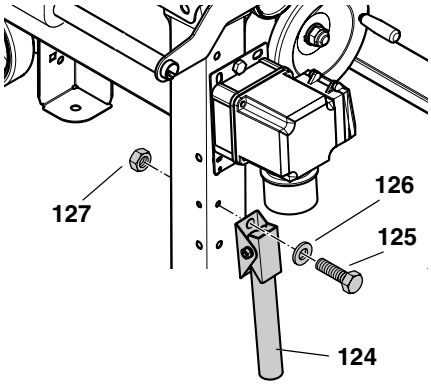


Transport handle installation

Item	Description	Qty.
124	Transport handle	2
125	Hexagon head screw M6 x 16	4
126	Washer 6.4	4
127	Flange nut, M6	4

The transport handles are installed to the front legs of the saw.

1. From the front put through each transport handle **(124)** two hexagon head screws **(125)** with washers **(126)** fitted.



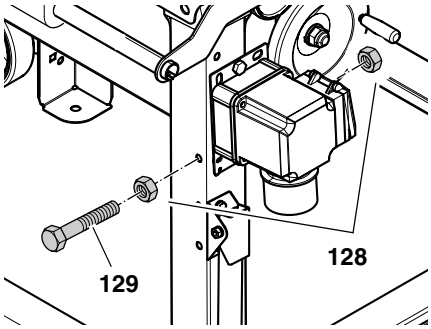
2. Install transport handle in such way that the tubes can be folded **down**.
3. From inside, screw on one each flange nut **(127)**

Accessory holder installation

Item	Description	Qty.
128	Flange nut M6	4
129	Hexagon head screw M6 x 50	2

In a final assembly step, two hexagon head screws are fitted as holders for the push stick, push block handle and assembly wrench to front legs:

1. Turn one each flange nut **(128)** approx. 10 mm on the two hexagon head screws **(129)**.
2. Fit hexagon head screw from the outside through the hole on the side of the left-hand front leg and secure with another flange nut.
3. Attach the other hexagon head screw likewise to the right-hand front leg.



7.1 Mains connection

Danger! Electrical hazard
Operate saw in dry environment only.

Operate saw only on a power source matching the following requirements (see also "Technical specifications"):

- **Outlets properly installed, earthed and tested.**
- **Three-phase outlets with neutral wire.**
- **Mains voltage and system frequency conform to the voltage and frequency shown on the machine's rating label.**
- **Protection against electric shock by a residual current device (RCD) of 30 mA sensivity.**
- **Fuse protection of 16 A maximum against short circuits.**
- **System impedance $Z_{max.}$ at the house service connection: see separate supplement.**

Note:
Check with your local Electricity Board or electrician if in doubt whether your house service connection meets these requirements.

Position power supply cable so it does not interfere with the work and is not damaged.

Protect power supply cable from heat, aggressive liquids and sharp edges.

Use only rubber-jacketed extension cables with sufficient lead cross-section (see "Technical specifications").

Do not pull on power supply cable to unplug.

Changing the direction of rotation! (three-phase motors only)
Depending on the phase sequence of the electric supply it is possible the saw blade will turn in the wrong direction. This can lead to the workpiece being hurled away when attempting to make a cut. The direction of rotation must therefore be check every time the saw is connected to another outlet. In case of an incorrect direction of rotation, the wiring of the outlet must be changed by a qualified electrician:

1. After the saw and all of its safety devices have been assembled, connect it to the mains supply.
2. Raise saw blade fully.
3. Start saw and switch OFF immediately.
4. Check the saw blade's direction of rotation from the left-hand side of the saw. The saw blade must rotate clockwise.
5. If the saw blade rotates counterclockwise, unplug the power cable at the saw.
6. Have the electric supply changed **by a qualified electrician!**

7.2 Installation

- Place the machine on a firm, level floor.
- Ensure there is sufficient space to handle larger workpieces.

For maximum upright stability the saw can be bolted to the floor:

1. Place the fully assembled saw at a suitable site and mark the bore holes on the floor.
2. Move saw aside and drill the holes.
3. Align saw with the holes and bolt to the floor.

8. Operation

Risk of injury!
This saw may only be operated by one person at a time. Other persons shall stay only at a distance to the saw for the purpose of feeding or removing stock.

