

# RYOBI®

ORIGINAL INSTRUCTIONS  
**Cut-off Machine**

RCO2300



## **Important!**

It is essential that you read the instructions in this manual before assembling, operating, and maintaining the product.

Subject to technical modifications.



Safety, performance, and dependability have been given top priority in the design of your cut-off machine.

## INTENDED USE

The cut-off machine is intended to be used for cutting metal materials. Do not use for non-metal materials.

The product is intended to be used only by adult operators who have read the instruction manual and understand the risks and hazards.

The product is intended to be fixed at the base to a solid bench top. If the base is not securely fixed the whole machine may move during cutting operations, which increases the possibility of serious personal injury.

The product is to be used in dry conditions, with excellent ambient lighting and adequate ventilation.

The product is intended for consumer use and should only be used as described above and is not intended for any other purpose.

## GENERAL POWER TOOL SAFETY WARNINGS

### ⚠ WARNING

**Read all safety warnings, instructions, illustrations and specifications provided with this power tool.** Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

**Save all warnings and instructions for future reference.** The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

### WORK AREA SAFETY

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### ELECTRICAL SAFETY

- **Power tool plugs must match the outlet.** Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of

electric shock.

- **Do not abuse the cord.** Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

### PERSONAL SAFETY

- **Stay alert, watch what you are doing and use common sense when operating a power tool.** Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- **Prevent unintentional starting.** Ensure the switch is in the off -position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- **Dress properly.** Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

### POWER TOOL USE AND CARE

- **Do not force the power tool.** Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was



designed.

- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools and accessories.** Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

## SERVICE

- **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.

## CUT-OFF MACHINE SAFETY WARNINGS

- **Position yourself and bystander away from the plane of the rotating wheel.** The guard helps to protect the operator from broken wheel fragments and accidental contact with wheel.
- **Use only bonded reinforced cut-off wheels for your power tool.** Just because an accessory can be attached to your power tool, it does not assure safe operation.
- **The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.** Accessories running faster than their rated speed can break and fly apart.
- **Wheels must be used only for recommended applications.** For example: do not grind with the side of a cut-off wheel. Abrasive cut-off wheels are

intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.

- **Always use undamaged wheel flanges that are of correct diameter for your selected wheel.** Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage.
- **The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool.** Incorrectly sized accessories cannot be adequately guarded or controlled.
- **The arbour size of wheels and flanges must properly fit the spindle of the power tool.** Wheels and flanges with arbour holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.
- **Do not use damaged wheels.** Before each use, inspect the wheels for chips and cracks. If the power tool or wheel is dropped, inspect for damage or install an undamaged wheel. After inspecting and installing the wheel, position yourself and bystanders away from the plane of the rotating wheel and run the power tool at maximum no load speed for one minute. Damaged wheels will normally break apart during this test time.
- **Wear personal protective equipment.** Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and shop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtrating particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.
- **Keep bystanders a safe distance away from work area.** Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken wheel may fly away and cause injury beyond immediate area of operation.
- **Position the cord clear of the spinning accessory.** If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning wheel.
- **Regularly clean the power tool's air vents.** The motor's fan can draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.
- **Do not operate the power tool near flammable materials.** Do not operate the power tool while placed on a combustible surface such as wood. Sparks could ignite these materials.
- **Do not use accessories that require liquid coolants.** Using water or other liquid coolants may result in electrocution or shock.

## KICKBACK AND RELATED WARNINGS

- Kickback is a sudden reaction to a pinched or snagged rotating wheel. Pinching or snagging causes rapid



stalling of the rotating wheel which in turn causes the uncontrolled **cutting unit** to be forced upwards toward the operator.

- For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. Abrasive wheels may also break under these conditions.
- Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.
- **Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces.** The operator can control upward kickback forces, if proper precautions are taken.
- **Do not position your body in line with the rotating wheel.** If kickback occurs, it will propel the cutting unit upwards toward the operator.
- **Do not attach a saw chain, woodcarving blade, segmented diamond wheel with a peripheral gap greater than 10 mm or toothed saw blade.** Such blades create frequent kickback and loss of control.
- **Do not "jam" the wheel or apply excessive pressure.** Do not attempt to make an excessive depth of cut. Overstressing the wheel increases the loading and susceptibility to twisting or binding of the wheel in the cut and the possibility of kickback or wheel breakage.
- **When the wheel is binding or when interrupting a cut for any reason, switch off the power tool and hold the cutting unit motionless until the wheel comes to a complete stop.** Never attempt to remove the wheel from the cut while the wheel is in motion otherwise kickback may occur. Investigate and take corrective action to eliminate the cause of wheel binding.
- **Do not restart the cutting operation in the workpiece.** Let the wheel reach full speed and carefully re-enter the cut. The wheel may bind, walk up or kickback if the power tool is restarted in the workpiece.
- **Support any oversized workpiece to minimize the risk of wheel pinching and kickback.** Large workpieces tend to sag under their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel.

#### ADDITIONAL SAFETY WARNINGS

- Ensure that the product is always used on a stable and level surface.
- Always use eye and ear protection when cutting.
- Use personal protective equipment such as dust mask, gloves and apron.
- If there is the risk of falling object, wear helmet or head protection.
- Ensure that the abrasive cutting-off wheel is correctly

fitted and tightened before use and run the machine at no-load for 30 seconds in a safe position, and to stop immediately and replace the cutting-off wheel if there is considerable vibration.

- Before making a cut, be sure all adjustments are secure.
- Before performing any adjustment, make sure the tool is unplugged from the power supply. Failure to unplug cut-off machine could result in accidental starting causing possible serious personal injury.
- Assemble all parts to your cut-off machine before connecting it to power supply.
- The product should never be connected to power supply when you are assembling parts, making adjustments, installing or removing wheels, or when not in use.
- Visually inspect the abrasive wheel before every use. Check the wheel for fissures and cracks. Do not use damaged abrasive wheel.
- Do not use saw blades.
- Never use a wheel that is too thick to allow outer flange to engage with the flats on the spindle. Larger wheels will come in contact with the wheel guards, while thicker wheels will prevent the bolt from securing the wheel on the spindle. Either of these situations could result in a serious accident and can cause serious personal injury.
- Do not remove the machine's wheel guards. Never operate the machine with any guard or cover removed. Make sure all guards are operating properly before each use.
- Do not start your abrasive cut-off machine without checking for interference between the wheel and the machine base support. Damage may result to the wheel if it strikes the machine base support during operation of the machine.
- Do not attempt to cut wood or masonry with this cut-off machine. Never cut magnesium or magnesium alloy with this machine.
- Do not tighten wheel excessively, since this can cause cracks.
- Always ease the abrasive wheel against the work piece when starting to cut. A harsh impact can break the wheel.
- Never cut more than one work piece at a time. Do not stack more than one work piece on the machine base at a time.
- To minimise risk of tipping the machine, always support long work pieces.
- Cutting steel will cause sparks. Do not operate in the presence of combustible or flammable materials.
- Never leave tool running unattended. Do not leave tool until it comes to a complete stop. The wheel continues to rotate after the product is switched off.
- Always release the power switch and allow the wheel to stop rotating before raising it out of the work piece.
- Keep hands away from cutting area. Keep hands away from wheel. Do not reach underneath work or around or under the wheel while the wheel is rotating. Do not



attempt to remove cut material while wheel is moving.

