

Instruction Manual

MAKO Tools™

250mm SLIDING MITRE SAW

Model SROM 1196



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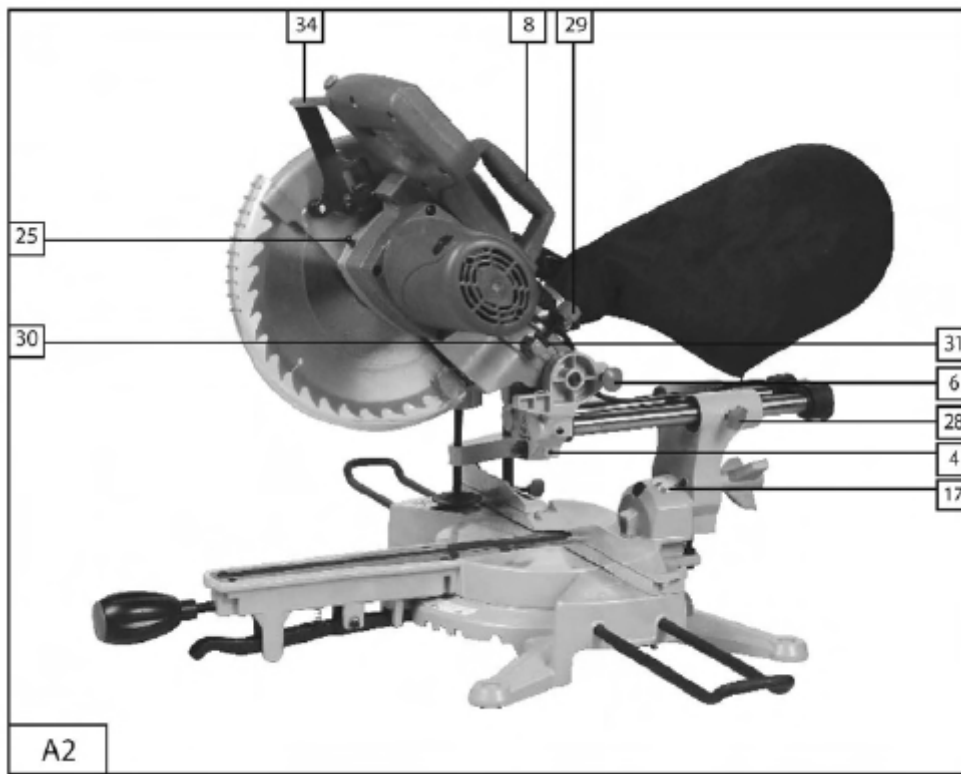
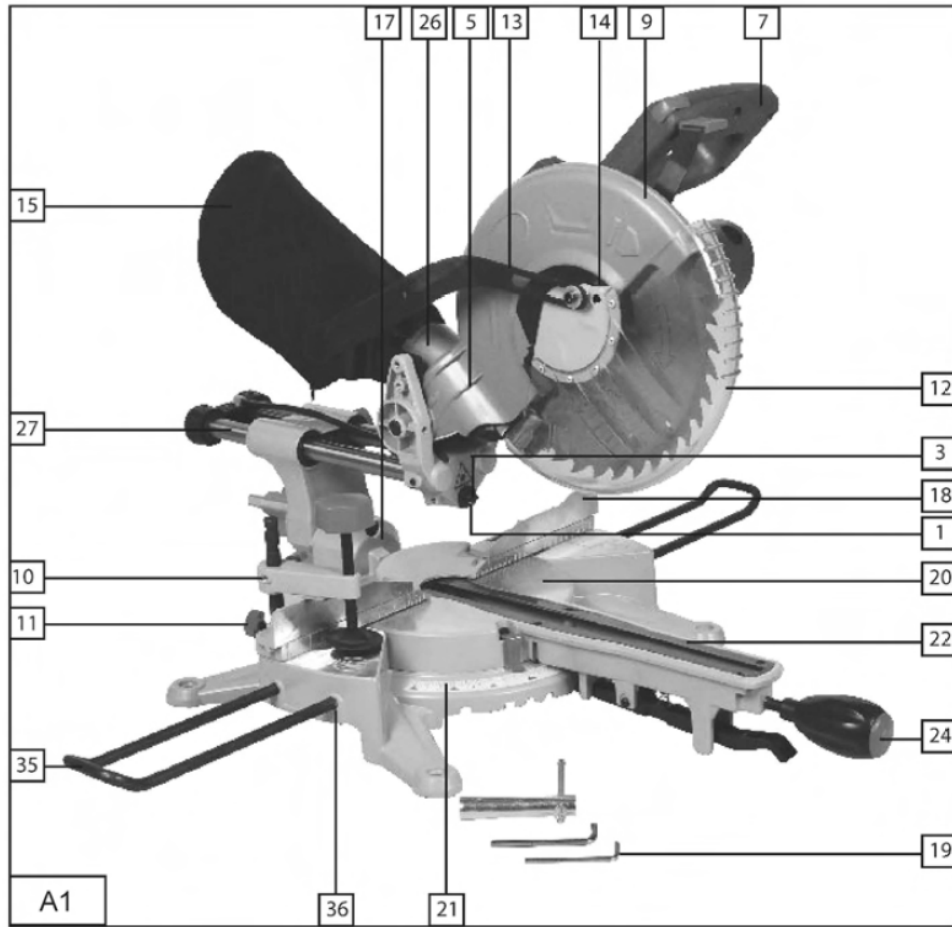
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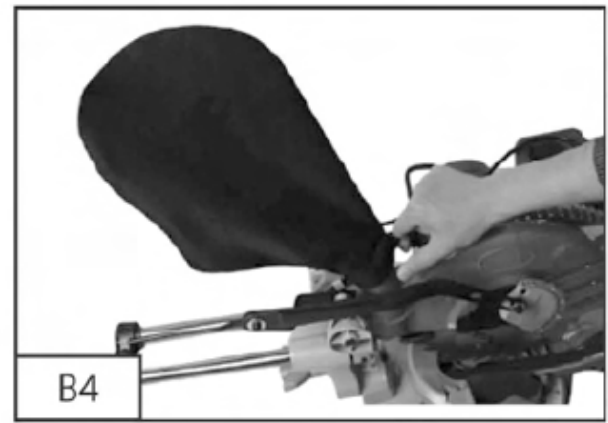
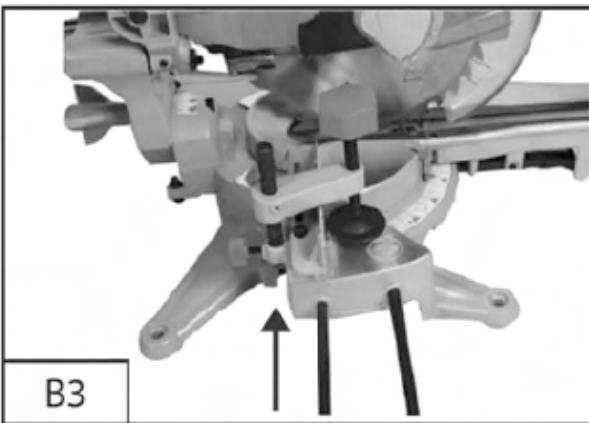
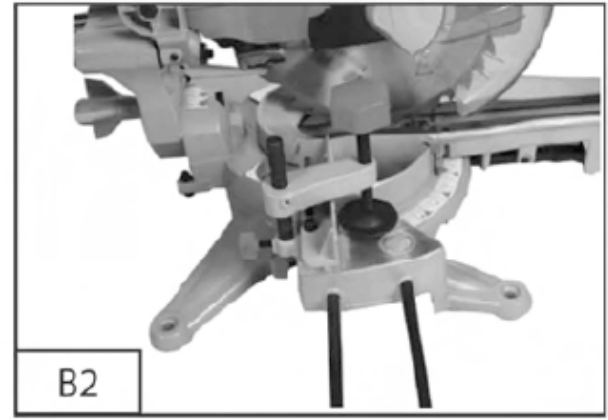
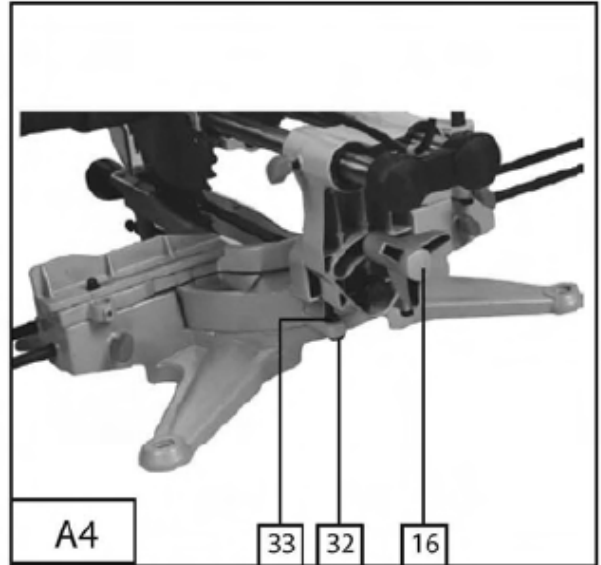
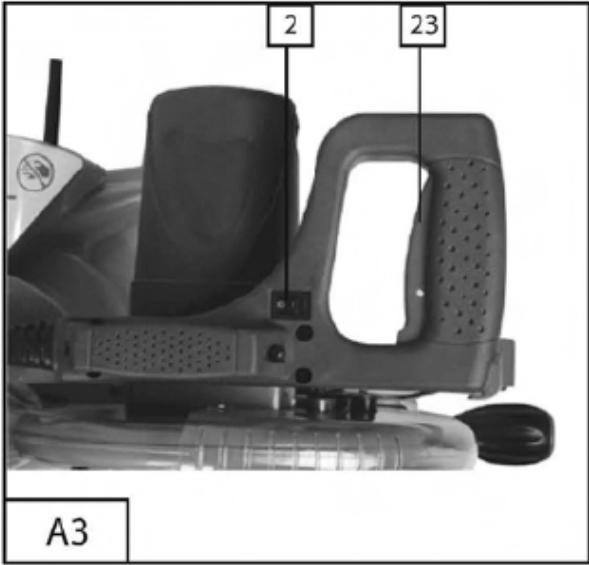
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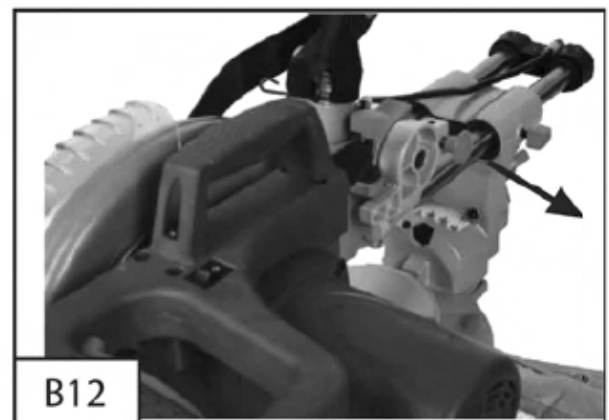
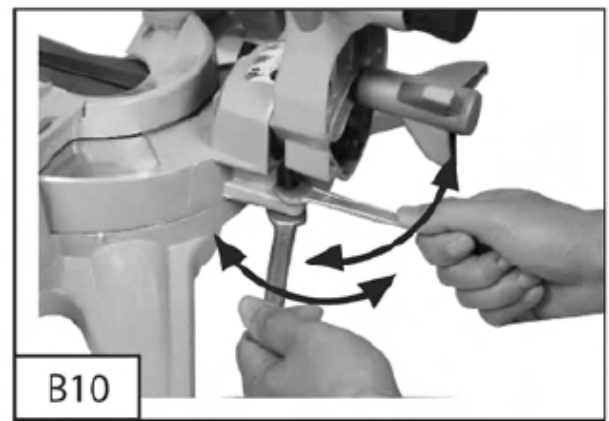
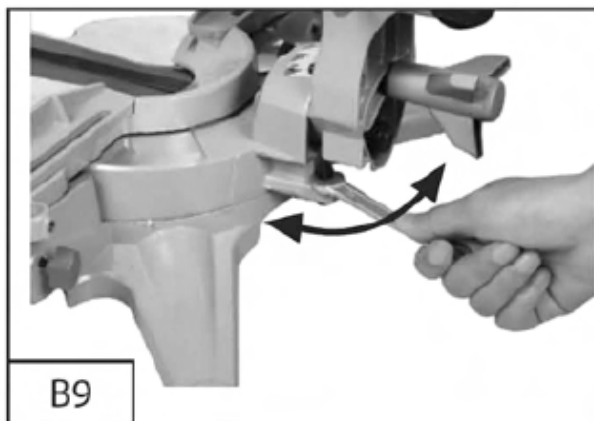
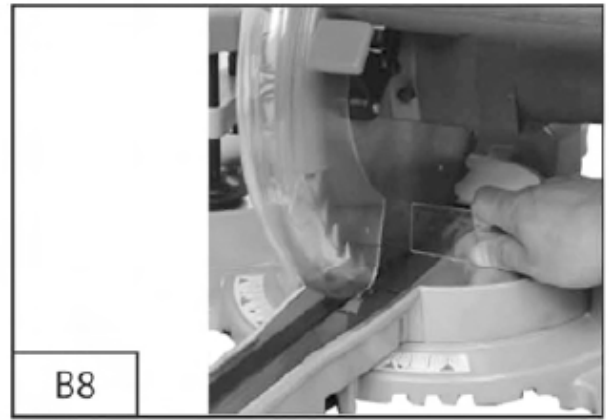