Before starting work, check to see that the following are in proper working order:

- **power cable and plug;**
- **ON/OFF switch**
- **riving knife**
- **blade guard**
- **feeding aids (push stick, push block and handle).**

Use personal protection gear:

- **dust respirator;**
- **hearing protection;**
- **safety goggles.**

Assume proper operating position:

- **at the front of the saw;**
- **in front of the saw;**
- **to the left of the line of cut;**
- **when working with two persons, the other person must remain at an adequate distance to the saw.**

If the type of work requires, use the following:

- **suitable workpiece supports – if otherwise workpiece would fall off the table after cutting;**
- **dust collector.**

Avoid typical operator mistakes:

- **Do not attempt to stop the saw blade by pushing the workpiece against its side. Risk of kickback.**
- **Always hold the workpiece down on the table and do not jam it. Risk of kickback.**
- **Never cut several workpieces at the same time – and also no bundles containing several individual pieces. Risk of personal injury if individual pieces are caught by the saw blade uncontrolled.**

Drawing-in/trapping hazard!
Never cut stock to which ropes, cords, strings, cables or wires are attached or which contain such materials.

8.1 Dust collector

Danger!
Dust of certain timber species (e.g. beech, oak, ash) can cause cancer when inhaled. Use a suitable dust collector when working in enclosed spaces The dust collector must meet the following requirements:

- **suitable for the outer diameter of the suction ports (blade guard 38 mm; chipcase 100 mm);**
- **air flow volume ≥ 460 m^3/h;**
- **vacuum at dust extraction port of saw ≥ 530 Pa;**
- **air speed at dust extraction port of saw ≥ 20 m/ s.**

The dust extraction ports are located at the chipcase assembly and at the saw blade guard.

The sliding plate **(131)** at the underside of the chipcase must be closed.

Observe the dust collector's operating instructions as well!

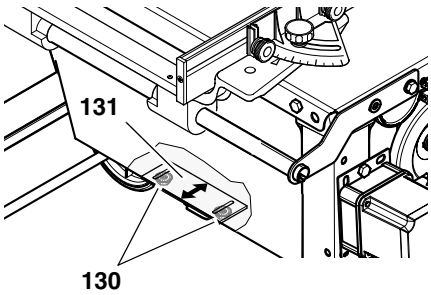
Operation without a dust collector is only possible:

- outdoors;
- for short-term operation (up to a maximum of 30 minutes);
- with dust respirator.

Caution!
If no dust collector is hooked up the sliding plate on the chipcase must be opened, otherwise chips and sawdust build up inside the chipcase.

To open the sliding plate:

1. Loosen booth screws **(130)** at the underside of the chipcase slightly.



2. Slide sliding plate **(131)** to the side.
3. Tighten screws **(130)**.

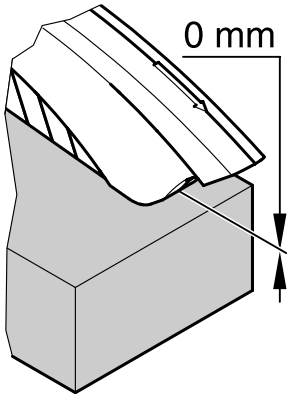
If there is sawdust build-up in the chipcase nevertheless, the chipcase needs cleaning:

1. Remove blade guard and table insert.
2. Dismount the saw blade (see “Saw blade change” in chapter “Care and Maintenance”).
3. Clean chipcase.
4. Mount saw blade, replace table insert and blade guard.

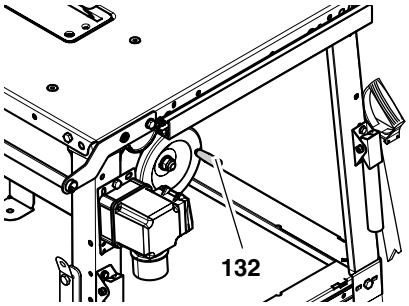
8.2 Setting the depth of cut

Danger!
Parts of the body or objects in the setting range can be caught by the running saw blade! Set the depth of cut only with the saw blade at standstill!

The saw blade's cutting height must be adapted to the workpiece height: The blade guard must rest with its front edge on the workpiece.



- Adjust cutting height by turning the handwheel **(132)** on the chipcase.