- Never stand or have any part of your body in line with the path of the wheel.
- Never stand on the tool. Serious injury could occur if the tool is tipped or if the wheel is unintentionally contacted.
- Never perform any operation "freehand". Always secure the work piece to be cut in the vice. Refer to specifications table for safe minimum size of work piece. Always ensure you grip at least 80 mm in the vice jaws to ensure security while grinding.
- Never hand hold a work piece, it will become very hot while being cut.
- A power spike causes voltage fluctuations and may affect other electrical products in the same power line. Connect the product to a power supply with an impedance equal to 0.233 Ω to minimize voltage fluctuations. Contact your electric power supplier for further clarification.
- It is recommended that the tool always be supplied via a residual current device having a rated residual current of 30mA or less.

**RYOBI recommends that you use Metal cutting Disc COSB355A1 as a replacement whenever you need a new disc.**

#### SAFETY WARNINGS FOR FITTING AN ABRASIVE WHEEL

- To reduce the risk of injury, user must read and comply with instructions, warnings and operator's manual before starting to use this abrasive wheel. Failure to heed these warnings can result in wheel breakage and serious personal injury. Save these instructions.
- The use of any wheel other than the one recommended in the machine instruction manual may present a risk of personal injury. Use only abrasive wheels which have marked speed equal or greater to that marked on the machine.
- Never use abrasive wheel that is too thick to allow outer flange to engage with the flats on the spindle. Larger wheels will come in contact with the wheel guards, while thicker wheels will prevent the bolt from securing the wheel on the spindle. Either of these situations could result in a serious accident and can cause serious personal injury.
- This abrasive wheel is for ferrous metal cutting only. Do not attempt to cut wood or masonry with it. Never cut magnesium or magnesium alloy with it.
- This abrasive wheel is only suitable for dry cutting, and should use it before the date of expiry (marking on label e.g. 11/2021).
- Do not use damaged abrasive wheels, do not use wheels that are chipped, cracked or otherwise defective.
- Ensure that the abrasive cutting-off wheel is correctly fitted and tightened before use.
- The direction of rotation of the abrasive wheel is

indicated on the tool, make sure the direction mark on wheel is consistent with the direction identified on the tool while installing and changing abrasive wheel.

- Do not tighten abrasive wheel excessively, since this can cause cracks.
- The saw should never be connected to power supply when you are installing or removing abrasive wheels.
- Store your spare abrasive wheels carefully; they are easily damaged.

#### Information available on the abrasive wheel label

The information on the wheel label is IMPORTANT. Read and check it carefully to ensure you are selecting the correct type of wheel.

1. Manufacturer, supplier, importer or trade mark
2. Nominal dimensions of abrasive wheel, in particular the diameter of the bore
3. Abrasive type, grain size, grade or hardness, type of bond and use of reinforcement e.g.
  - 41A24RBF80
  - 41--- abrasive type, flat cutting-off wheel
  - A --- abrasive material: brown corundum
  - 24 --- grain size
  - R --- grade or hardness
  - BF --- type of bond
  - 80 --- maximum operating speed m/s
4. Maximum operation speed in metres per second
5. Maximum permissible speed of rotation in 1/min
6. For declaration of conformity, the abrasive products shall be marked with EN 12413
7. Restriction of use and safety warning symbols.
8. Traceability code, eg. A production/batch number, expiry date or series number

#### RESIDUAL RISKS

Even when the product is used as prescribed, it is still impossible to completely eliminate certain residual risk factors. The following hazards may arise in use and the operator should pay special attention to avoid the following:

- Stability. Ensure the tool is stable, if necessary secure it.
- Inhalation of dust. Wear a mask if necessary.
- Sparks and hot metal particles, these can cause fire, skin burns. Wear protective equipment during using.
- Eye injury from metal particles. Wear eye protection when working.
- Hearing injury – restrict exposure and wear appropriate hearing protection.

#### KNOW YOUR PRODUCT

See page 8.

1. Handle, insulated gripping surface
2. Trigger switch
3. Top handle
4. Spindle lock
5. Cutting depth adjustment screw



# Safety

6. Cutting depth lock nut
7. Mitre guide
8. Wrench
9. Upper guard
10. Lower guard
11. Cutting wheel
12. Work clamp
13. Work clamp lock lever
14. Work clamp adjustment crank
15. Rubber foot
16. Saw head lock chain
17. Mounting hole
18. Carbon brush cap
19. Carbon brush
20. Chip deflector
21. Mitre guide lock lever

## OPERATION TIPS

### MITRE GUIDE LOCK LEVER

When the mitre guide is placed closest to the saw head pivot, the mitre guide lock lever may interfere with the head pivot when turning. Repeat the locking process by lifting and rewinding the lever until the mitre guide is tightly locked.

## MAINTENANCE

- Do not modify the product in any way or use accessories not approved by the manufacturer. Your safety and that of others may be compromised.
- Do not use the product if any switches, guards or other functions does not work as intended. Return to an authorised service centre for professional repair or adjustment.
- Do not make any adjustments while the motor is in motion.
- Always make sure the machine's plug has been removed from the mains power source before changing brushes, lubricating or when doing any works or maintenance on the machine.
- After each use, check your machine for damage or broken parts and keep it in top working condition by repairing or replacing parts immediately.
- Ensure that ventilation openings are kept clear, especially when working in dusty conditions. If it becomes necessary to clear dust, disconnect the product from the mains supply. Clean the openings using a soft brush.
- Clean out accumulated dust.
- To assure safety and reliability, all repairs with the exception of externally accessible brushes should be performed by an authorised service centre.
- If the power cord is damaged, it must be replaced by an authorised service centre in order to avoid a hazard.

### ⚠ WARNING

For greater safety and reliability, all repairs should be performed by an authorised service centre.

## ENVIRONMENTAL PROTECTION



Recycle raw materials instead of disposing of as waste. The machine, accessories and packaging should be sorted for environmental-friendly recycling.

## SYMBOLS



Safety alert



Regulatory Compliance Mark (RCM). Product meets applicable regulatory requirements.



Please read the instructions carefully before starting the product.



Class II tool, double insulation



Wear ear protection



Wear eye protection.



Not for wet grinding or cutting



Do not use chipped, cracked or defective grinding wheel



Wear safety gloves



Wear dust mask.



Do not expose to rain or use in damp locations.