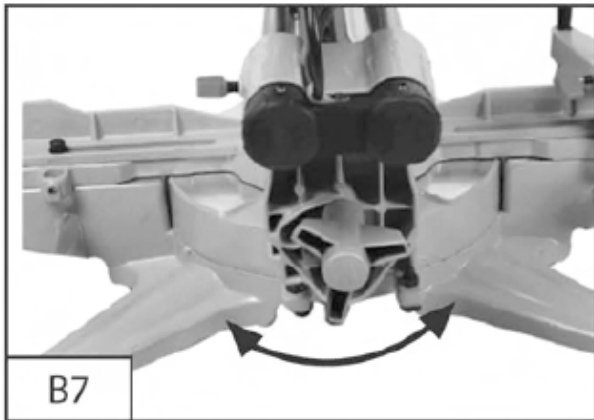
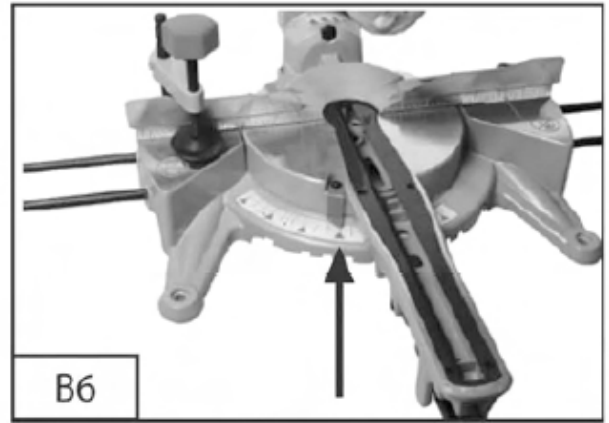
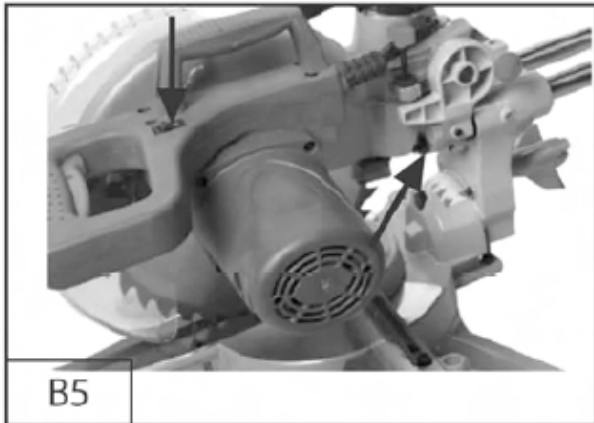
All Mako Power Tools are backed by a comprehensive 2 year DIY warranty. If for any reason you experience a fault with this power tool, please contact the retailer that it was purchased from, and present the receipt for a full refund or replacement. **The warranty is void** if damage is not attributable to normal wear and tear, **if the tool is used commercially**, the motor is overloaded or is tampered with, is damaged by accident or if it is bought second hand. Continued use after partial failure, or use with the incorrect accessories will void the warranty.

