

## Metabo Table Saw 110V TKHS 315M

A market leading site table saw with a sliding carriage intended for ripping, cross-cutting and cutting to size of solid wood, particle board, fibreboard, plywood, squared timber, boards, panels and other wood-like materials in the workshop and at construction sites. The addition of the sliding carriage provides you with more precise and exact cutting, even on larger workpieces. With an impressive depth of cut of 85mm, this table saw is ready to meet the tough demands of the hire and trade industry.



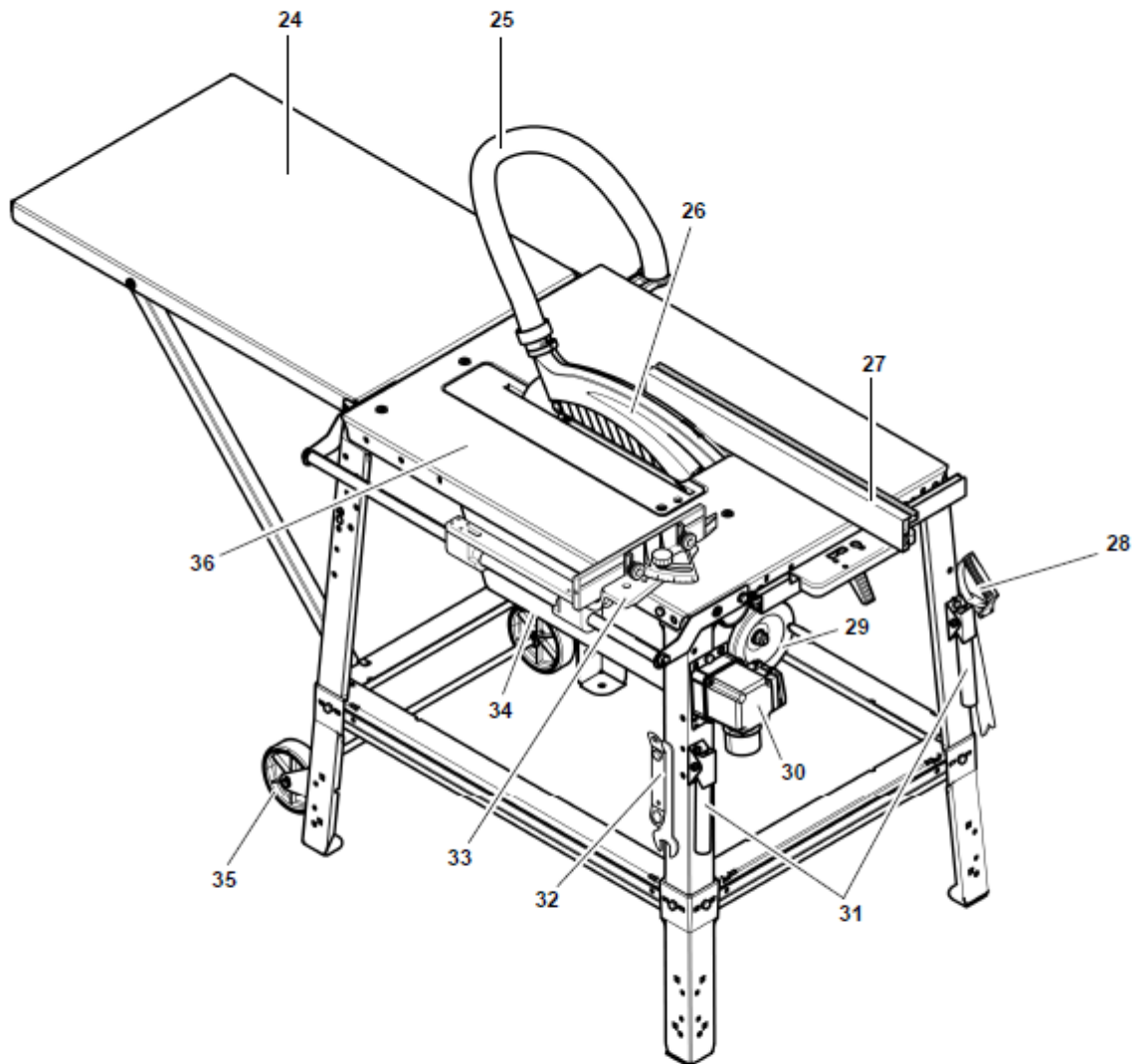
### User Benefits

- ◆ Frame and motor pre-mounted
- ◆ Foldable table length extension
- ◆ Freely height adjustable saw blade
- ◆ Comfortable setting of the saw blade inclination from the front
- ◆ Mitre fence with linear stop – can be used as sliding table
- ◆ Quiet induction motor with motor brake and overload protection – maintenance-free and robust
- ◆ Precise, powerful table saw in professional configuration – quick to adapt for every application
- ◆ Restart protection prevents unintentional start-up after power supply interruption

### Machine Specifications

<b>Saw Blade Diameter</b>	315 mm
<b>Saw Blade Bore</b>	30 mm
<b>Cutting Width</b>	> 2.6 mm
<b>Max. Base Body Thickness of the Saw Blade</b>	< 2.3 mm
<b>Cutting Depth: Saw Blade Vertical</b>	0 – 85 mm
<b>Cutting Depth: At 45° Saw Blade Tilt</b>	0 – 53 mm
<b>Nominal Current</b>	23 A
<b>Saw Blade Cutting Speed Approx.</b>	47 m/s
<b>Riving Knife Thickness</b>	2.5 mm
<b>Saw Table Length</b>	800 mm
<b>Saw Table Width</b>	600 mm
<b>Motor Speed</b>	2750 min-1
<b>Motor Power – Power Input / Output</b>	2.5 kW S6 40% / 1.6 kW S6 40%
<b>Table Extension Length</b>	794 mm
<b>Table Extension Width</b>	510 mm
<b>Height (Saw Table)</b>	850 mm
<b>Height (Overall)</b>	1000 mm
<b>Sound Power Level Guaranteed</b>	91.3 – 105.5 dB(A)
<b>Sound Pressure Level</b>	80 – 96 dB(A)
<b>Weight</b>	75 kg

2. Machine overview



24 Table 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

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**3. Please Read First!**

These instruction 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 these instructions before use. Pay special attention to the safety information.
- These instructions are intended for persons with basic technical knowledge regarding the operation of a device like the one described herein. Inexperienced persons are strongly advised to seek competent advise and guidance from an experienced person before operating this machine.

- Keep all documents supplied with this machine for future reference. Retain proof of purchase in case of warranty claims.
- This device must not be sold or lent to someone else without being accompanied by these Operating Instructions and all other documents supplied with the device.
- The equipment manufacturer is not liable for any damage resulting from neglect of these operating instructions.

Information in these instructions is designated 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 etc.)
  - denote component parts;
  - are consecutively numbered;
  - relate to the corresponding number(s) in brackets (1), (2), (3) etc. in the neighbouring text.
- Numbered steps must be carried out in sequence.
- Instructions which can be carried out in any order are indicated by a bullet point (•).
- Listings are marked by a dash (-).

**4. Safety Instructions**

**4.1 Specified conditions of use**

This machine is intended for ripping, cross-cutting and cutting to size of solid wood, particle board, fibreboard, plywood and these materials provided they have plastic laminate surfaces or edge trim or are veneered.

Round workpieces may not be sawed as they can be twisted by the rotating saw blade.

The tool must not be used for grooving. Always have blade guard installed during operation.

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

Reconstruction of this machine or use of parts that have not been tested and released by the manufacturer can lead to unforeseen damage and dangers during operation.

**4.2 General Safety Instructions**

- When using this machine observe the following safety instructions to minimise the risk of personal injury or material damage.
- Please also observe the special safety instructions in the respective sections.
- 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 device while under the influence of drugs, alcohol or medication.
- Consider environmental conditions. Keep work area well lighted.
- Avoid unnatural body positions. Ensure firm footing and keep your balance at all times.
- Use suitable workpiece supports when cutting long stock.