Cutting-off wheel rotation direction (shown on wheel guard)



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

## SYMBOLS IN THIS MANUAL



Lock



Unlock



Waiting time for blade to reach full speed



Parts or accessories sold separately



Note



Warning

The following signal words and meanings are intended to explain the levels of risk associated with this product:

### DANGER

Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

### WARNING

Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

### CAUTION

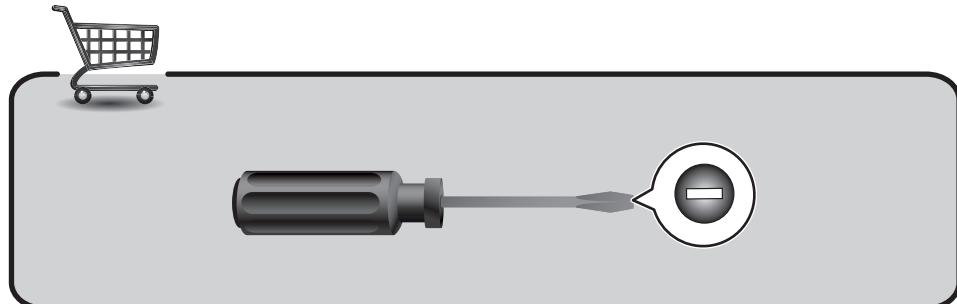
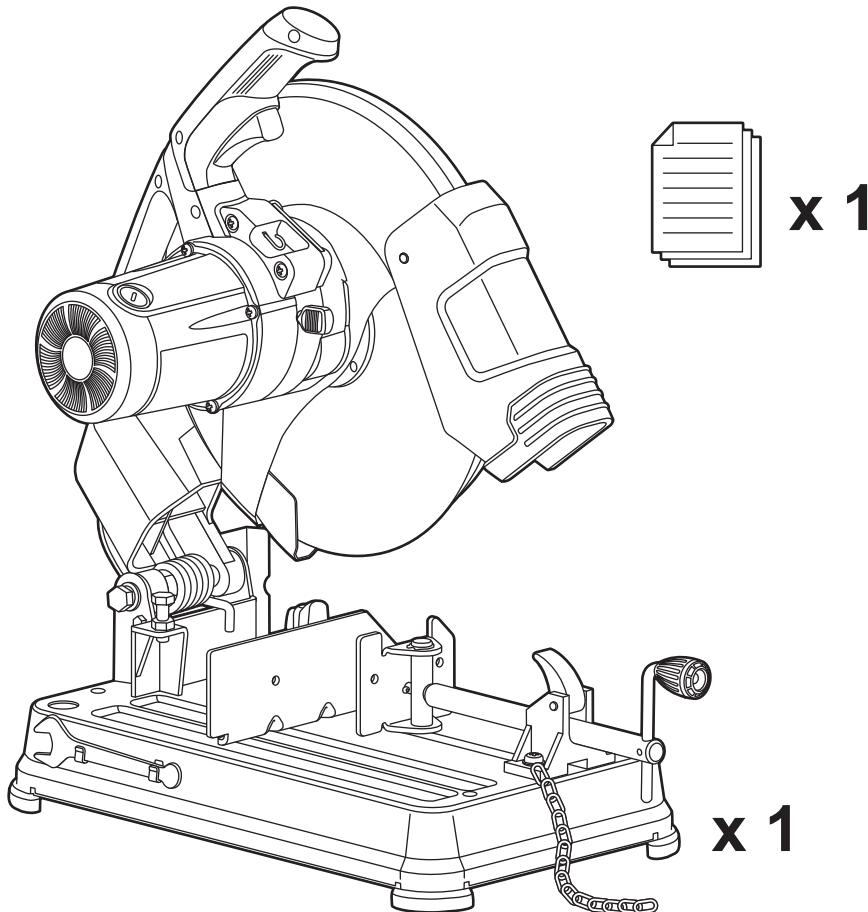
Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.

### CAUTION

(Without Safety Alert Symbol) Indicates a situation that may result in property damage.