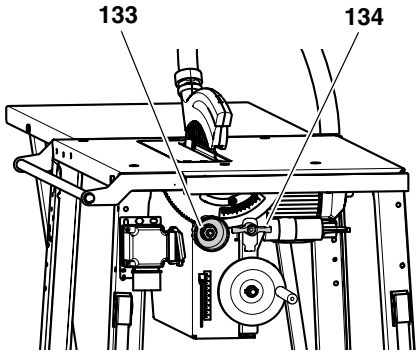
Note:
To compensate for possible play in the blade height setting mechanism, always raise the blade to the desired position.

8.3 Setting the saw blade tilt

Danger!
Parts of the body or objects in the setting range can be caught by the running saw blade! Set the depth of cut only with the saw blade at standstill!!

The saw blade tilt is steplessly adjustable between 0° and 47°.

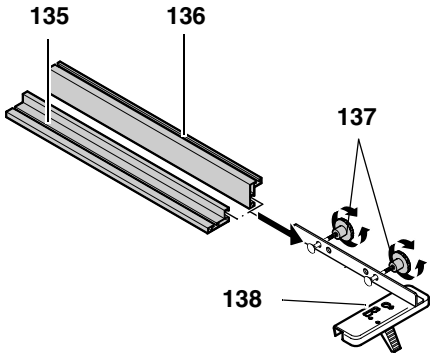
1. Loosen wing nut at the front **(134)** of the chip case by approx. one turn.
   A retaining nut on the opposite side of the chip case prevents an unintended change on the angle of inclination while the wing nut is not tightened.
2. Set the desired saw blade tilt with the handwheel **(133)**.



3. Arrest the set angle of inclination by tightening the wing nut **(134)**.

8.4 Sawing with the rip fence

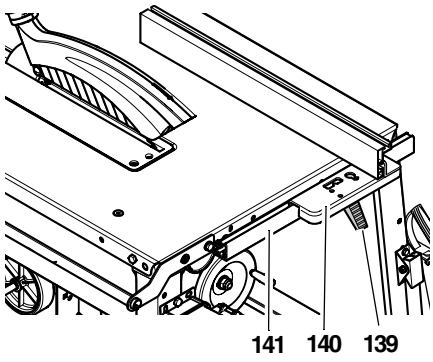
1. Adopt fence extrusion to the workpiece height:
   To do so, loosen the knurled nuts **(137)**.



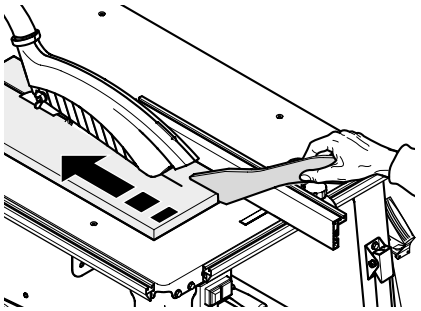
   - Small edge **(135)** = for cutting thin stock
   - Wide edge **(136)** = for cutting thick stock
2. The rip fence **(140)** is set from the top on the guide extrusion **(141)** at the front of the saw.
3. Set the rip fence to the cutting width. The cutting width is measured from the scale reading edge **(138)**.

Note:
The scale's zero position is adjusted with reference to the wide edge of the fence extrusion.
If the small edge of the fence extrusion is installed there will be 47 mm offset from the reading.

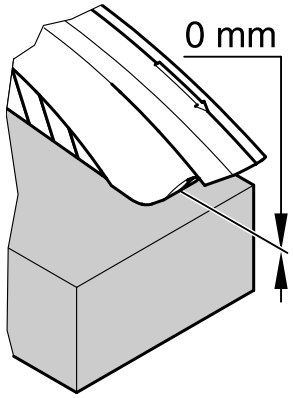
4. Lock the rip fence in position with the lock lever **(139)**.



Danger!
Always use the push stick if the distance between saw blade and rip fence is less than 120 mm.



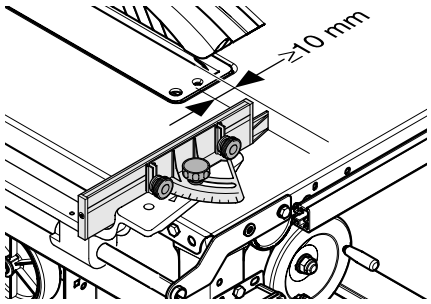
5. Set the cutting height of the saw blade. The blade guard must rest with its front edge on the workpiece.