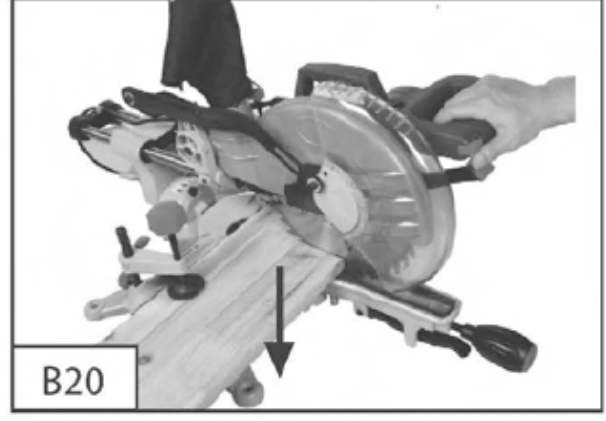
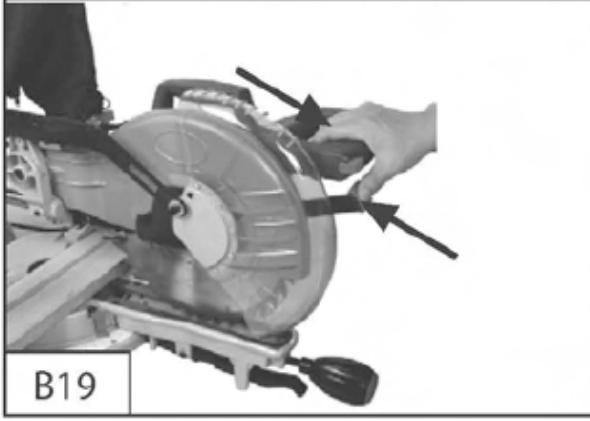
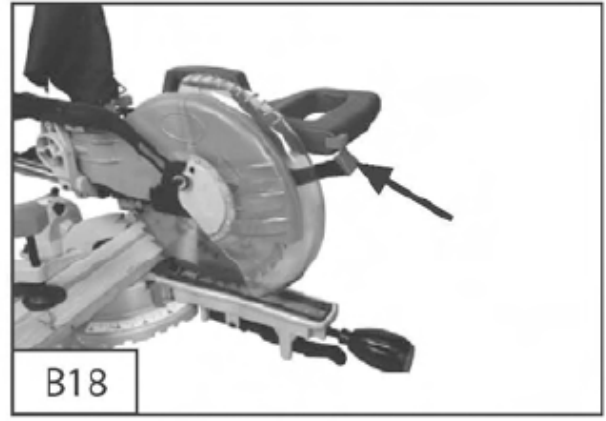
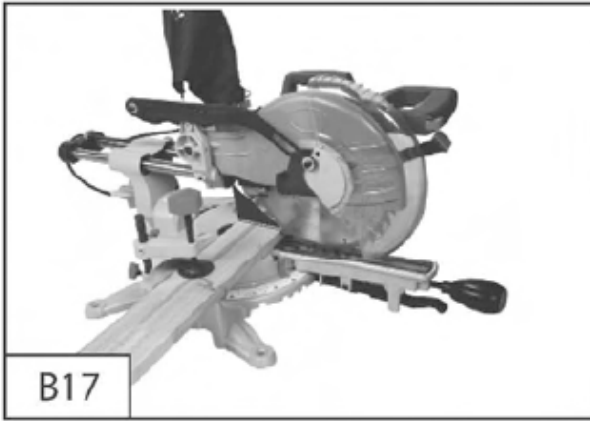
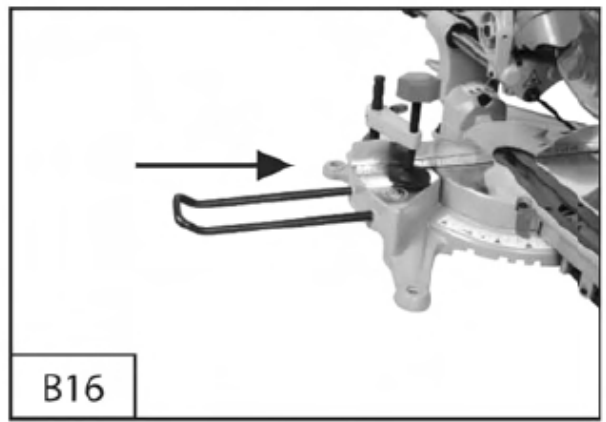
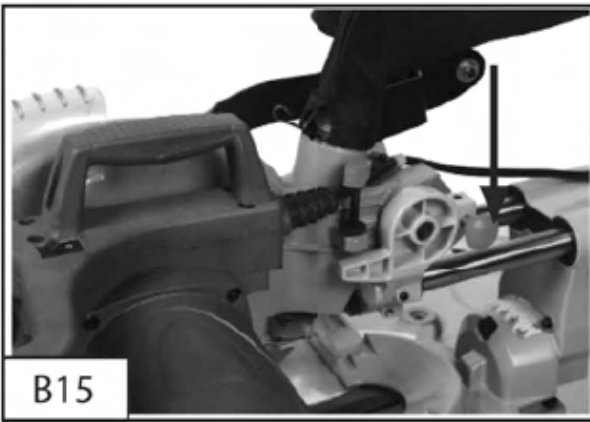
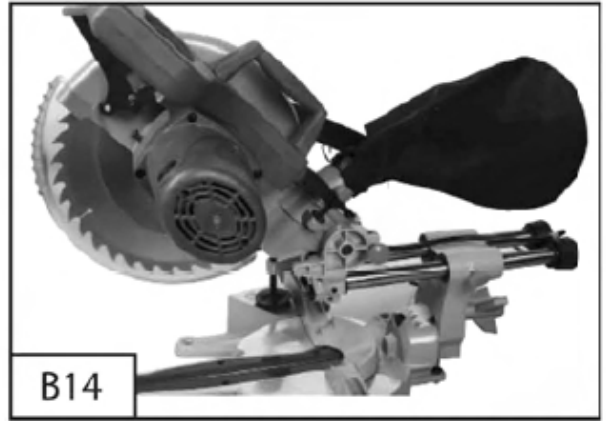
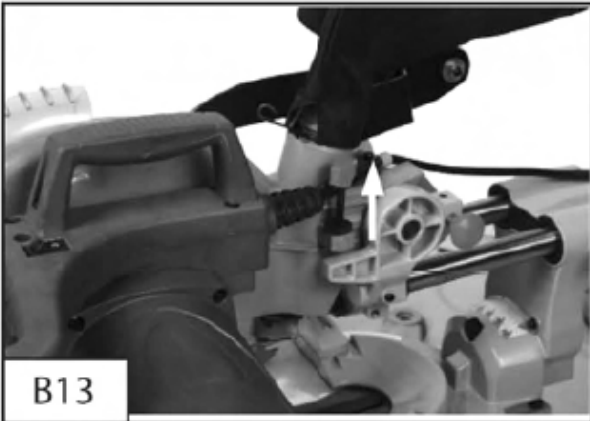
This warranty excludes all Mako accessories, which are covered by their own appropriate warranties.