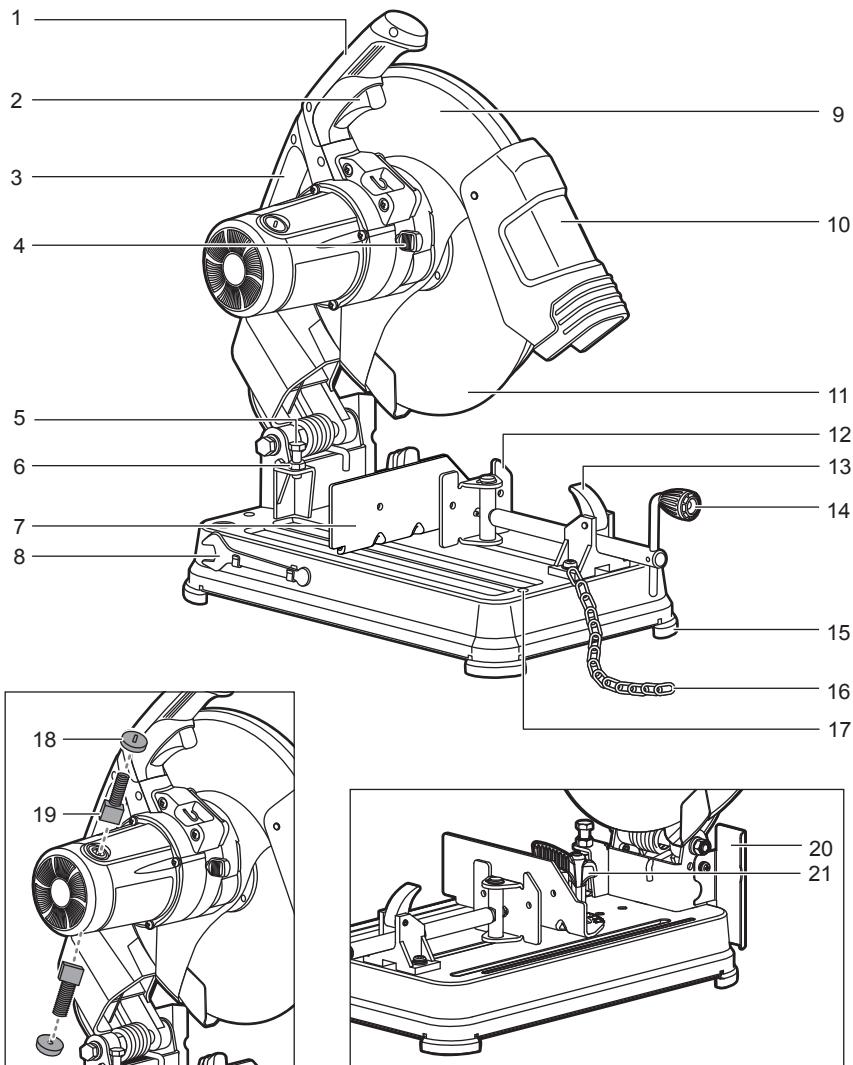


## Unpacking



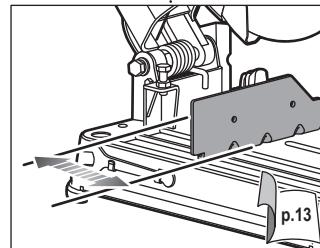
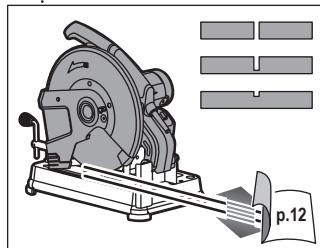
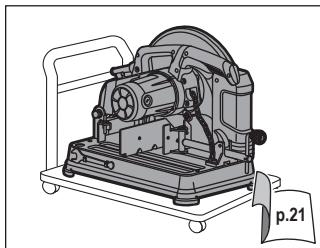
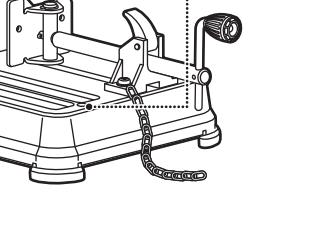
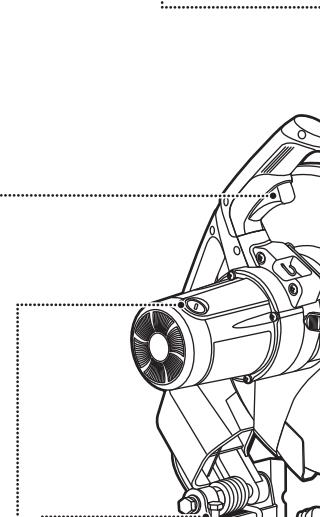
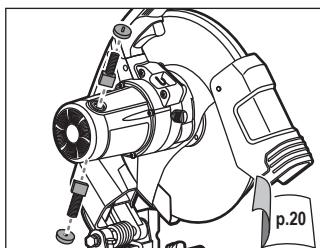
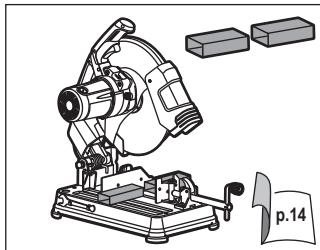
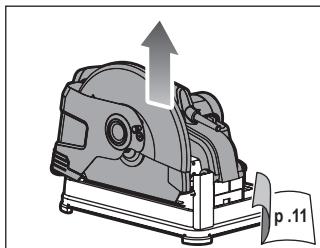
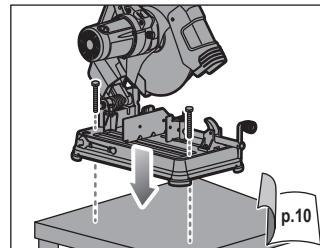
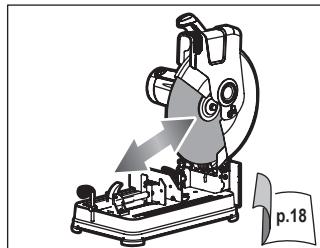
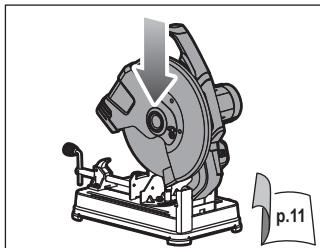


## Know your product



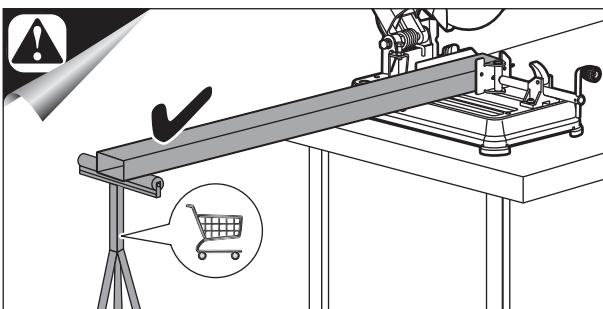
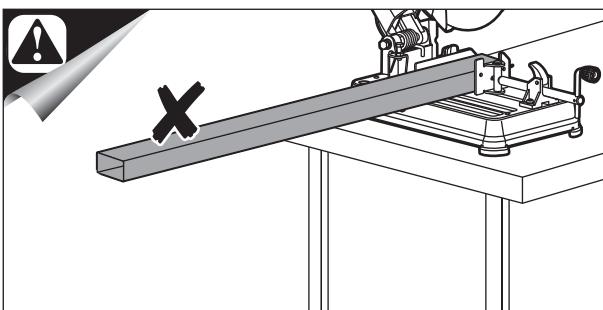
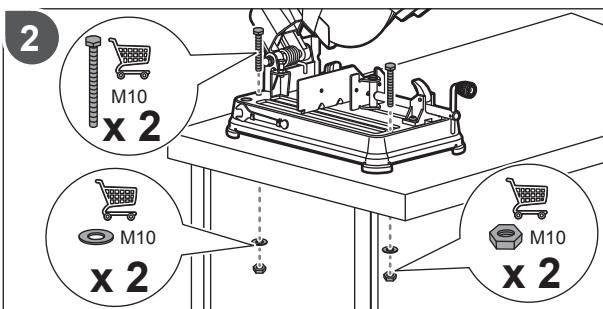
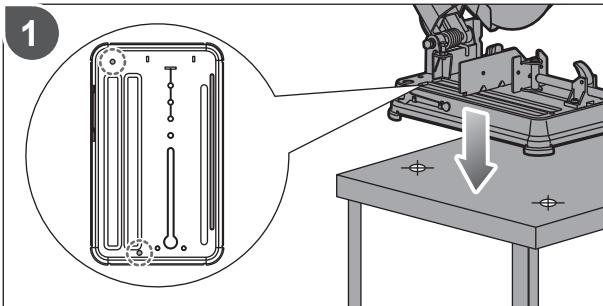
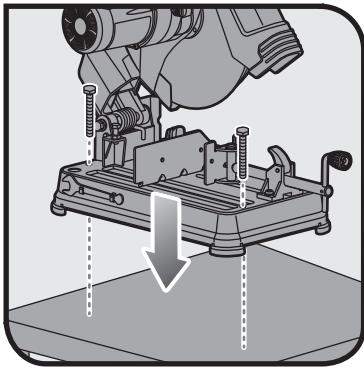


## Overview



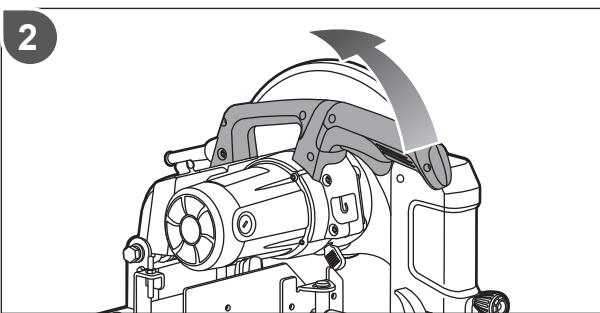
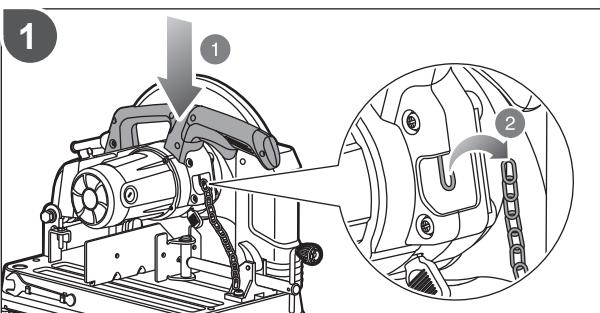
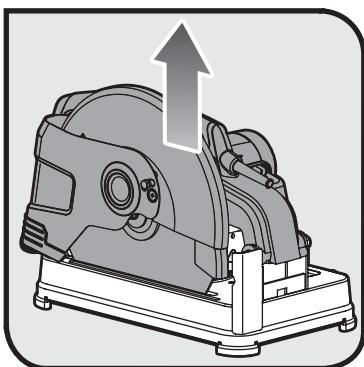
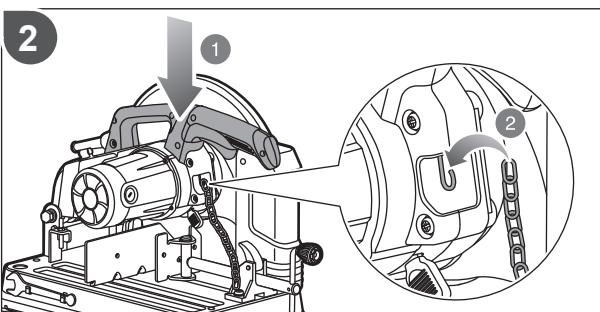
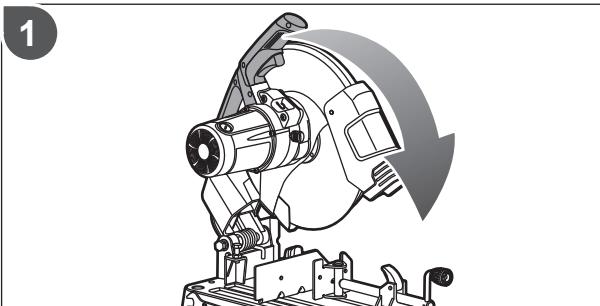
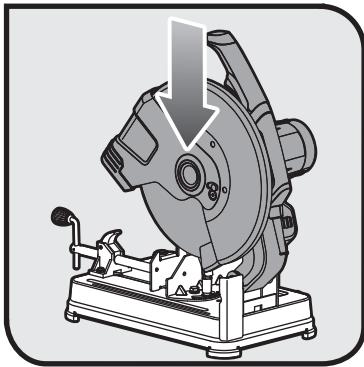