6. Set and arrest the saw blade tilt.
7. Start motor.
8. Cut workpiece in a single pass.
9. Switch machine off if no further cutting is to be done immediately afterwards.

8.5 Sawing with the mitre fence

1. Swing mitre fence on the table top.
2. Set to desired mitre angle and lock in that position. For mitre cuts, the fence extrusion is adjustable to 45°maximum.



Caution!
The plastic nose must have at least 10 mm distance to the line of cut.

3. Set the cutting height of the saw blade.
4. Set and arrest the saw blade tilt.
5. Start motor.
6. Cut workpiece in a single pass.
7. Switch machine off if no further cutting is to be done immediately afterwards.

9. Tips and tricks

- Before cutting a workpiece to size make trial cuts on pieces of scrap.
- Always place a workpiece on the saw table in such way that it cannot tilt or rock (e.g. always place a curved board on the table with the convex side up).
- When working long stock use suitable supports, such as roller support or table extension (optional accessories).
- Keep surfaces of saw table and extension tables clean – in particular, remove resin residue with a suitable cleaning and maintenance spray (optional accessory).

10. Care and maintenance

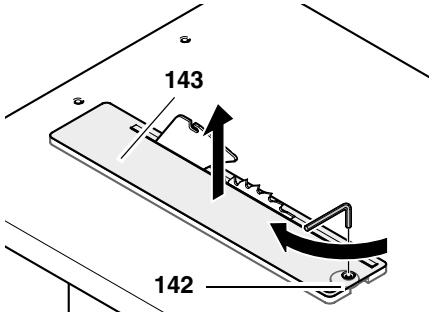
Danger!
Unplug before servicing.

- Repair and maintenance work other than described in this section should only be carried out by qualified specialists.
- Replace defective parts, especially of safety devices, only with genuine replacement parts. Parts not tested and approved by the equipment manufacturer can cause unforeseen damage.
- Check that all safety devices are operational again after each service.

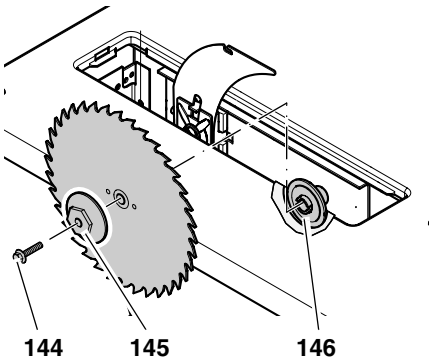
10.1 Saw blade change

Danger!
Directly after cutting the saw blade can be very hot – burning hazard! Let a hot saw blade cool down. Do not clean the saw blade with combustible liquids.
Risk of injury, even with the blade at standstill. Wear gloves when changing blades.
When fitting a saw blade, observe the direction of rotation!

1. Raise saw blade fully.
2. Remove blade guard.
3. Turn the flat head screw **(142)** of the table insert extrusion **(143)** clockwise by 1/4 turn and remove the table insert.



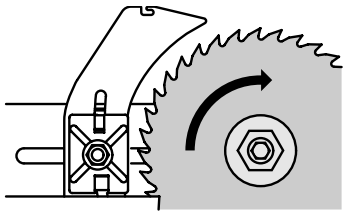
4. Loosen arbor bolt **(144)** with spanner (L.H. thread!). Hold outer blade collar **(145)** with open jaw wrench to counter.



5. Remove outer blade collar **(145)** and saw blade from the saw spindle.
6. Clean clamping surfaces of saw spindle and saw blade.

Danger!
Do not use any cleaning agents (e.g. to remove resin residues), which could corrode the light alloy components; the stability of the saw may be adversely affected.

7. Put on a fresh saw blade (observe direction of rotation!).



Danger!
Use only suitable saw blades (see "Available accessories") – when using unsuitable or damaged blades parts could be explosive-like hurled from it by centrifugal force.

Do not use:

- **saw blades made of high speed steel (HSS or HS);**
- **saw blades with visible damage;**
- **cut-off wheel blades.**

Danger!