- Wedges may only be cut using a wedge cutting jig, adapted to the desired wedge thickness, length, and taper:

- Install riving knife and blade guard.

With your right hand push the wedge cutting jig against the rip fence, while at the same time feed it into the saw blade. Secure workpiece with your left hand.

- Do not operate the machine 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 machine.

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 bystanders to touch the device or mains cable while it is running.
- Do not overload device – use it only within the performance range it was designed for (see 'Technical Data').



### **Danger! Risk of electric shock!**

- Do not expose device to rain.

Do not operate device in damp or wet environment.

Prevent body contact with earthed objects such as radiators, pipes, cooking stoves or refrigerators when operating this device.

- Do not use the mains cable for any purpose it is not intended for.
- Do not use any damaged mains cable.
- A damaged mains cable may only be replaced by the manufacturer, its customer service or its service partner.



### **Risk of personal injury and crushing by moving parts!**

- Do not operate the machine without installed guards.
- Always keep sufficient distance to the saw blade. Use suitable feeding aids if necessary. Keep sufficient di-

stance to driven components when operating the device.

- Wait for the saw blade to come to a complete stop before removing cut-outs, waste wood etc. from the work area.
- Do not attempt to stop the saw blade by pushing the workpiece against its side.
- Ensure the device is disconnected from power before servicing.
- When turning ON the machine (e.g. after servicing) ensure that no tools or loose parts are left on or in the machine.
- Turn power OFF if the machine is not used.



### **Cutting hazard, even with the cutting tool at standstill!**

- Wear gloves when changing cutting tools.
- Store saw blades in such a manner that nobody can 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.
- Riving knife and saw blade used must match: The riving knife should be thinner than the kerf, but thicker than the saw blade body.
- 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 never cut bundles containing several individual pieces. There is a risk of personal injury if individual pieces are caught by the saw blade in an uncontrolled manner.
- Remove small cut-outs, waste wood etc. from the work area – when you

are 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 ties, no gloves, no loose-fitting clothes; contain long hair with hairnet).
- Never attempt to cut any workpieces which contain
  - ropes,
  - strings,
  - bands,
  - cables or
  - wires or to which any of the above are attached.



### **Danger due to insufficient personal protection equipment!**

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



### **Risk of injury by inhaling wood dust!**

- Some types of wood dust (e.g. oak, beech, ash) may cause cancer when inhaled. If working in a closed room, always use a dust collector.
- Make sure that as little as possible wood dust can escape into the environment:
  - install dust collector
  - repair any leaks on the dust collector
  - keep your work area well ventilated at all times.

Operation without a dust collector is only possible:

- outdoors;
- for short-term operation (up to a maximum of 30 minutes); or
- if a dust respirator is worn.

**!** Hazard caused by modification of the machine or use of parts not tested and approved by the manufacturer!

- Strictly follow these instructions when assembling the device.
- Use only parts approved by the equipment manufacturer. This applies particularly to:
  - Saw blades (please see 'Available accessories' for order numbers);
  - safety devices (see 'Spare parts list' for stock numbers).
- Do not change any parts.

**!** Hazard generated by machine defects!

- Keep the machine and accessories in good repair. Follow the maintenance instructions.
- Before any use check machine for possible damage: before operating the machine 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 requirements for proper operation of the device.
- Any damaged parts or protection devices must be repaired or replaced by a qualified specialist. Have damaged switches replaced by a service centre. Do not operate device if the switch cannot be turned ON or OFF.
- Keep handles free of oil and grease.

**!** Risk of injury by noise!

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

**!** Danger from blocking workpieces or workpiece parts!

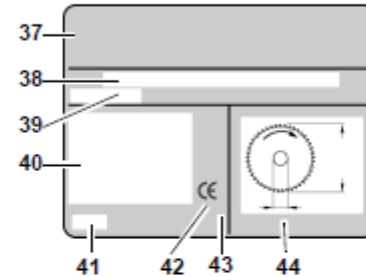
If blockage occurs:

1. Switch machine OFF.
2. Unplug mains cable.
3. Wear gloves.

4. Clear the blockage using a suitable tool.

### 4.3 Symbols on the machine

Data on the nameplate



- 37 Manufacturer
- 38 Serial number
- 39 Machine designation
- 40 Motor data (see also 'Technical Data')
- 41 Date of manufacture
- 42 CE mark – This machine meets the EC directives as per declaration of conformity
- 43 Waste disposal symbol – Device can be disposed of by returning it to the manufacturer
- 44 Dimensions of permissible saw blades

Symbols on the machine



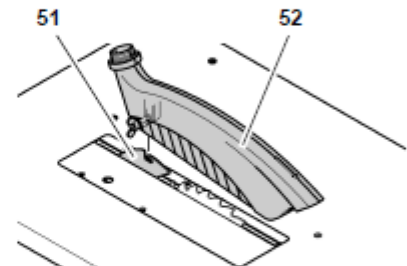
- 45 Wear ear protection
- 46 Wear eye protection
- 47 Do not operate tool in moist or wet environment.
- 48 Read operating instructions
- 49 Do not reach into saw blade area
- 50 Hazardous area warning

### 4.4 Safety devices

**Riving knife**

The riving knife (51) prevents the workpiece from being caught by the rising teeth of the saw blade and being thrown back against the operator.

Always have riving knife installed during operation.



**Blade guard**

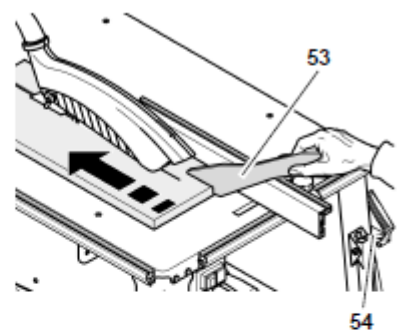
The blade guard (52) protects against unintentional contact with the saw blade and from chips flying about.

Always have the blade guard installed during operation.

**Push stick**

The push stick (53) serves as an extension of the hand and protects against accidental contact with the saw blade.

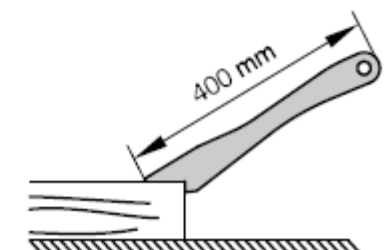
Always use the push stick if the distance between saw blade and rip fence is less than 120 mm.



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 (54) provided.

Replace the push stick if it is damaged.

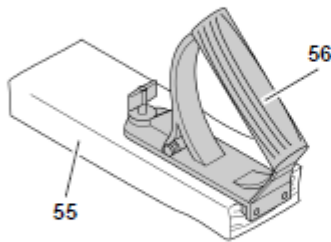


### Handle for push block

The handle for the push block (56) is screwed to a matching board (55). It is used for safe guidance of relatively small workpieces.

The board should be 400 mm long, at least 200 mm wide and 15 – 20 mm high.

The push block handle must be replaced if damaged.



## 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 power tool 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 tools.
- Robust sheet steel construction – high load-bearing capacity and permanent protection against corrosion.
- Steplessly adjustable rip fence.

## 6. Operating elements

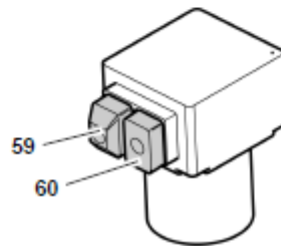
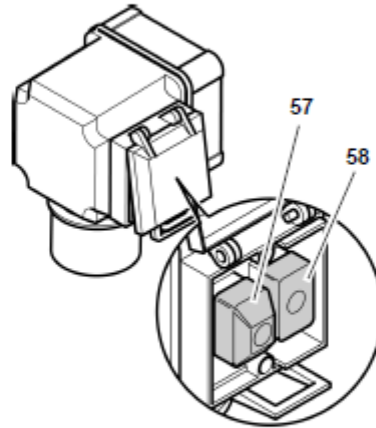
### ON/OFF switch

**i** Note:

Due to production requirements some machines are supplied with a different

switch. Both switch versions are illustrated below.