## Operation



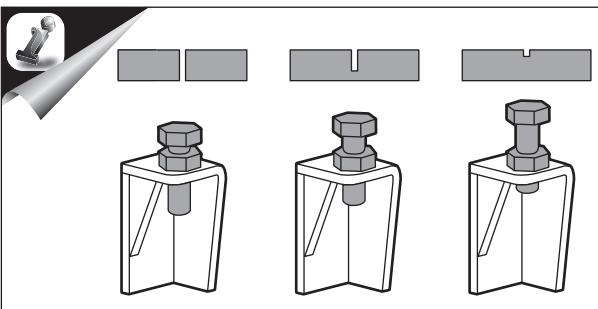
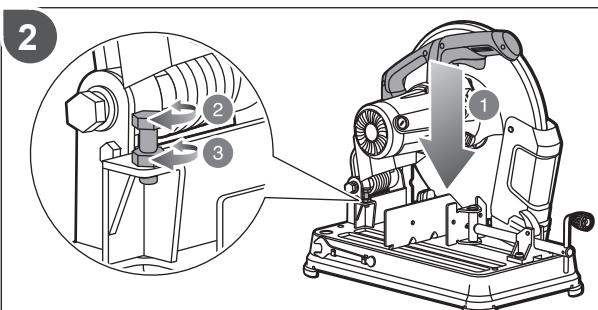
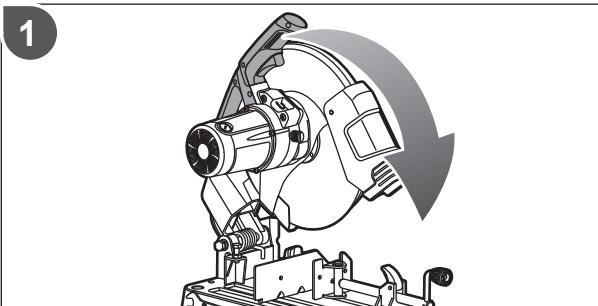
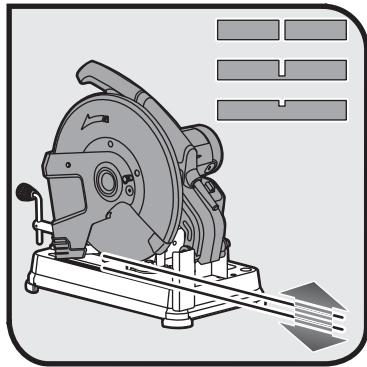


## Operation



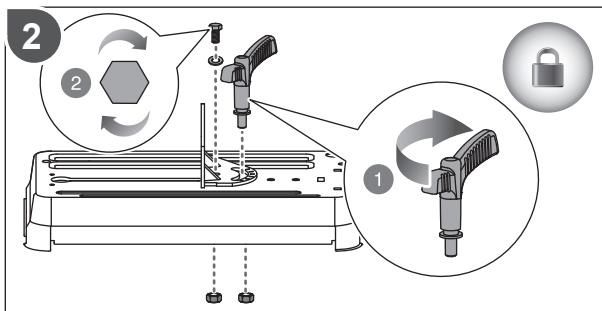
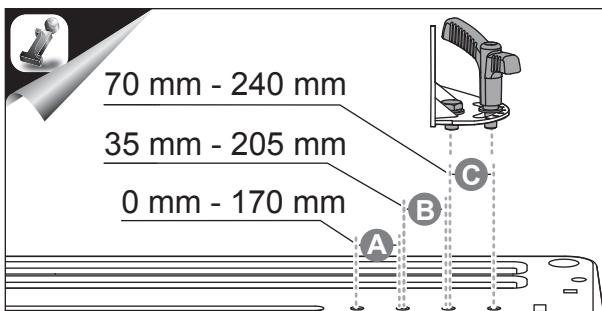
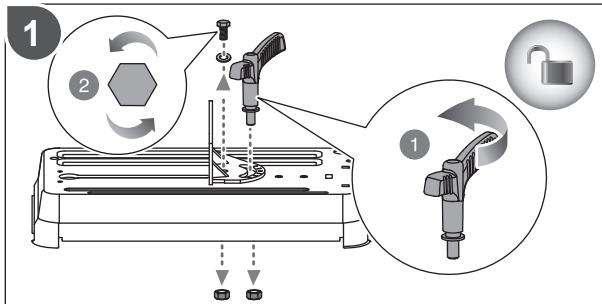
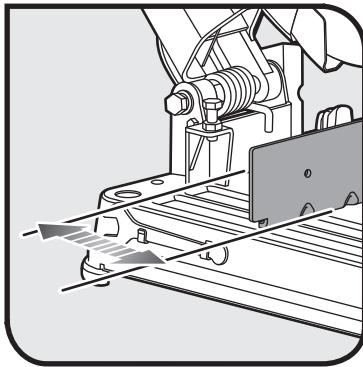