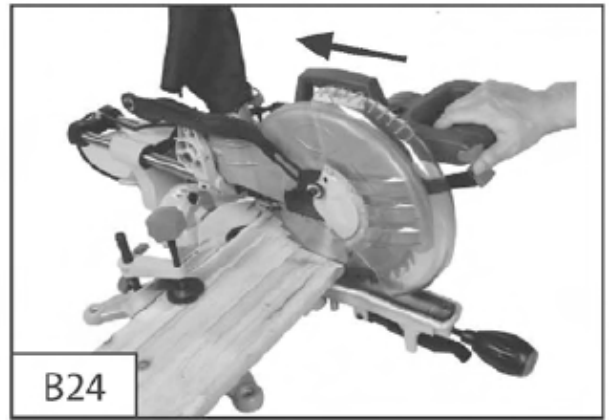
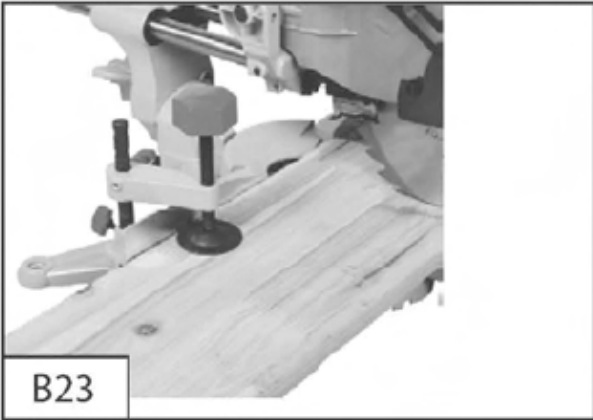
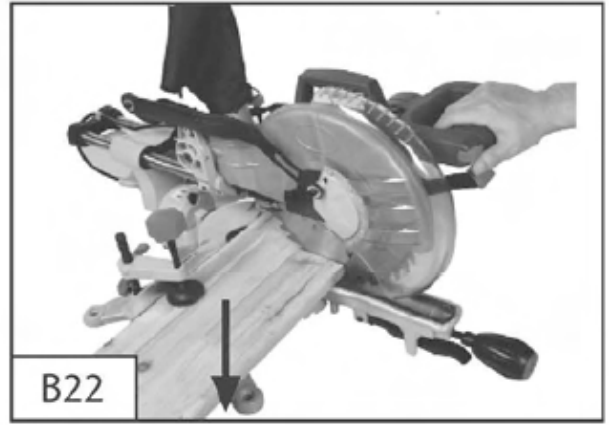
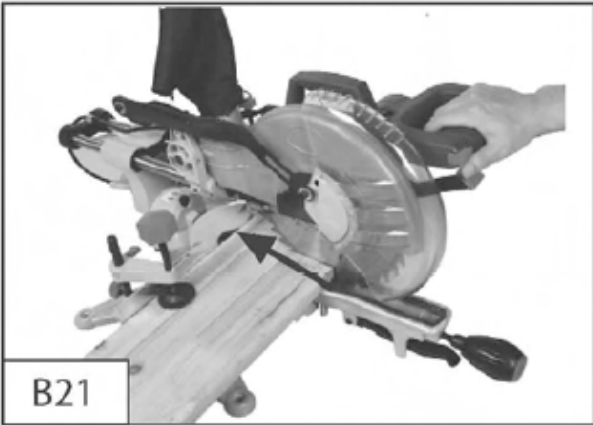
MAKO TOOLS ARE FOR DIY USE ONLY. THEY ARE NOT DESIGNED OR APPROVED FOR INDUSTRIAL OR COMMERCIAL USE.