- **Mount saw blade using only genuine parts.**
- **Do not use loose-fitting reducing rings; the saw blade could work loose.**
- **Saw blades have to be mounted in such way that they do not wobble or run out of balance and cannot work loose during operation.**

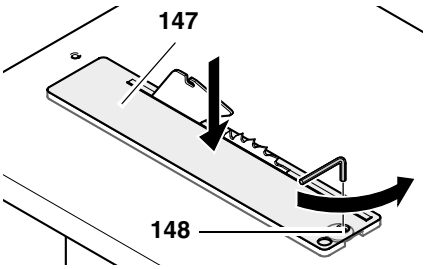
8. Put on outer blade collar **(145)** (the inner blade collar's **(146)** lug must engage in the groove of the outer blade collar).

9. Turn arbor bolt **(144)** into saw spindle (left-handed thread!) and tighten. Hold outer blade collar **(145)** with ring spanner to counter.

⚠ Danger!

- **Do not extend arbor bolt tightening wrench.**
- **Do not tighten arbor bolt by hitting on the wrench.**
- **After the arbor bolt has been tightened, remove all tools used during saw blade installation!**

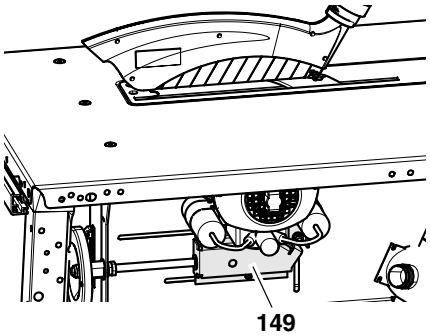
10. Fit table insert extrusion **(147)** flush into the saw table.



11. Turn the countersunk screw **(148)** counter-clockwise against the stop.
12. Install blade guard on the riving knife.

10.2 Cleaning the saw blade's height adjustment mechanism

1. Crank saw blade up to its uppermost position.
2. Clean spindle with brush, vacuum, or compressed air.
3. Apply a light coat of Care and Maintenance Spray.
4. Grease slide faces of the height adjustment mechanism **(149)** and crank the saw blade up and down several times to distribute the grease evenly on the slide faces.



10.3 Saw storage

⚠ Danger!
Store saw so that

- **it cannot be started by unauthorized persons, and**
- **nobody can get injured.**

Caution!
Do not store saw unprotected outdoors or in damp environment.

10.4 Maintenance

Before switching ON

Visual check if distance saw blade – riving knife is 3...8 mm.

Visual check of power cable and power cable plug for damage; if necessary have damaged parts replaced by a qualified electrician.

After switching OFF

Check to see if the saw blade post-runs for more than 10 seconds; if so, have the electronic motorbrake replaced by a qualified electrician.

Monthly (if used daily)

Remove saw dust and chips with vacuum or brush; apply light coat of oil to guide elements:

- threaded rod of height adjustment;
- swivel segments.

Every 300 hours of operation

Check all screwed joints, retighten if necessary.

11. Repairs

⚠ Danger!
Repairs to electric tools must be carried out by qualified electricians only!

Electric tools in need of repair can be sent to the service centre of your country. Refer to the spare parts list for the address.

Please attach a description of the fault to the electric tool.

12. Transportation

- Lower saw blade fully.
- Dismount add-on parts (fence, sliding carriage, table extension).

If possible use original carton for shipping.

13. Available accessories

For special tasks the following accessories are available at your specialized dealer – see back cover for illustrations:

A Sliding Carriage
For convenient guiding of long stock.

B Table Side Extension, right-hand
tabel size 1000 mm x 600 mm;
with foldable support legs.

C Suction Adapter
To connect a shop vacuum to the dust collection attachment.

D Care and Maintenance Spray
To remove resin residue and preserve metal surfaces.

E Saw blade CV 315 x 1.8 x 30
56 multiple combination teeth
for solid wood and particle board.

F Saw blade CV 315 x 1.8 x 30
80 neutral multiple teeth
For especially smooth cuts in solid wood and particle board.

G Saw blade TCT 315 x 2.8 x 30
48 universal alternate bevel teeth
For all woods and wood-derived materials.