- To start = press green switch button (58), (60).
- To stop = press red switch button (57), (59).

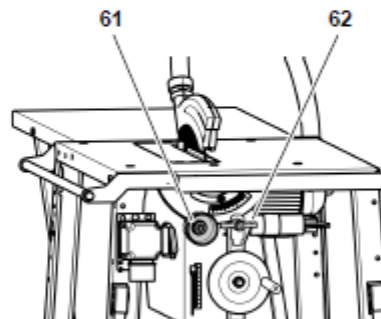


**i** Note:

In case of a power failure an undervoltage relay trips. This prevents the power tool from starting when the power is restored. To restart, press the green switch button again.

### Setting device for saw blade tilt

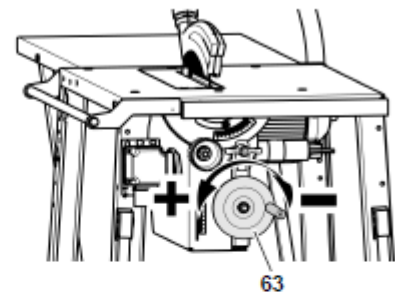
With the handwheel (61) the saw blade is steplessly tilted from 0° to 47°.



To keep the set angle of inclination from changing when sawing, it is locked by means of the wingnut (62) at the front of the chipcase.

### Crank for cutting height adjustment

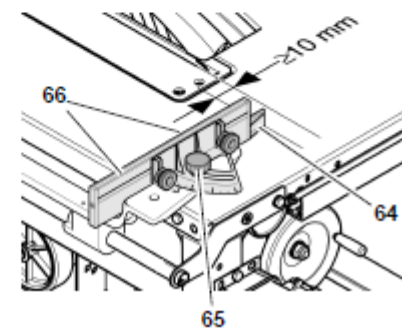
The cutting height is adjusted by turning the crank (63).



### Fences

The saw is equipped with two fences:

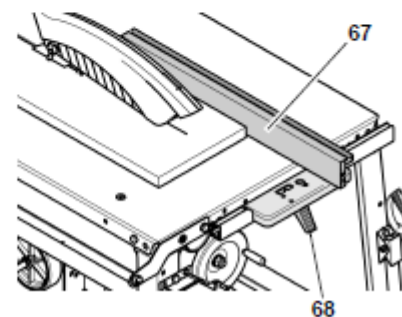
- Mitre fence (for cross-cuts / mitre cuts):



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

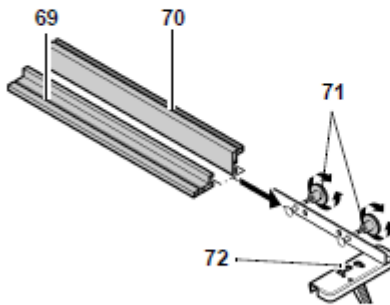
The mitre fence is mounted on a guide bar, which is fastened to the left-hand side of the saw table.

- Star-knob screw (65) for mitre setting. The setting range is 45°. When sawing with the mitre fence the star-knob screw (65) must be firmly tightened.
- Knurled nuts (66) for fence extrusion position adjustment. The plastic lug (64) of the fence extrusion must point towards 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 (67) must be installed. It is mounted on the guide extrusion at the front of the saw table.

- For ripping the fence extrusion (67) must be parallel with the saw blade and locked in position by lock lever (68).
- Knurled nuts (71) for attaching the fence extrusion. After loosening the two knurled nuts (71), the fence extrusion can be removed and shifted:



(69) Small edge:

- for cutting thin stock.
- when the saw blade is tilted.

(70) Wide edge:

- for cutting thick stock.

The rip fence has an opening with a scale reading edge (72).

**i** Note:

The scale's zero position is adjusted so that it corresponds to the high edge (see "Adjusting the rip fence" in chapter "Assembly").

When the small edge of the fence extrusion is installed, there will be a 47 mm offset from the reading.

## 7. Assembly

**!** Danger!

Modifications to the saw or use of parts not tested and released by the 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 work 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

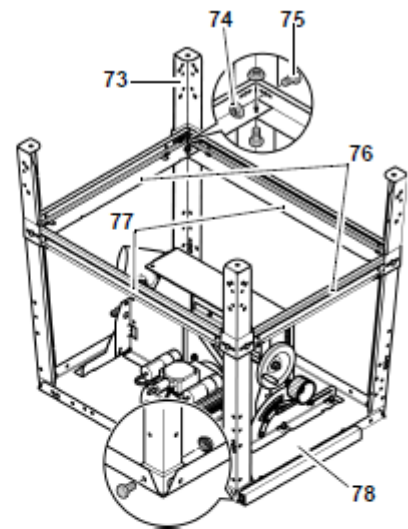
Item	Description	Qty.
73	Leg	4
74	Flange nut M8	20
75	Hexagon head screw M8 x 16 M8 x 20	18 2
76	Stanchion, short	2
77	Stanchion, long	2
78	Table with chipcase	1

1. Place table panel (78), 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 (73) to the inside of the table panel's corners:
  - Insert the hexagon head screws (75) 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 (74) from the inside - do not fully tighten yet, this is done only after installation of the table extension.



3. Fit long stanchions (77) between the side legs, short stanchions (76) 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. Bolting 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.

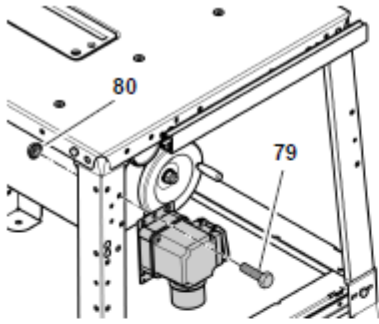
### ON/OFF switch installation

**i** Note:

Due to production requirements some machines are supplied with a different switch (see "Installing the alternative ON/OFF switch").

Item	Description	Qty.
79	Hexagon head screw M8 x 16	2
80	Flange nut M8	2

1. Loosen the shipping brace of the ON/OFF switch.
2. Attach the switch plate with two each hexagon head screws (79) and flange nuts (80) to the left front leg.



The switch buttons must point to the right-hand side.



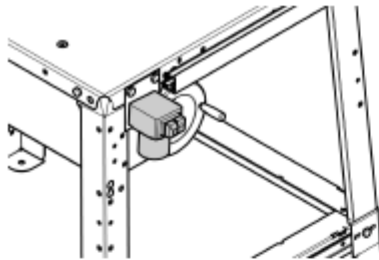
**Caution!**

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

**Installing the alternative ON/OFF switch**

Item	Description	Qty.
79	Hexagon head screw M6 x 16	2
80	Flange nut M6	2

- Install as detailed above.

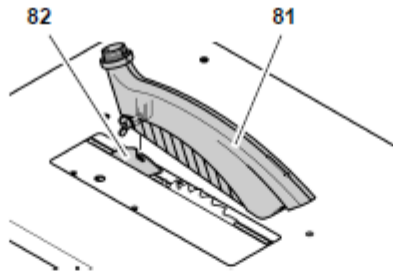


The switch buttons, however, must point to the front (towards the operator).