## Operation



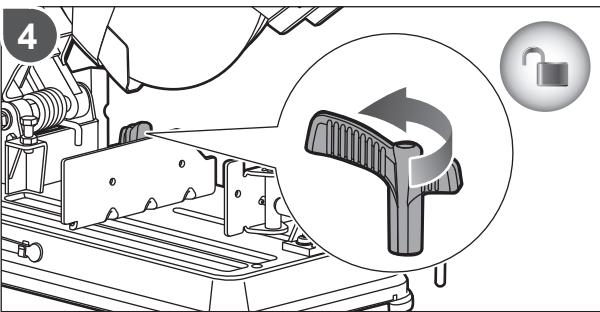
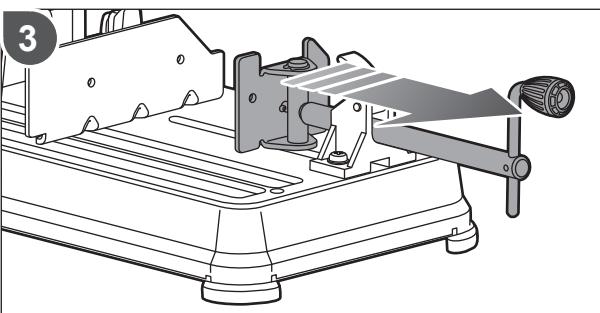
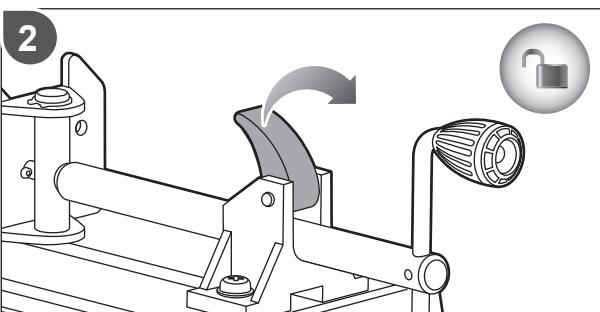
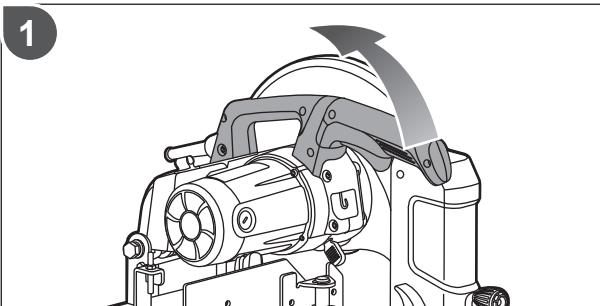
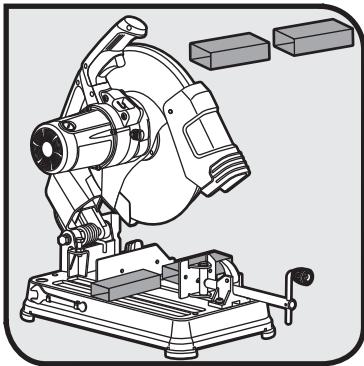


## Operation



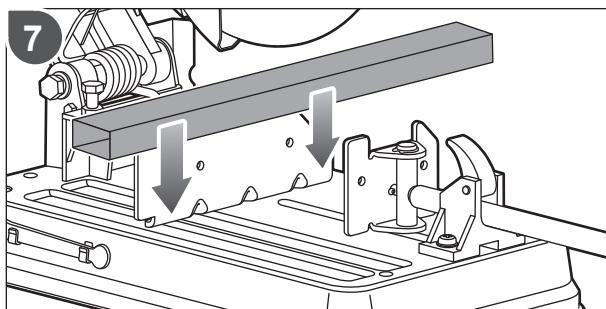
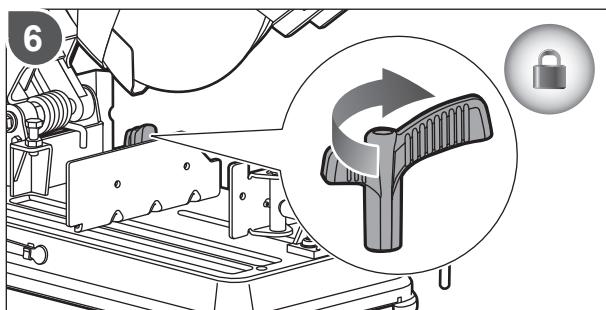
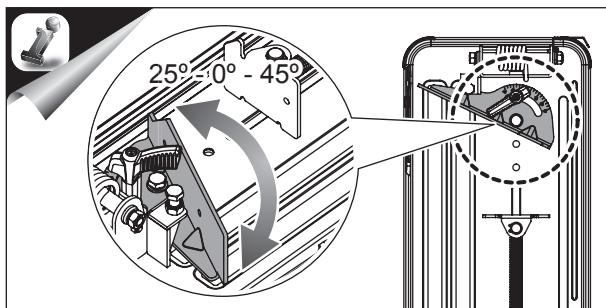
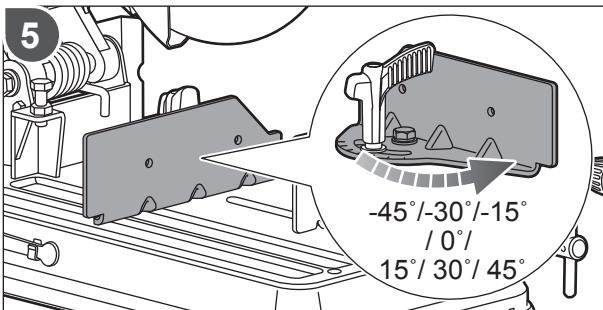


## Operation



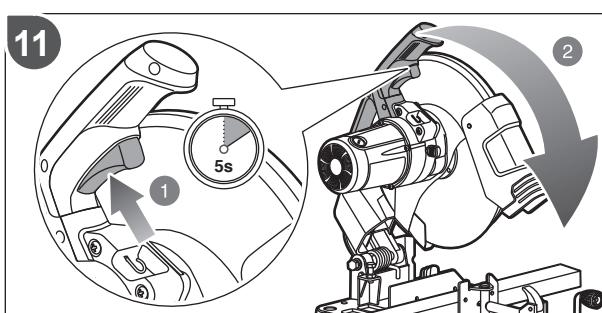
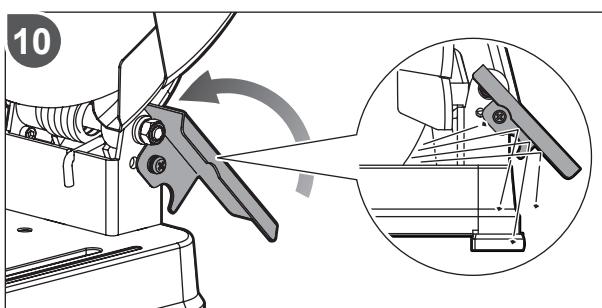
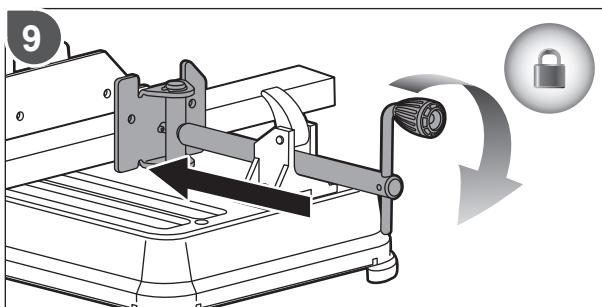
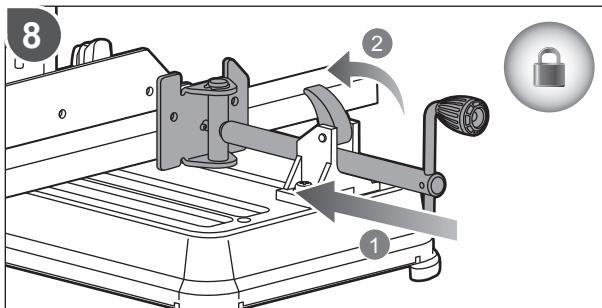