H Saw blade TCT 315 x 2.8/1.8 x 30
20 square teeth, combination bore with locating holes
For rip and crosscuts in solid wood.

I Saw blade HW 315 x 3.0/2.0 x 30
24 alternate bevel teeth
General purpose blade for rip and cross cuts, also in particle board.

J Roller Stand RS 420

K Roller Stand RS 420 W

L Roller Stand RS 420 G

14. Environmental Protection

The machine's packing can be 100% recycled.

Worn out power tools and accessories contain considerable amounts of valuable raw and rubber materials, which can be recycled.

These instructions are printed on paper produced with elemental chlorine-free bleaching process.

15. Trouble Shooting

⚠ Danger!
Before carrying out any fault service or maintenance work, always:

1. **switch machine OFF;**
2. **unplug power cable;**
3. **wait for saw blade to come to standstill.**

Check that all safety devices are operational again after each fault service.

Motor does not run

Undervoltage relay tripped by power failure:

- switch on again.

No mains voltage:

- Check cables, plug, outlet and mains fuse.

Motor overheated, e.g. by a blunt saw blade or chip build-up in the chipcase:

- remove cause for overheating, wait for a few minutes, then start saw again.

Motor supply voltage too low:

- use a shorter extension cable or extension cable with larger lead cross section
(≥ 1.5 mm^2).

– Have power supply checked by a qualified electrician.

Loss of cutting performance

Saw blade blunt (possibly tempering marks on blade body or workpiece):

– replace saw blade (see chapter "Care and maintenance").

Saw dust build-up

No dust collector or dust collector of insufficient capacity connected (see “Dust collector” in chapter “Operation”):

– Connect dust collector, or
– open sliding plate or
– increase suction capacity.

Height adjustment mechanism of saw blade working stiff

Spindle of height adjustment mechanism gummy:

– clean spindle and spray with Care and Maintenance Spray (see chapter "Care and maintenance").

Bevel tilt adjustment working stiff

Wing nut or retaining nut on on the opposite side of the chip case tightened to much:

– Slightly loosen wing nut or retaining nut.

Motor carrier unit tilts independently

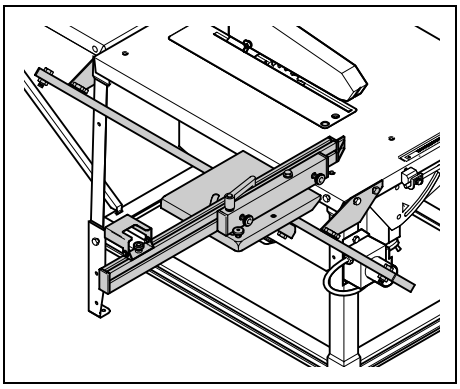
If the motor carrier unit tilts independently when setting the bevel tilt, the retaining nut on the opposite side of the chip case is not tightened enough:

– Adjust retaining nut as required.