**Installing the dust collection gear**

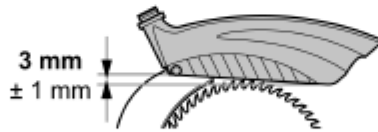
Item	Description	Qty.
81	Blade guard	1
84	Suction hose	1
86	Flange nut M6	2
87	Hose carrier	1
88	Hexagon screw M6 x 16	2

1. Raise saw blade fully.
2. Install blade guard (81) on riving knife (82).

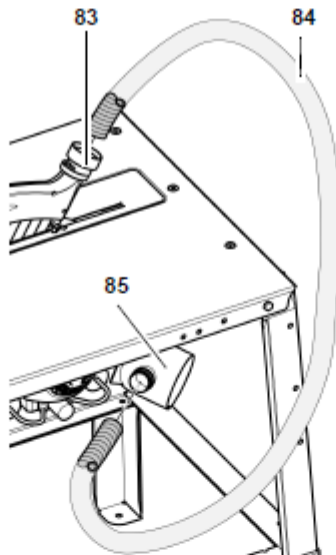


**Note:**

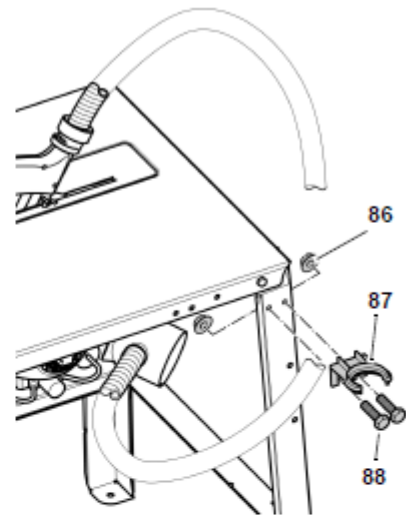
The blade guard is tilted slightly downward on the operator side after installation on the riving knife.



3. Push one end of the suction hose (84) on the blade guard's suction port (83).
4. Fit other end of the suction hose to the dust extraction port (85) on the chipcase.



5. Installing the hose carrier (87):
  - Put two hexagon head screws (88) from the outside through the hose carrier and leg;
  - from the inside screw on flange nuts (86) – do not yet tighten fully.



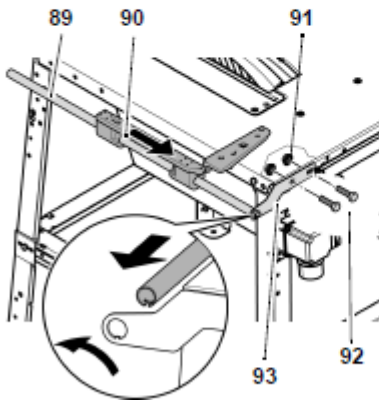
6. Align hose carrier, tighten hexagon head screws and flange nuts. Hook the suction hose into the hose carrier (87).
7. Connect the saw's dust extraction port at the chipcase to a suitable dust collector (see 'Dust collector' in chapter 'Operation').

**Mitre fence assembly**

Item	Description	Qty.
89	Guide bar	1
90	Fence carrier, lower	1
91	Flange nut M8 ( ) = already installed	3 (3)
92	Hexagon head screw M8 x 20 ( ) = already installed	3 (3)
93	Mounting bracket	2
94		
95	Plug	2
96	Bracket for table extension	2
98	Star-knob screw M8	1
99	Washer 8.4	1
100	Fence carrier, upper	1
101	Fence extrusion, short	1

1. Attaching the front mounting bracket (93) to the left-hand front side of the saw:
  - remove the hexagon head screws (92) from the left-hand front and rear side of the table panel.
  - put two each hexagon head screws (92) fitted from the outside through the mounting bracket (93) and the table panel;

- from the inside screw on flange nuts (91) – do not yet tighten fully.
2. Mounting the guide bar (89): Insert the guide bar into the mounting bracket (93) 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 carrier (90) with the angle facing the front of the saw on the guide bar and swing it down.

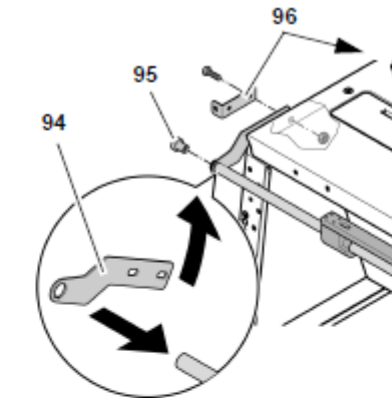


4. Put the rear mounting bracket (94) on the guide bar and secure by turning it slightly.
5. Attach the rear mounting bracket with the bracket (96) for table extension installation to the saw.

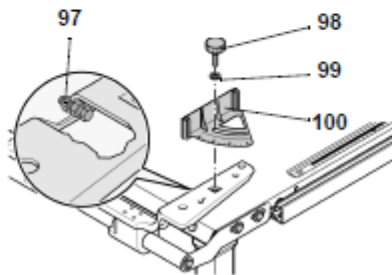
**i** Note:

The second bracket (96) for installation of the table rear extension is installed to the right rear edge of the table top (not illustrated).

6. Align guide bar so that it is exactly parallel with the saw blade.
7. Tighten all screws holding the mounting brackets.
8. Fit plugs (95) to both ends of the guide bar.

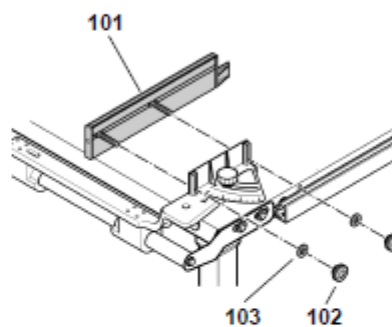


9. Swing the lower fence carrier up.
10. Install the upper fence carrier (100) with washer (99) and star-knob screw (98).



11. Put the short fence extrusion (101) on and secure with knurled nuts (102):

- the plastic nose of the fence extrusion must point towards the saw blade;
- the washers (103) must be fitted between upper fence carrier and knurled nuts.



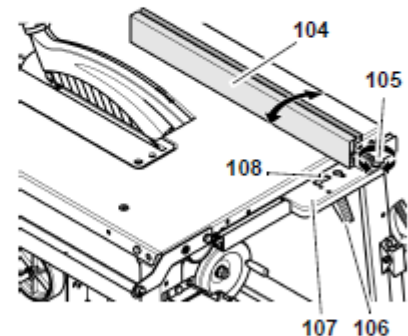
12. By means of the set screw (97) the fence extrusion can be set exactly square to the saw blade. The set screw (97) is accessible when the mitre fence is swung down.

**i** Note:

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

### Adjusting the rip fence

1. Slide rip fence (107) on the guide rail and lock with the lock lever (106).
2. Install the fence extrusion (104) as illustrated below and secure it with the two knurled thumb screws.
3. Slightly loosen both set screws (105) of the rip fence and align the fence extrusion parallel with the saw blade. Retighten both set screws afterwards.



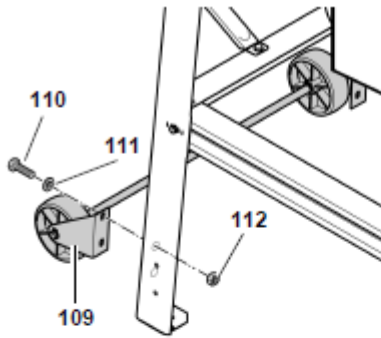
4. Set rip fence against the right-hand side of the saw blade, across its entire diameter. Raise the saw blade by means of the crank handle if necessary.
5. Adjust scale so that its zero position coincides exactly with the scale reading edge (108) of the rip fence.
6. Tighten the scale fastening screw and verify the setting by making a trial cut.

### Wheel set installation

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

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

1. Each of the wheel set brackets (109) must have two hexagon head screws (110), with washers fitted (111) put through it from the rear.
2. Screw on the flange nuts (112) 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.