CONTENTS:

1. Safety Instructions and Warnings
2. Accessories
3. Machine components
4. Proper usage
5. General Safety Instructions
6. Special Safety Instructions
7. Before starting
8. Transport
9. Assembly
10. Working with the Sliding Miter Saw
11. Maintenance & Cleaning
12. Mako Mitre Saw Technical Data

DESCRIPTION OF SYMBOLS:



Please read all of the safety and operating instructions carefully before using this mitre saw. Please pay particular attention to all sections of this User Guide that carry warning symbols and notices.

	Observe caution and safety notes!
	Caution - electric shock! Danger to life!
	IMPORTANT: Do not look straight into the laser. Laser Class II
	Wear hearing protection, dust protection mask, protective glasses and protective gloves.
	Keep children away from electrical power tools!
	Protect electrical power tools from moisture!
	Check that the device, mains lead and plug are in good condition!
	Safety class II
	Dispose of packaging and appliance in an environmentally friendly way!

1. SAFETY INSTRUCTIONS AND WARNINGS:

The equipment complies with the safety regulations required for electrical equipment.

Read through the instructions for use before starting up the equipment.

Improper use can lead to personal Injury and property damage. Persons who are not familiar with the instructions may not operate the equipment. Keep the instructions for use in safe custody. Children and youths are not permitted to operate the equipment

2. ACCESSORIES:

This Sliding Mitre Saw is supplied with the following accessories:

Saw Blade – 60 tooth (fitted)

Dust Collection Bag

Work Clamp

Side Support Bar (2x)

Hex Key (for blade changing)

3. MACHINE COMPONENTS:

- | | |
|--------------------------------------|--|
| 1. Laser | 19. Hexagonal wrench |
| 2. ON/OFF switch for the laser light | 20. Mitre bench |
| 3. Laser cover | 21. Mitre scale |
| 4. Laser adjustment | 22. Bench insert (slotted plate) |
| 5. Sawing arm | 23. ON/OFF switch for machine |
| 6. Release knob | 24. Mitre angle lock |
| 7. Control lever | 25. Spindle locking button |
| 8. Carry handle | 26. Outlet for dust extractor |
| 9. Top guard (fixed) | 27. Guide rails |
| 10. Hold Down Clamp | 28. Slide lock |
| 11. Lock for hold down clamp (2x) | 29. Setting screw for cutting depth |
| 12. Swinging lower guard | 30. Depth stop |
| 13. Guard control arm | 31. Lock nut |
| 14. Cover for saw blade screws | 32. Setting screw for sawing head angle |
| 15. Chip bag | 33. Stopper for 90° lock |
| 16. Vertical angle lock | 34. Release lever for saw blade guard |
| 17. Vertical angle scale | 35. Side supports (2x) |
| 18. Stop | 36. Positioning holes for side supports (2 pr) |

4. PROPER USE:

This machine is designed for crosscutting wood and plastic in sizes corresponding to the machine size. It is not suitable for cutting firewood.