16. Technical specifications

		TKHS 315 M 2.5 WNB	TKHS 315 M 3.1 WNB	TKHS 315 M 3.4 DNB	TKHS 315 M 4.2 DNB	TKHS 315 M 2,5 WNB
Voltage		230 V / 1~50 Hz	230 V / 1~50 Hz	400 V / 3~50 Hz	400 V / 3~50 Hz	110 V / 1~50 Hz
Nominal current	A	10,9	13,4	5,8	7,5	23
Fuse protection min.	A	1 x 16 (time-lag)	1 x 16 (time-lag)	3 x 10 (time-lag)	3 x 16 (time-lag)	–
Degree of protection		IP 54	IP 54	IP 54	IP 54	IP 54
Motor speed	min^{-1}	2750	2800	2700	2800	2750
Motor capacity input capacity P_1	kW	2.5 kW S6 40%	3.1 kW S6 40%	3.4 kW S6 40%	4.2 kW S6 40%	2,5 kW S6 40%
power output P_2	kW	1.72 kW S6 40%	2.2 kW S6 40%	2.5 kW S6 40%	3.0 kW S6 40%	1,6 kW S6 40%
Cutting speed saw blade approx.	m/s	47	47	47	47	47
Saw blade diameter (outer)	mm	315	315	315	315	315
Arbor bore	mm	30	30	30	30	30
Depth of cut						
with saw blade vertical	mm	0 ... 85	0 ... 85	0 ... 85	0 ... 85	0 ... 85
at 45° saw blade tilt	mm	0 ... 53	0 ... 53	0 ... 53	0 ... 53	0 ... 53
Dimensions						
length saw table	mm	800	800	800	800	800
width table	mm	600	600	600	600	600
extension height	mm	794	794	794	794	794
width saw table	mm	510	510	510	510	510
length table extension (saw table)	mm	850	850	850	850	850
height (over all)	mm	1000	1000	1000	1000	1000
Weight complete approx.	kg	64	64	64	64	64
Sound power level according to DIN 23746*						
no-load	dB (A)	84,0	84,0	84,0	84,0	84,0
when sawing	dB (A)	99,3	99,3	99,3	99,3	99,3
Sound pressure level according to DIN 31202*						
no-load	dB (A)	74,8	74,8	74,8	74,8	74,8
when sawing	dB (A)	85,0	85,0	85,0	85,0	85,0
Ambient temperature range	°C	–10 … +40	–10 … +40	–10 … +40	–10 … +40	–10 … +40
Extension cable – min. lead cross section						
Length of cable 10 m	mm^2	3 x 1.5	3 x 2.5	5 x 1.0	5 x 1.5	3 x 2,5
Length of cable 25 m	mm^2	3 x 2.5	3 x 2.5	5 x 1.5	5 x 2.5	–
Length of cable 50 m	mm^2	–	–	5 x 2.5	5 x 2.5	–

* The values stated here only indicate the loudness emitted by this machine. Whether the operator is required to wear hearing protection can not be determined here. This depends on how much noise reaches the ear of the operator. And this, among other things, depends on the existing ambient conditions (such as other sources of noise near by). Even though it may not be explicitly required, it is in your own interest to always wear hearing protection when operating this machine.



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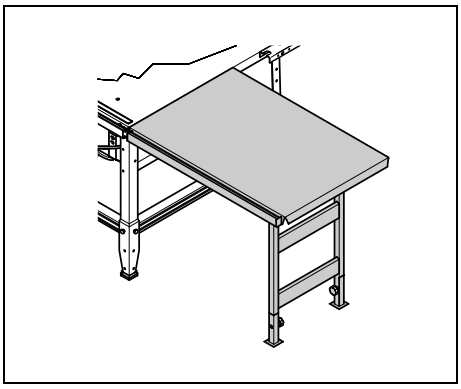

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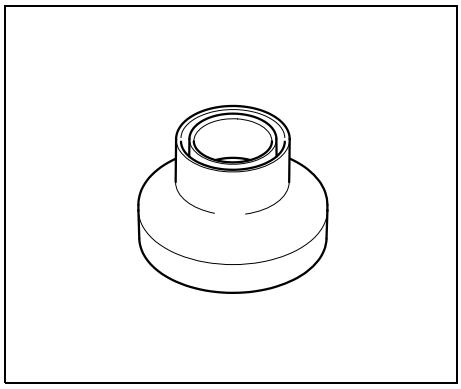

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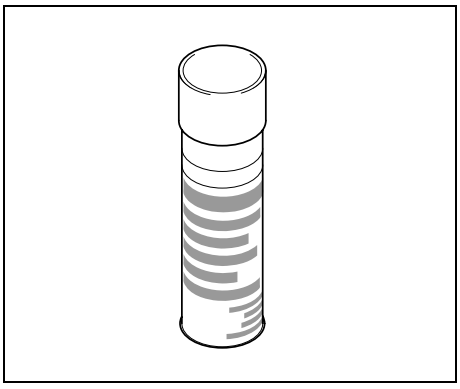

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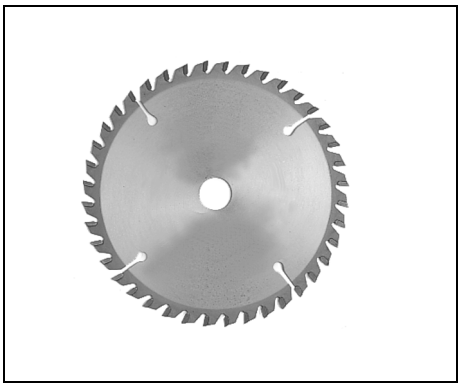