### Installing the table extension

Item	Description	Qty.
113	Plate, table rear extension	1
114	Washer 8.4	4
117		
115	Flange nut M8	4
118		
116	Bearing screw M8 x 35	4
120		
119	Support	2
121	Hexagon nut, prevailing torque-type M6	2
123		
122	Hexagon screw M6 x 16	2
124		

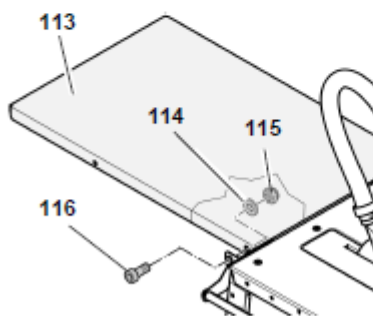


### Caution!

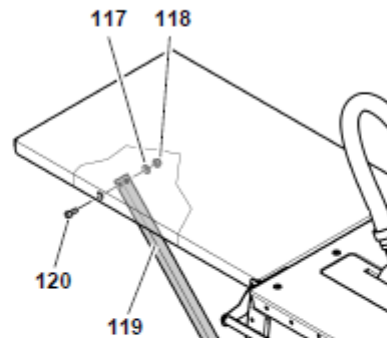
When installing the rear table extension, both panel and support struts need to be held as long as they are only bolted to one end.

1. Fasten extension panel (113) with two bearing bolts (116), two washers (114) and two flange nuts (115) to the two brackets as illustrated.

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



2. Attach each of the supports (119) with one bearing bolt (120), one washer (117) and one flange nut (118) to the table extension (see illustration).



3. Tighten all bolted connections of the table extension hand-tight using a suitable tool.

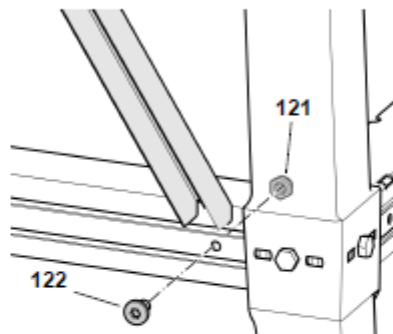


### Note:

The supports of the table extensions can be fixed securely in place. Alternatively, they can be installed in such way that the table extension can swing down.

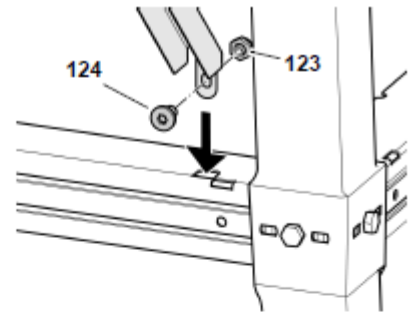
### Stationary support installation

1. Insert the offset ends of the supports into the slots of the short strut at the rear of the saw and slide them towards the outside.
2. Screw the supports with one hexagon screw each (122) and a self-locking hexagon nut (121) as shown to the strut.



### Support installation for folding down of table extension

1. Screw one hexagon nut (124) and one self-locking nut (123) into the lower end of the supports.
2. Insert the lower ends of the supports into the slots of the short strut at the rear of the saw and slide them towards the outside (see illustration).



### Tightening the screwed connections

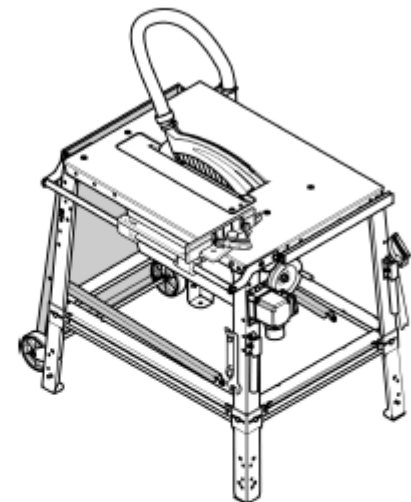
- Check all screwed connections of the saw. Tighten all screwed connections hand-tight with a suitable tool.

Observe the following when tightening the screws:

- The machine must stand firmly and levelly after the screws have been tightened.
- Adjusting the table extension: the table extension's surface must be parallel with and in the same plane as the top of the saw table.

### 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.

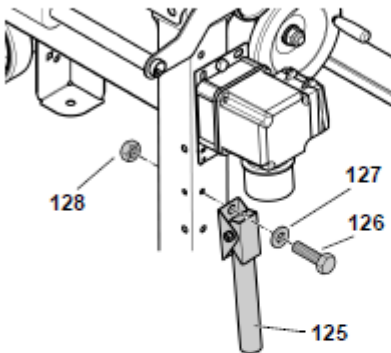


### Transport handle installation

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

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

1. To each transport handle (125) fit a hexagon head screw (126) with washer (127) from the front.



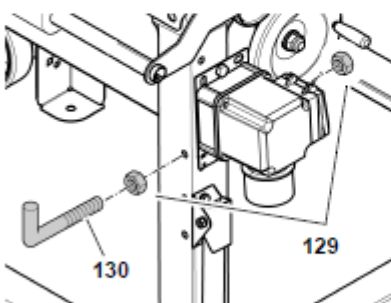
2. Install transport handles in such way that the tubes can be folded down.
3. From inside screw on one each flange nut (128).

### Accessory holder installation

Item	Description	Qty.
129	Flange nut M6	4
130	Screw hooks M6 x 50	2

In the last installation stage, another two screw hooks are screwed to the front legs as supports for the push stick, handle for push block and assembly key.

1. Screw one flange nut (129) about 10 mm onto the two screw hooks (130).
2. Put the screw hooks from the outside through the lateral bore of the left front leg and secure with another flange nut.
3. Fix the other screw hook to the right front leg in the same manner.



## 7.1 Mains connection



**Danger! High voltage**

Operate saw in dry environment only.

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

- Outlets properly installed, earthed, and tested.
- three-phase outlets with neutral wire installed;
- 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 sensitivity.
- Fuse protection of 16 A maximum against short circuits.
- System impedance  $Z_{max}$  at the house service connection: see separate supplement.



**Note:**

Contact your Electricity Board or a qualified electrician if you are not sure if your house service connection meets these requirements.

- Make sure that the mains cable is out of the way so that it does not interfere with the work and cannot be damaged.
- Protect mains cable from heat, aggressive liquids and sharp edges.
- Use only rubber-insulated extension cables with sufficient cross sections (see 'Technical Data').
- Do not pull on mains cord to unplug.



**Changing the direction of rotation!**  
(only possible for version with DC motor)

Depending on the wiring of the electrical connection the saw blade may rotate the wrong way. This can lead to the workpiece being hurled away when attempting to make a cut. The direction of rotation must therefore be checked 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 anticlockwise, unplug the power cable at the saw.
6. Have the electric supply changed by a qualified electrician!

## 7.2 Set-up

- Place the machine on a firm, level floor.
- To align the table surface horizontally, compensate for unevenness or slippery floor surfaces using suitable materials. Then check that the machine is stable.
- 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:

- mains cable and plug;
- ON/OFF switch;
- riving knife;

- blade guard; and
- feeding aids (push stick, push block and handle).

**Use personal protection equipment:**

- dust mask;
- ear protection; and
- safety goggles.

**Assume proper operating position:**

- at the front of the saw on the operator side;
- in front of the saw;
- to the left of the line of cut; and
- if work is being carried out by two persons, with the other person remaining at an adequate distance to the saw.

**If the type of work requires it, use the following:**

- suitable workpiece supports – if otherwise workpiece would fall off the table after being cut
- dust extractor.

**Avoid typical operator mistakes:**

- Do not attempt to stop the saw blade by pushing the workpiece against its side. This poses a risk of kickback.
- Always hold the workpiece down on the table and do not jam it. This poses a risk of kickback.
- Never cut several workpieces at the same time – and also never cut bundles containing several individual pieces. There is a risk of personal injury if individual pieces are caught by the saw blade in an uncontrolled manner.



**Drawing-in/trapping hazard!**

Never cut workpieces to which ropes, cords, bands, cables or wires are attached or workpieces which contain any of these materials.

## 8.1 Dust collector



**Danger!**

Some types of wood dust (e.g. beech, oak, ash) may cause cancer when inhaled. Use suitable dust ex-

tractor when working in enclosed spaces.

**The dust collector must comply with the following requirements:**

- hoses must fit the outer diameter of the dust extraction ports (blade guard 38 mm; chip case 100 mm);
- air flow volume  $\geq 460 \text{ m}^3/\text{h}$ ;
- vacuum at the dust extraction port of the saw  $\geq 530 \text{ Pa}$ ;
- air speed at the dust extraction port of the saw  $\geq 20 \text{ m/s}$ .