Use only saw blades which are suitable for the machine. Do not use cutting discs.

The manufacturer assumes no liability whatsoever for improper use, or if the machine has been tampered with.

Give equal attention to the safety instructions, assembly and operating instructions as well as all prevailing accident preventions regulations.

5. GENERAL SAFETY INSTRUCTIONS:

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Keep your work area clean and well lit to prevent accidents.
- Don't use electric devices close to flammable liquids or gases, or in wet or damp environments. If you fail to observe this, there is danger of fire or explosion.
- Never leave the device running unattended.
- Never use the device when you are tired or lack concentration or if your reactions are impaired due to consumption of alcohol or medication. Lack of attention can lead to serious injury.
- Keep the tools clean and in good working order in order to be able to work better and safer.
- Don't wear bulky clothing or jewellery.
- Make sure you can stand stably and have shoes that won't slip.
- Use a head cover if you have long hair. Loose clothing, jewellery, and long hair can become entangled in moving parts.
- Always wear safety goggles.
- Wear a dust mask when working with materials that produce dust.
- Wear ear protection if a lot of noise is produced.
- Persons using the machines must not be distracted. This could cause one to lose control over the tool.
- Don't use any device that has a faulty on/off switch. An electric tool that can no longer be switched on or off is dangerous and must be repaired.
- Always switch the device on before coming into contact with the material.
- Remove keys and adjusting tools before switching on the device.
- Never overload the machine. If the speed drops, unload the machine or switch it off. You will work safer and better with the appropriate electric tool in a specific area of application.
- Stop the workpiece from turning, for example with a clamping device or a vice. Don't work on any workpiece that is too small to clamp in place. If you hold the workpiece with your hand, then you can't operate the tool safely.
- Keep electric tools out of the reach of children.
- Only use accessories recommended by the manufacturer.
- The mains voltage must correspond to the information on the machine's type plate.
- Avoid body contact to grounded elements, e.g. pipes, radiators, stoves, and refrigerators to prevent an electric shock
- Never carry the device by the cable. Only pull the cable from the receptacle with the plug. Protect the cable from oil, heat, and sharp edges. Damaged cables can cause an electric shock.
- Check the device and power cable for damage before starting work.
- When plugging in the tool, make sure that the operating switch is not in the ON position.
- Only use approved extension cables when using the device outside.
- When using a cable drum, unwind it entirely in order to prevent the cable from heating up. The minimum suitable wire gauge is 1.5 mm².

- **When working outside it is recommended that the tool always be supplied via a residual current device with a rated current of 30mA or less.**
- Pull out the plug when you are not using the device, or are making adjustments.
- Always guide the cable away from the back of the tool.
- Ensure that the socket outlet that the tool is connected to is always accessible during use.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

6. SPECIAL SAFETY INSTRUCTIONS:

- Never use the crosscut mitre saw for cutting materials other than those specified by the manufacturer.
- Only use the saw if the guards are in the correct position and if the saw is in good condition and has been serviced correctly.
- Ensure that the equipment for swinging the arm on mitre saws is securely fastened.
- The floor around the machine must be flat, clean and clear of loose particles such as chips and off-cuts.
- Ensure that there is reasonable lighting in the workplace or room.
- The operator must have received adequate training in the use, setting and operation of the machine.
- Ensure that you only use spacing discs and spindle rings which are suitable for the purpose and specified by the manufacturer.
- The laser must not be replaced by a laser of a different type. Repairs may only be carried out by the manufacturer of the laser or an authorised representative.
- Damaged or deformed saw blades must not be used.
- Replace worn table inserts.
- Use only saw blades which are recommended by the manufacturer and comply with EN 847-1.
- Do not use saw blades made of high speed steel.
- The crosscut mitre saw must be connected to a dust extraction system for sawing wood.
- Always position the workpiece securely on the machine surface to prevent the workpiece moving.
- Use an additional support for long work pieces (for example a table or saw stool) to prevent the machine from tipping over. Do not ask other people to hold the workpiece.
- Place the machine on a strong, flat working area before use.
- Check whether the moving parts of the machine are in perfect working order and that no parts are damaged.
- Check the direction of rotation of the motor and saw blade.
- Replace defective saw blades immediately.
- Keep your hands fingers and arms away from the rotating saw blade.
- Do not reach behind the stop rail near the saw blade, the distance between your hand and the rotating saw blade is too small for this.
- Only saw one workpiece at a time. Work pieces placed on top of each other or side by side cannot be clamped correctly and they may jam the saw blade or move relative to each other.
- Keep the cutting track free of obstacles both at the top and the bottom.
- Do not saw work pieces which contain nails or similar foreign bodies.

- Always work to the side of the saw blade.
- Ensure that the off-cuts can be removed to the side of the saw blade so that they do not become caught in the saw blade.
- Always switch off the machine and pull the plug to rectify problems or remove jammed pieces of wood. Only then can you remove the jammed workpiece.
- Do not overload the machine so that it comes to a standstill.
- Protect the saw blade from impacts and shocks. Do not exert any lateral pressure on it.
- Caution: The saw blade will continue to turn after the machine has been switched off.
- The saw blade will become very hot during use. Do not touch it until it has cooled down.
- Select the appropriate saw blade for the material that you wish to saw.

7. BEFORE STARTING:

- Assemble the machine in a stable position, in other words on a workbench, a sub-frame or the like. Secure it if you wish to use the machine on a stationary basis.
- Before starting the machine, check that all covers and safety equipment are correctly fitted.
- The saw blade must be able to run freely.
- Check all the moving parts to ensure that they move easily
- Before you connect the machine, check the information on the rating plate against the mains data.

8. TRANSPORT:

Only lift the mitre saw if the sawing arm is locked in its lowered position, the saw is switched off and the mains plug has been pulled.

The saw may only be lifted using the carry handle (8) or the external cast parts. Do not hold the saw by the safety hood or control lever (7) to lift it. **[B1]**

9. ASSEMBLY:

ASSEMBLY ON THE WORKBENCH

There are holes on the foot of the saw to make it easy to install it on a workbench.