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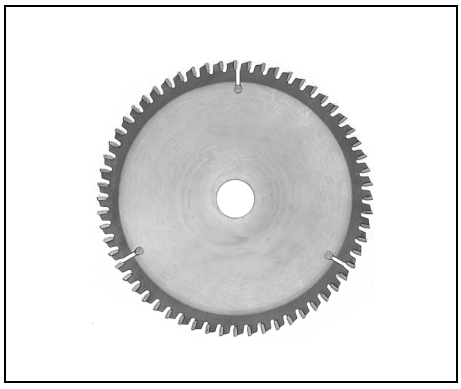

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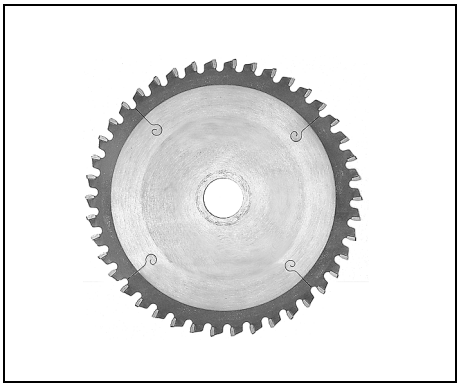

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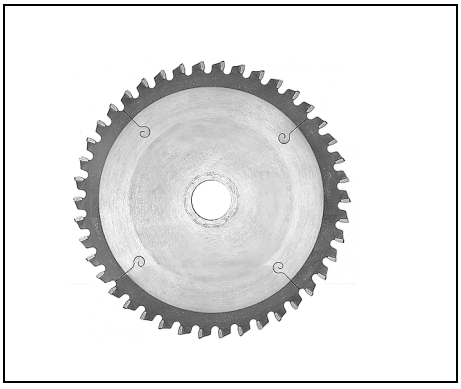

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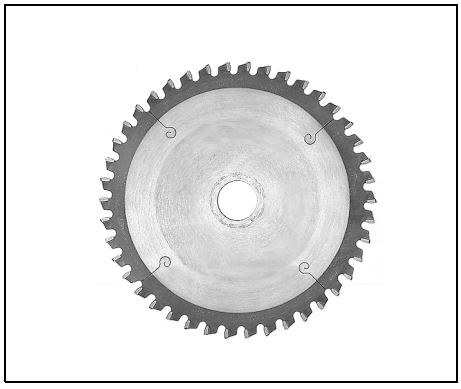

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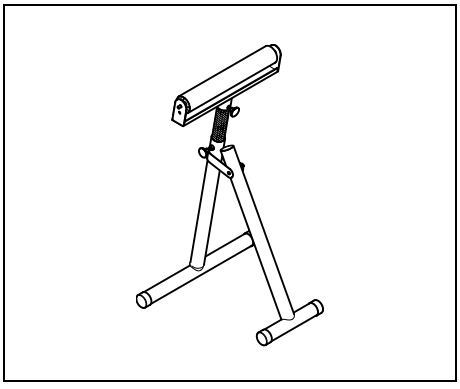

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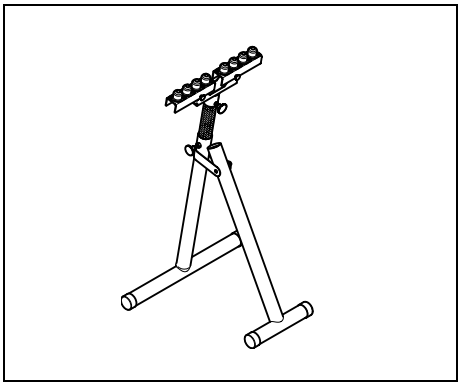

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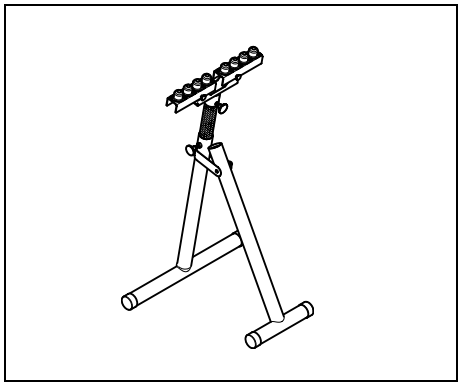

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