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

The sliding plate (132) at the underside of the chipcase must be closed.

Also follow the operating instructions supplied with the dust collector!

Operation without a dust collector is only possible:

- outdoors;
- for short-term operation (up to a maximum of 30 minutes); or
- if a dust respirator is worn.

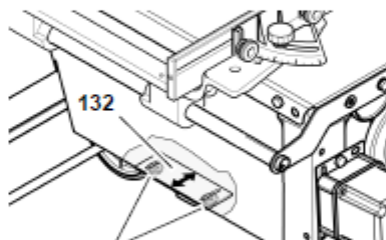


**Caution!**

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

To open the sliding plate:

1. Loosen both screws (131) at the underside of the chipcase slightly.



131

2. Slide sliding plate (132) to the side.
3. Tighten screws (131).

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.

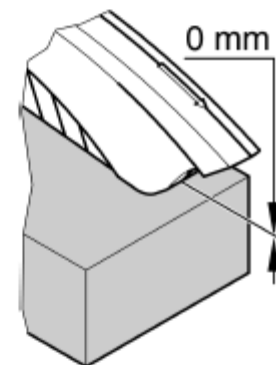
## 8.2 Adjusting the cutting depth



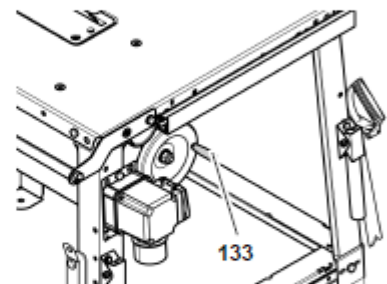
**Danger!**

Parts of the body or objects in the adjustment area 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 needs to be adapted to the height of the workpiece: the blade guard shall rest with its front edge on the workpiece.



- Adjust cutting height by turning the handwheel (133) on the chipcase.



**Note:**

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

**8.3 Setting the saw blade tilt**



**Danger!**

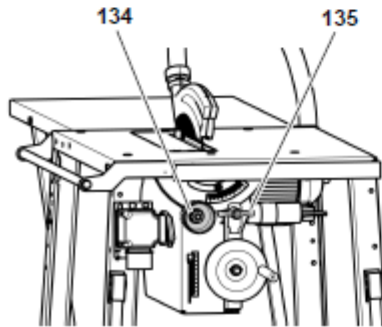
Parts of the body or objects in the adjustment area can be caught by the running saw blade! Set the depth of cut only with the saw blade at standstill!!

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

1. Loosen wing nut at the front (135) 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.

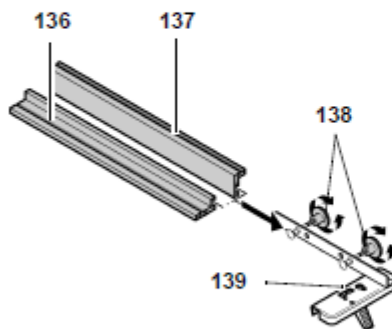
2. Set the desired saw blade tilt with the handwheel (134).



3. Arrest the set angle of inclination by tightening the wing nut (135).

**8.4 Sawing with the rip fence**

1. Adapt fence extrusion to the workpiece height: To do so, loosen the knurled nuts (138).



- Small edge (136) = for cutting thin stock
- Wide edge (137) = for cutting thick stock

2. The rip fence (141) is set from the top on the guide extrusion (142) 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 (139).

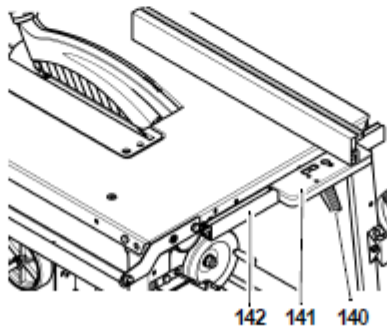


**Note:**

The scale's zero position is adjusted with reference to the wide edge of the fence extrusion.

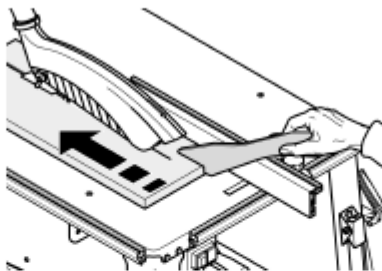
When the small edge of the fence extrusion is installed, there will be a 47 mm offset from the reading.

4. Lock the rip fence in position with the lock lever (140).

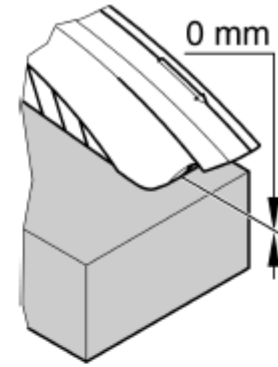


**Danger!**

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



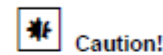
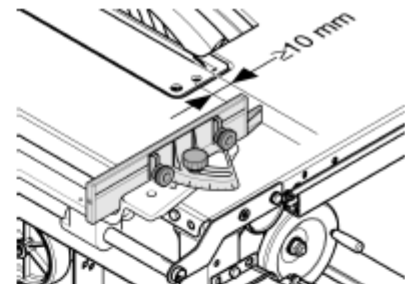
5. Set the cutting height of the saw blade. The blade guard must rest with its front edge on the workpiece.



6. Set and arrest the saw blade tilt.
7. Start motor.
8. Cut workpiece in a single pass.
9. Turn 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 a maximum of 45°.



**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. Turn machine off if no further cutting is to be done immediately afterwards.

## 9. Tips and Tricks

- Before making a cut: make a trial cut on appropriate waste pieces.
- Always lay the workpiece on the saw table such that it cannot tip over or wobble (e.g. place a curved board with the convex side up).
- For long workpieces: use suitable workpiece supports, for example roller support or extension table (see 'Available Accessories').
- Keep surfaces of the table top and table extension 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.
- Damaged parts, particularly safety devices, must only be replaced with genuine parts. Parts which have not been tested and released by the manufacturer can lead to unforeseen damage.
- Check that all safety devices are operational again after each service.

### 10.1 Changing the saw blade



**Danger!**

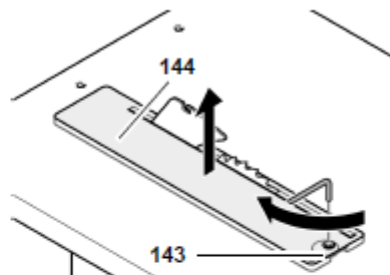
Directly after cutting the saw blade may be very hot – burning hazard! Let a hot saw blade cool down. Do not clean the saw blade with combustible liquids.

Risk of injury, even with the blade at standstill. Wear gloves when changing blades.

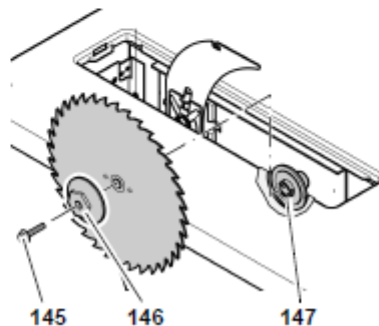
When fitting a saw blade, observe the direction of rotation!

1. Raise saw blade fully.
2. Remove blade guard.

3. Turn the flat head screw (143) of the table insert extrusion (144) clockwise by 1/4 turn and remove the table insert.



4. Loosen arbor bolt (145) with spanner (L.H. thread!). Hold outer blade collar (146) with open-ended spanner to counter.



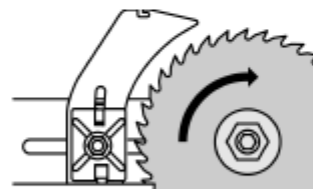
5. Remove outer blade collar (146) and saw blade from the saw spindle.
6. Clean clamping surfaces of saw spindle and saw blade.