Secure the saw on a straight flat workbench. **[B2]** Insert suitable screws (not supplied) through the installation holes in the foot of the saw for this purpose.

NOTE: If necessary you can also secure the saw to a piece of plywood with a minimum thickness of 13 mm. The plywood may be secured on a working area using clamps or transported to another workplace and secured there.

CAUTION: The fastening surface must be flat – an uneven surface may result in the saw blade jamming or imprecise cutting.

FITTING THE SIDE SUPPORTS [B3] AND DUST COLLECTION BAG [B4]

Slide the two guide rods into the side support holes as far as they will go. Periodically check that they are still fully inserted.

The chip bag (15) will fit on the vertical outlet at the rear of the blade housing (26). To ensure efficient operation, you should empty the chip bag when it is half full.

ADJUST BENCH PERPENDICULAR TO THE SAW BLADE

Pull the mains cable out of the socket.

Press the sawing arm (5) into the lowered position and press the release knob (6) to lock the sawing arm in its transport position. **[B5]**

Release the mitre angle lock (24).

Turn the mitre bench (20) until the pointer points to 0°. **[B6]**

Tighten the mitre angle lock (24).

Release the vertical angle lock (16) and set the sawing arm (5) to a vertical angle of 0° (in other words the saw blade is at an angle of 90° to the mitre bench), Tighten the vertical angle lock (16). **[B7]**

Hold set-square against the bench (20) and the flat part of the saw blade. (88)

NOTE: The set-square must touch the flat part of the saw blade, not its teeth.

Turn the saw blade by hand and check the correct alignment between the saw blade and the bench at several points.

The edge of the set-square should run parallel to the saw blade.

If the saw blade is not parallel to the bench, adjust as follows:

- Undo the lock nuts on the sawing head vertical angle (32) using a 13 mm wrench or an adjustable wrench. **[B9]**
- Undo the lock nut which is secured by the 0° vertical angle setting screw (33) using a 13 mm wrench or an adjustable wrench. Release the vertical angle lock (16). **[B10]**
- Adjust the screw on the sawing head vertical angle (32) with a screwdriver by turning it clockwise and anti-clockwise so that the saw blade is on the 90° set-square.
- Undo the screw which holds the pointer on the vertical angle scale (17) and set the pointer so that it points to zero. Tighten the screw again.
- Tighten the vertical angle lock (16) and the lock nut to secure the sawing head vertical angle (32).

NOTE: The above procedure can also be used to check the angle of the saw blade relative to the bench for a vertical angle of 45°. The 45° vertical angle setting screw (32) is on the other side of the sawing arm.

SWITCHING ON THE LASER LINE:

Switch on the ON/OFF switch for the laser light (2). **[B11]**

ADJUSTING THE CUTTING DEPTH

Release the swing head lock (6) by pulling it. The sawing head will swing upwards. **[B12]**

Swing the depth stop (30) outwards so that the setting screw (29) sits on the sawing head when it is pressed down. **[B13]**

Set the required cutting depth using the setting screw (29).

Secure the stop screw using the lock nut (31). **[B14]**

The full sawing depth can be achieved by swinging the depth stop into position. **[B15]**

SIDE SUPPORTS

Long pieces of wood can be supported using the side supports (35). **[B16]**

There are two positioning holes (36) on each side of the bench for the side supports.

The side supports must be completely inserted before a workpiece is placed on them.

10. WORKING WITH THE CROSSCUT AND MITRE SAW

WARNINGS:

- Do not look directly into the laser beam. Never direct the laser beam at people or objects other than the workpiece.
- Do not deliberately point the laser beam at people.
- Only point the laser beam at insensitive work pieces with a dull surface. Wood or rough surfaces are ideal for this. Shiny, reflective surfaces are not suitable for using a laser since the laser beam could be directed at the user by the reflective surfaces.
- Always switch off the laser when you have finished work at the ON/OFF switch light (2). Only switch on the laser beam if there is a workpiece on the mitre saw bench.
- Mark the cutting line on the workpiece.
- Adjust the mitre and vertical angle for the cut as required.

NOTE: To make a cut to the left of the saw blade, direct the left laser line along the pencil mark. To make a cut to the right of the saw blade, direct the right laser line along the pencil mark. **[B17]**

1. NORMAL SAWING

- a) Insert the mains plug into the socket. Switch on the ON/OFF switch for the laser light (2). **[B6]**
- b) Clamp the workpiece and align the saw blade along the mark on the workpiece using the laser line and then switch on the motor.
- c) Press the release switch (34). **[B18]**
- d) Lower the sawing arm.
- e) Press the ON/OFF switch (23). **[B19]**
- f) When the saw blade has reached its maximum speed (after around 2 seconds), lower it slowly through the workpiece. **[B20]** Push the sawing head backwards away from you as far as possible. **[B21]** Switch off the ON/OFF switch for the laser light (2) after you have completed the cut.
- g) Raise the sawing arm (50).

2. CROSS CUTS (WITHOUT USING THE SLIDE FUNCTION) **[B22]**

The slide function is not required for sawing narrow pieces of wood. Always make sure in these cases that the slide lock (28) is secure so that the swing arm cannot slide backwards and forwards.

- a) A cross cut is made across the grain of the workpiece. A 90° cross cut is carried out by setting the mitre bench to 0°.

For mitre cross cuts the bench must be set to an angle other than zero.

- b) Release the mitre angle lock (24). Turn the mitre bench (21) until the pointer points to the required angle. Tighten the mitre angle lock (24) again.

WARNING: The mitre angle lock must be tightened before the cut is carried out. Otherwise the bench can move during sawing which can result in serious injuries.

Place the workpiece flat on the bench with one edge securely against the guide rail (18). If the board is curved, place the side curving outwards against the guide rail (18). If the side which curves inwards is placed against the guide rail the board may snap and jam the saw blade.