## Operation





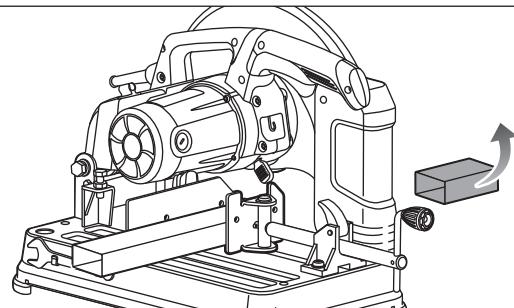
## Operation



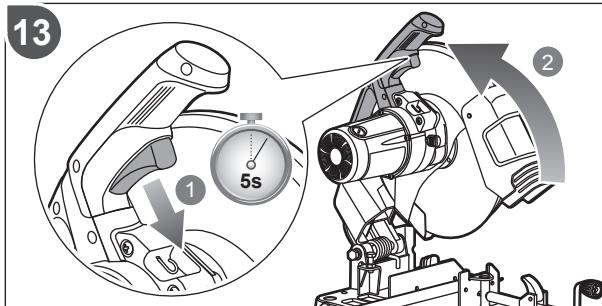


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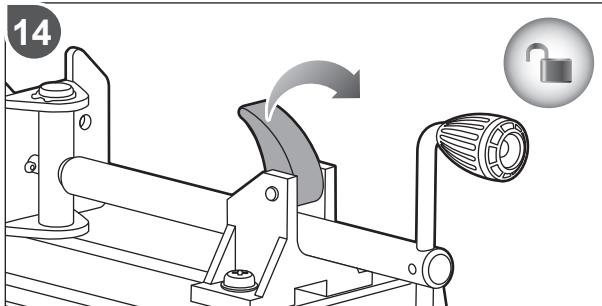
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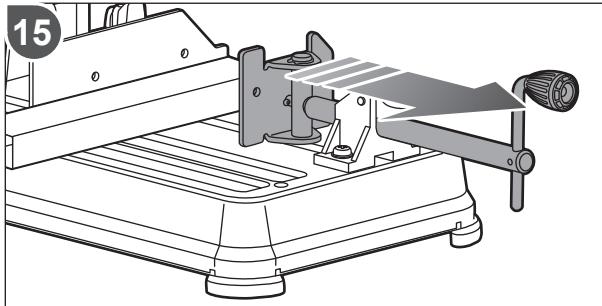
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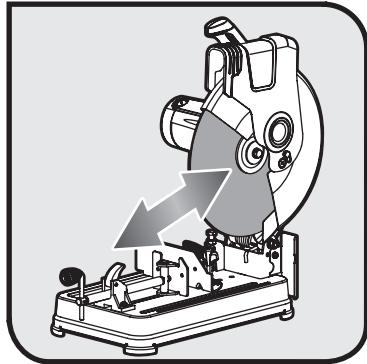


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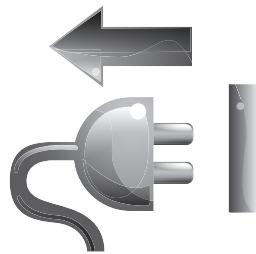




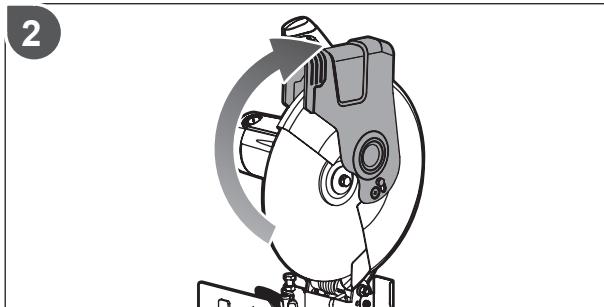
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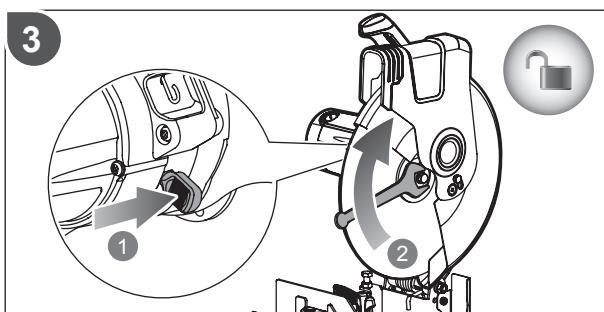
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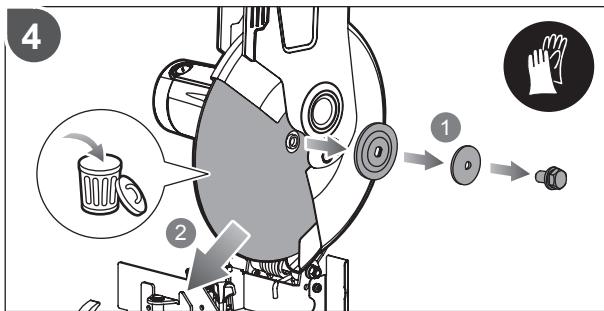
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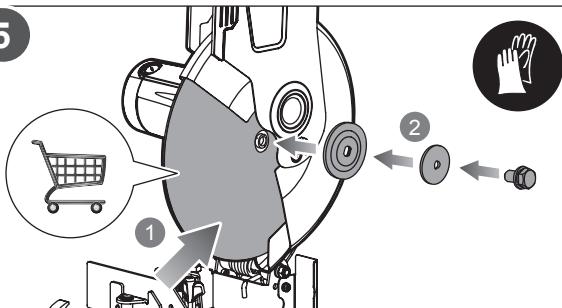
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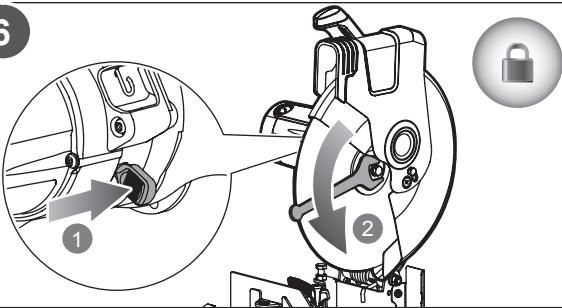