**Danger!**

Do not use cleaning agents (e.g. to remove resin residue) that could corrode the light metal components of the saw; the stability of the saw would be adversely affected.

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



**Danger!**

Use only saw blades meeting the requirements of EN 847-1 (see "Technical Specifications") – if unsuitable or damaged saw blades parts are

used, parts can be ejected due to centrifugal force in an explosive-type manner.

Do not use:

- saw blades with maximum speed ratings lower than the saw spindle speed (see 'Technical Data');
- saw blades made of high-strength steel (HSS or HS);
- saw blades with visible damage or deformations;
- cut-off wheel blades.



**Danger!**

- Only install saw blade with genuine parts.
- Do not use loose-fitting reducing rings; the saw blade could work loose.

- Saw blades have to be installed in such way that they do not wobble or run out of balance and cannot work loose during operation.

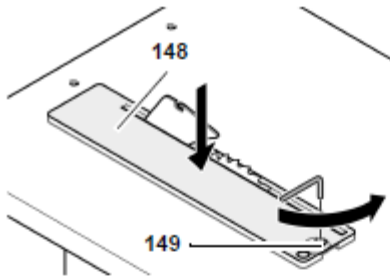
8. Put on outer blade collar (146) (the inner blade collar's (147) lug must engage in the groove of the outer blade collar).
9. Turn arbor bolt (145) into saw spindle (left-handed thread!) and tighten. Hold outer blade collar (146) with ring spanner to counter.



**Danger!**

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

10. Fit table insert extrusion (148) flush into the saw table.

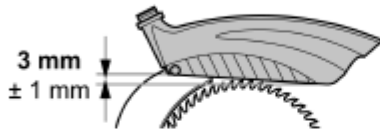


11. Turn the countersunk screw (149) counter-clockwise against the stop.
12. Install blade guard on the riving knife.



**Note:**

The blade guard is angled slightly downward toward the operator side after installation on the riving knife.



### 10.2 Aligning the riving knife

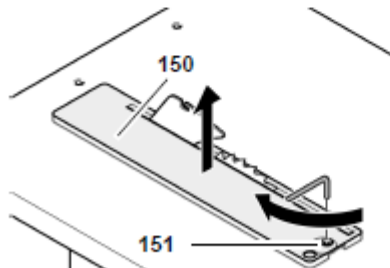


**Note:**

The riving knife has already been aligned to the saw blade in the factory. However, it is still necessary to check the distance from the riving knife to the saw blade and if necessary align the knife at regular intervals.

To align the riving knife:

1. Raise saw blade fully.
2. Remove blade guard.
3. Turn the flat head screw (151) of the table insert extrusion (150) clockwise by 1/4 turn and remove the table insert.

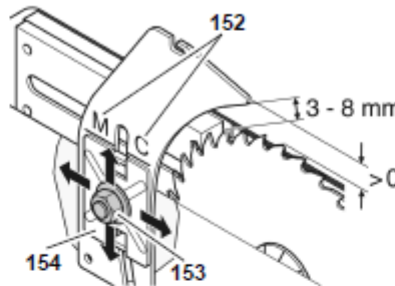


In order for the riving knife to be positioned exactly to the saw blade, it can be adjusted in two planes:

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

**Distance to the saw blade:**

- The distance between the saw blade's outer edge and the riving knife shall be between 3 and 8 mm.
- The riving knife must project over the saw table at least as far as the saw blade does.



M → TKHS 315 M  
C → TKHS 315 C

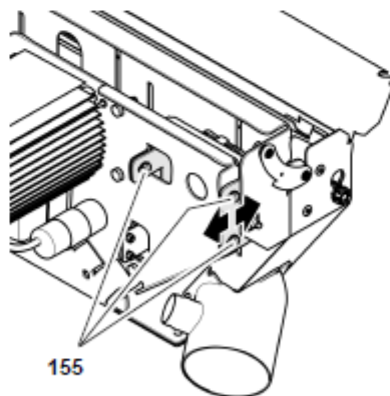
1. Loosen the Keps nut (153) holding the riving knife by one turn.
2. Adjust the distance from the riving knife to the saw blade.
3. Line the riving knife up with the saw blade. To do this align the riving knife marking (152) with the upper edge of the riving knife holder (154).
4. Tighten the Keps nut.

**Lateral alignment:**

Riving knife and saw blade must be perfectly in line. The lateral alignment of the riving knife is preset by the manufacturer.

In case a fine setting should become necessary:

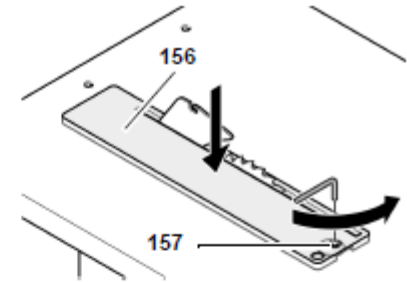
1. Loosen all three screws (155) of the riving knife carrier.



2. Adjust the riving knife
3. Tighten all three screws (155) of the riving knife carrier again.

After alignment:

1. Fit table insert extrusion (156) flush into the saw table.

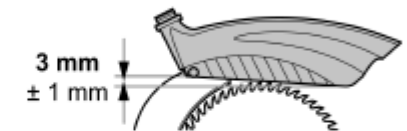


2. Turn the countersunk screw (157) counter-clockwise against the stop.
3. Install blade guard on the riving knife.



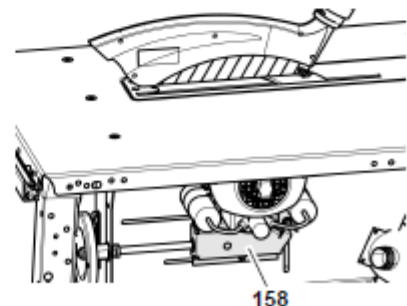
**Note:**

The blade guard is tilted slightly downward on the operator side after installation 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 the slide faces of the height adjustment (158) and crank the saw blade up and down several times, to distribute the grease evenly on the slide faces.



## 10.4 Storing the saw



**Danger!**

Store saw so that

- it cannot be started by unauthorised persons and
- nobody can get injured.



**Caution!**

Do not store saw unprotected outdoors or in a damp environment.

## 10.5 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.

**After every 300 hours of operation**

Check all screwed connections and retighten if necessary.

## 11. Repairs



**Danger!**

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

Contact your local Metabo representative if you have Metabo power tools re-

quiring repairs. See [www.metabo.com](http://www.metabo.com) for addresses.

You can download a list of spare parts from [www.metabo.com](http://www.metabo.com).

## 12. Transport

- Lower saw blade fully.
- Dismount add-on parts (fence, sliding carriage, table extension).
- If possible, use the original cardboard box for shipping.

## 13. Available Accessories

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

- A Sliding Carriage  
For convenient guiding of long stock.
- B Extension table, right size 1000 mm x 600 mm, with folding legs
- C Suction Adapter  
To connect a shop vacuum to the dust collection attachment.
- D Care and Maintenance Spray  
For removing resin residue and preserving 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 with combination pinholes;  
For rip and cross cuts in solid wood.
- I Saw blade TCT 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 Saw blade HW 315 x 2.8 x 30  
48 alternate top bevel teeth  
for solid and laminated wood, particle board, MDF, composite materials
- K Saw blade HW 315 x 2.8 x 30  
84 alternate top bevel teeth

for solid and laminated wood, particle board, MDF, composite materials

L Roller Stand RS 420

## 14. Environmental Considerations

The machine's packing can be 100% recycled.

End-of-life power tools and accessories contain large amounts of valuable raw materials and plastics which must be recycled.

This manual was printed on chlorine-free bleached paper.

## 15. Troubleshooting



**Danger!**

Before carrying out any fault servicing, always do the following:

1. Switch machine OFF.
2. Unplug mains cable.
3. Wait for saw blade to come to standstill.

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

**Motor does not run**

Undervoltage relay tripped by power failure:

- switch on again.