- c) When sawing long boards, support the end of the board level with the saw bench using the side supports (35), a roller frame or a worktop.
- d) If possible use the clamping device (10) to clamp the workpiece securely. The clamping device (10) can be removed after the lock (11) has been undone and then fitted on the other side of the bench. When using the clamping device, ensure that its lock is secure.
Before you switch on the saw carry out a dry run of the sawing process to ensure that no problems occur. **[B23]**
- e) Hold the control lever (7) securely and press the release switch (23). Wait until the saw blade has reached maximum speed.
Press the release switch (34) and slowly lower the saw blade into the workpiece and through the workpiece. Let go of the release switch (23), wait until the saw blade has reached a standstill, and only raise the saw blade again at this point. Do not remove the workpiece until the saw blade has reached a standstill.

3. CROSS CUTS (WITH SLIDE FUNCTION) [B24]

For sawing wide work pieces the slide lock (28) must first be released.

Pull out the locking knob (6), raise the sawing arm (5) to its highest point and slide it towards you. Press the release switch (34) and slowly lower the saw blade onto the workpiece. Move the sawing head away from you as far as possible as you do so.

Let go of the release switch (23), wait until the saw blade has reached a standstill and only then raise the saw blade from the workpiece. Do not remove the workpiece until the saw has reached a complete standstill.

4. VERTICAL ANGLE CUTS [B25]

A vertical angle cut is carried out across the grain of the workpiece with the saw blade at a certain angle to the guide rail and the mitre bench. The mitre bench must be set to 0° and the saw blade must be set to an angle between 0° and 45°. Use the slide function for sawing wide work pieces.

Repeat steps 28 and 29 in **Point 3 - Cross Cuts (With Slide Function)**.

Release the vertical angle lock (16) and move the sawing arm (5) to the left to the required vertical angle between 0° and 45°. Tighten the vertical angle lock(16).

Repeat steps 30 and 31 from **Point 10 - Adjusting The Cutting Depth**.

5. COMBINED MITRE CUTS

The mitre angle and the vertical angle must both be set for combined mitre cuts.

This process is used, for example, to make picture frames, for cutting strips and for making crates using angled side walls and also for roof trusses. Always test the cut first using a piece of waste wood before you cut the actual material. Use the drag function for sawing wide work pieces.

11. MAINTENANCE AND CARE

CAUTION.

- Never attempt to use a saw blade which exceeds the maximum specified size for the saw. The saw blade could come into contact with the safety guard.
- Never use saw blades which are excessively thick which will prevent contact between the external saw blade washer and the flats of the spindle. This means that the saw blade cannot be secured correctly to the spindle with the saw blade bolt.
- Do not use the saw to cut metal or masonry.
- Please check that the spacers and spindle rings which may be required are suitable for the spindle and the saw blade you wish to use.
- The mains cable must always be disconnected from the mains supply when carrying out maintenance or removing and replacing the blade.

1. TO CHANGE SAW BLADES

- a) Press the control lever (7) downwards and pull the release knob (6) to release the sawing arm (5). The release knob can be locked in the released position by turning it. Move the sawing arm (5) into its highest position.
- b) Remove the Philips screw which secures the saw blade screw cover (14). **[B26]**
- c) Pull the swinging lower guard (12) downwards, and then swing it upwards together with the saw blade screw cover (14).
- d) When the swinging lower guard (12) is above the top fixed guard (9), the saw blade screw is accessible.
- e) Hold the swinging guard (12) in its top position and press the spindle locking button (25). Turn the saw blade until the spindle locks.
- f) Remove the saw blade screw using the hexagonal wrench (19). (Turn the wrench clockwise, since the saw blade bolt has a left hand thread. **[B27]**)
- g) Remove the external washer and the saw blade.
Apply a drop of oil to the internal and external washers at the places in which it is in contact with the saw blade. Secure the new saw blade on the spindle. Ensure that the internal washer is located behind the saw blade

CAUTION: Always fit the saw blade so that the teeth and the arrows printed on the side of the saw blade point downwards, so that the saw blade will rotate in the correct direction. There is also an arrow on the top guard to show the direction of rotation of the saw blade. **[B28]**

- h) Slide on the external saw blade washer.
Press the spindle locking button (25) and fit the saw blade screw again.
- i) Tighten the screw with the hexagonal wrench (19) (turn it anti-clockwise).
Move the swinging guard (12) and the saw blade screw cover (14) into the correct position and tighten the securing screws.
Check whether the safety hood functions correctly and covers the saw blade when the sawing arm is lowered.

Connect the saw to the power supply and start the saw blade to check whether it functions correctly.

2. MAINTENANCE

Keep the ventilation openings on the machine clean and free of blockages at all times.

Check regularly whether dust or foreign particles have got into the ventilation grille next to the motor and in the area around the release switch. Check the laser aperture is clear and clean. Remove the accumulated dust with a soft brush. Wear safety goggles when cleaning these areas.

Grease all moving parts at regular intervals.

Clean the machine's housing if necessary using a soft damp cloth. A mild detergent may be used but never use alcohol, petrol or other aggressive cleaning products.

Never use discharging agent to clean plastic parts.

CAUTION: Ensure that no water gets into the machine.

3. GENERAL INSPECTION

Check at regular intervals that all the securing screws are firmly tightened. Pay special attention to the external flange. The screws may come loose over time, due to vibration.

Check the machine's mains cable and all the extension cables you use for signs of damage at regular intervals. If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

Replace any damaged extension cables.

4. LUBRICATION

After extended use the oil in the machine's gearbox must be changed. Contact an authorised service agent for this purpose.

12. TECHNICAL DATA

This machine has double insulation. It has two independent insulations to protect you from electric shocks.

Voltage	230-240V, 50Hz
Rating:	1800W
Idling speed:	3000rpm
Saw blade:	250mm x 30 x 3.2 mm, 60T
Angle or mitre bench: -	-45°/0°/+45°
0°x0°:	310mm x 70mm
0°x45°:	310mm x 42mm
45°x0°:	205mm x 70mm
45°x 45°:	205mm x 42mm

DISPOSAL



Do not dispose of electrical appliances with your domestic waste! Dispose of them at your local recycling centre.