## Maintenance

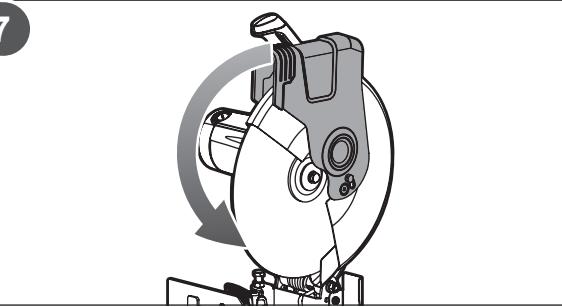
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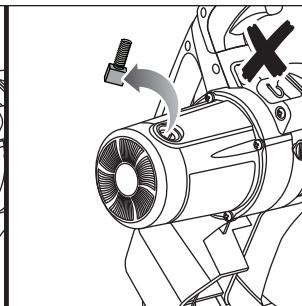
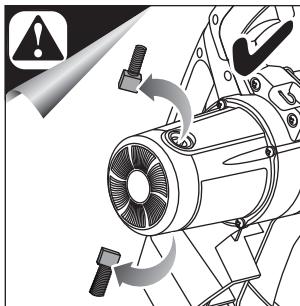
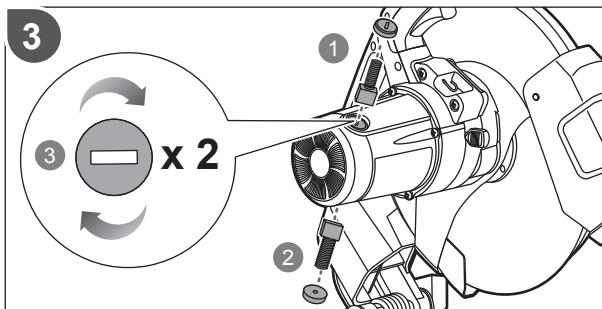
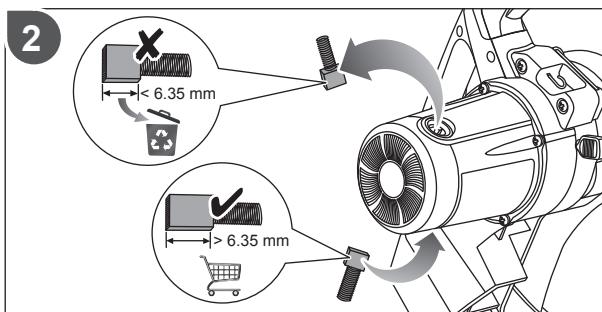
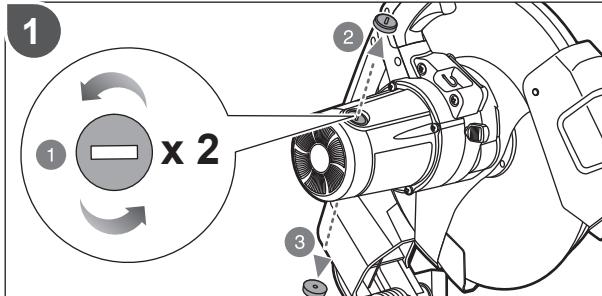
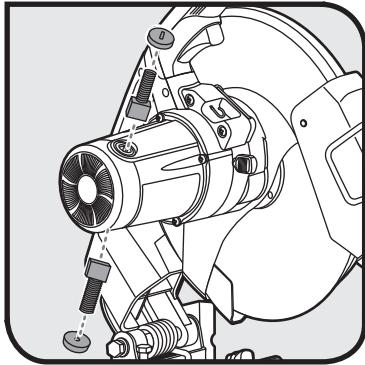


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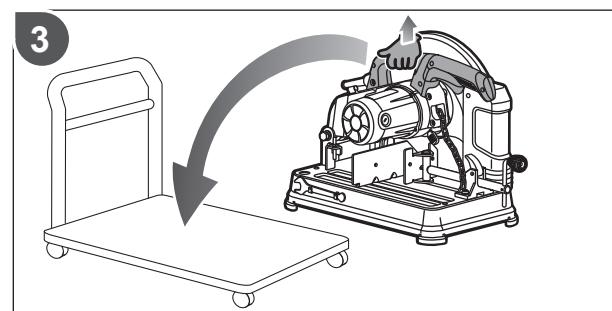
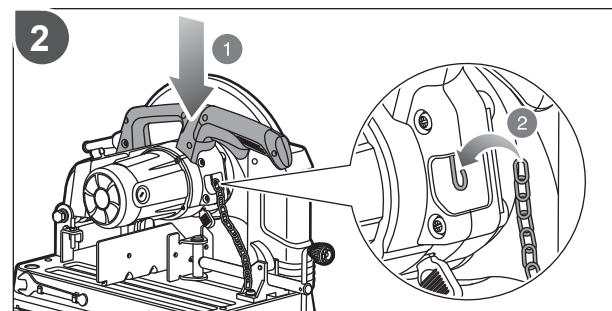
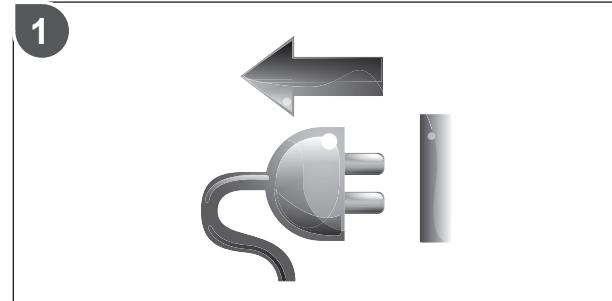
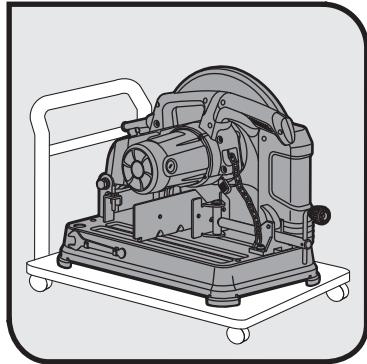


## Maintenance





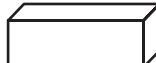
## Maintenance



## PRODUCT SPECIFICATIONS

Cut-off machine	
Model	RCO2300
Net weight	17.5 kg
Wheel type	Type 41 reinforced abrasive wheel
Wheel diameter	355 mm
Wheel thickness	3.0 mm
Arbor hole	25.4 mm
No-load speed	4280 min <sup>-1</sup>
Input	220V - 240V ~ 50 Hz
Power	2,300 W
Fence angle	Right 45° / Left 45°
Vice clamp angle	Right 45° / Left 45°

Minimum workpiece dimensions:



115 mm (L) x 3 mm (W)  
x 3 mm (H)



115 mm (L) x 3 mm (ø)

Measured values  
determined according to  
EN 62841

A-weighted sound pressure  
level

$L_{pA} = 91.5 \text{ dB(A)}$

Measured values  
determined according to  
EN 62841

A-weighted sound power  
level

$L_{WA} = 104.5 \text{ dB(A)}$

Uncertainty K

3 dB(A)

## PRODUCT SPECIFICATIONS

Cutting wheel	COSB355A1
Carbon brush	089210131043

## Maximum cutting capacity

Cutting angle				
90°	115 mm	105 mm	105 mm x 115 mm	125 mm
45°	105 mm	90 mm	90 mm x 105 mm	95 mm

## NOISE LEVEL



The declared noise emission value(s) have been measured in accordance with a standard test method of EN 62841-1 and EN 62841-3-10, and may be used for comparing one tool with another. The declared noise emission value(s) may also be used in a preliminary assessment of exposure.

The noise emissions during actual use of the power tool can differ from the declared values depending on the ways in which the tool is used especially what kind of workpiece is processed.

Identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

Wear ear protectors. Exposure to noise can cause hearing loss.









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