No mains voltage

- check cable, plug, outlet and mains fuse.

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

- 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 ( $\geq 1.5 \text{ mm}^2$ ).
- 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 section "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 the opposite side of the chip case tightened too much:

- slightly loosen wing nut or retaining nut.

### Motor carrier unit tilts independently

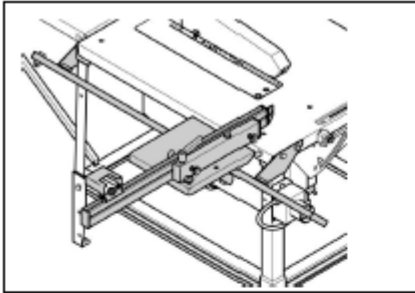
If the motor carrier unit tilts independently when setting the bevel tilt, the retaining nut on the opposite side of the chip case is not tightened enough:

- adjust retaining nut as required.

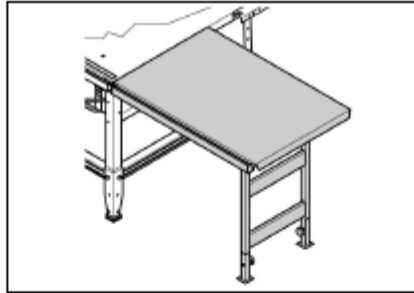
## 16. Technical Data

		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	TKHS 315 M Saudi Arabia
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	230 V 1~60 Hz
Nominal current	A	10.9	13.4	5.8	7.5	23	11.0
Fuse protection min.	A	1 x 16 (time-lag)	1 x 16 (time-lag)	3 x 10 (time-lag)	3 x 16 (time-lag)	–	1 x 16 (time-lag)
Protection class		IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Motor speed	min <sup>-1</sup>	2750	2800	2700	2800	2750	3350
Motor power							
Power input P <sub>1</sub>	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%	2.5 kW S6 40%
Power output P <sub>2</sub>	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%	1.82 kW S6 40%
Saw blade cutting speed approx.	m/s	47	47	47	47	47	56
Riving knife thickness	mm	2,5	2,5	2,5	2,5	2,5	2,5
Saw blade							
saw blade diameter (outer)	mm	315	315	315	315	315	315
saw blade hole (inside)	mm	30	30	30	30	30	30
cutting width	mm	> 2,6	> 2,6	> 2,6	> 2,6	> 2,6	> 2,6
max. base body thickness of the saw blade	mm	≤ 2,3	≤ 2,3	≤ 2,3	≤ 2,3	≤ 2,3	≤ 2,3
Cutting depth							
Saw blade vertical	mm	0 - 85	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	0 - 53
Dimensions							
Saw table length	mm	800	800	800	800	800	800
Saw table width	mm	600	600	600	600	600	600
Table extension length	mm	794	794	794	794	794	794
Table extension width	mm	510	510	510	510	510	510
Height (saw table)	mm	850	850	850	850	850	850
Height (overall)	mm	1000	1000	1000	1000	1000	1000

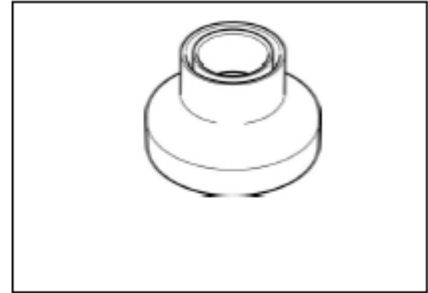
		TKHS 315 M 2.5 WNB	TKHS 315 M 3.1 WNB	TKHS 315 M 3.4 DNB	TKHS 315 M 4.2 DNB	TKHS 315 M 2.5 WNB	TKHS 315 M Saudi Arabia
Weight complete approx.	kg	75	75	75	75	75	75
Guaranteed sound power level according to DIN EN 1870-1 (2007)* no-load when sawing	dB (A) dB (A)	91,3 105,5	91,3 105,5	91,3 105,5	91,3 105,5	91,3 105,5	91,3 105,5
Sound pressure level according to DIN EN ISO 3746 (1995) and ISO 7960:1995 (E)* no-load when sawing Uncertainty K	dB (A) dB (A) dB (A)	80,3 96,7 4,0	80,3 96,7 4,0	80,3 96,7 4,0	80,3 96,7 4,0	80,3 96,7 4,0	80,3 96,7 4,0
Ambient temperature range	°C	-10 to +40	-10 to +40	-10 to +40	-10 to +40	-10 to +40	-10 to +40
Extension cable – min. lead cross section Length of cable: 10 m Length of cable: 25 m Length of cable: 50 m	mm <sup>2</sup> mm <sup>2</sup> mm <sup>2</sup>	3 x 1.5 3 x 2.5 –	3 x 2.5 3 x 2.5 –	5 x 1.0 5 x 1.5 5 x 2.5	5 x 1.5 5 x 2.5 5 x 2.5	3 x 2.5 – –	3 x 1.5 3 x 2.5 –
<p>* The values stated are emission values and as such do not necessarily constitute values which are safe for the workplace. Although there is a correlation between emission levels and environmental impact levels, whether further precautions are necessary cannot be derived from this. Factors influencing the actually present environmental impact level in the workplace include the characteristics of the work area and other noise sources, i.e. the number of machines and other neighbouring work processes. The permitted workplace values can likewise vary from country to country. This information is intended to assist the user in estimating hazards and risks.</p>							



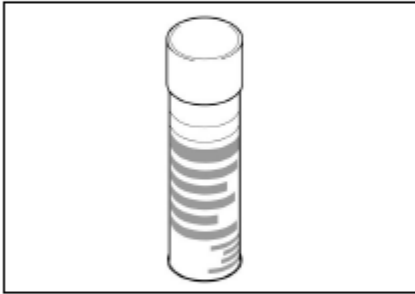
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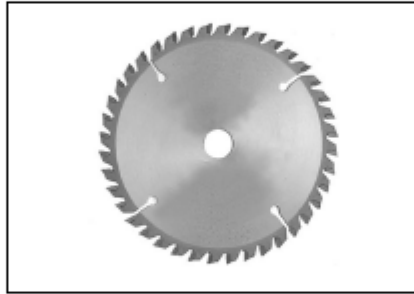
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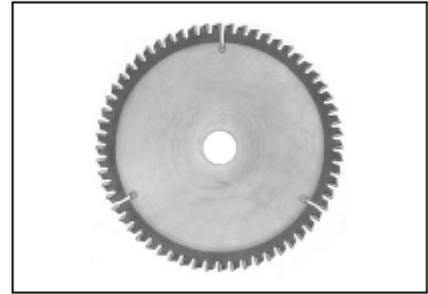
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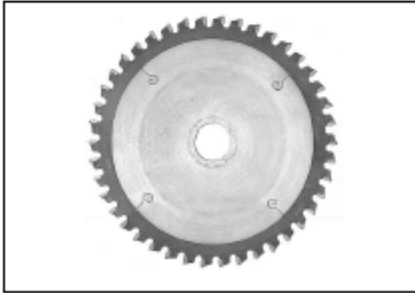
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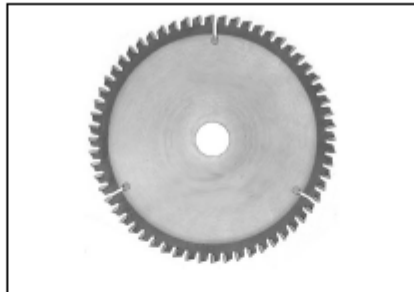
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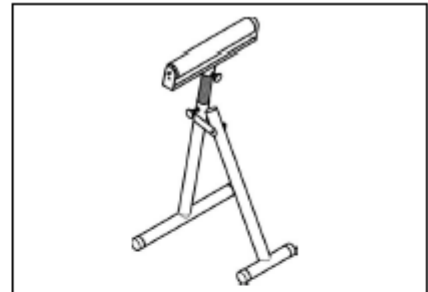
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