



scie à onglet radiale double inclinaison
radialgehringssäge mit doppelneigung
Mitre saw with dual bevel
Sega troncatrice radiale a doppia inclinazione
Ingletadora radial de doble inclinacion
Radiale verstegzaag met dubbele afschuinhoek

ENERGY Saw 254DB



MANUEL D'UTILISATION - BEDIENUNGSANLEITUNG -
OPERATING INSTRUCTIONS - MANUALE D'USO -
INSTRUCCIONES DE UTILIZACIÓN - GEBRUIKERSHANDLEIDING'

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ATTENTION !

Improper and unsafe use of this power tool can result in death or serious bodily injury.
Please read and understand this manual before operating the power tool.
PLEASE KEEP THIS MANUAL AVAILABLE FOR OTHERS BEFORE THEY USE THE POWER TOOL.

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CAUTION:

- Read the instruction manual before using the machine.
- This device complies with the safety requirements in force for electrical machinery.
- Improper use may cause injury and damage. People who are not familiar with the instruction manual must not use the machine. Keep this instruction manual.

SAFETY RULES FOR TOOLS

1. Keep the work area clean. Crowded work areas and benches can result in injuries.
2. Avoid dangerous environments. Do not expose power tools to rain or use them in damp or wet areas. Keep the work area well lit. Do not use the tool in the presence of flammable gases or liquids.
3. Protect yourself from electric shocks. Avoid contact with earthed surfaces.
4. Keep visitors and children away. All children and visitors should be kept at a safe distance from the work area.
5. Put away unused tools. Tools must be stored in a dry and locked place that is out of the reach of children when they are not being used.
6. Do not force the tool. It will do the job better and more safely at the rate for which it was designed.
7. Use the tool best suited to the task according to its size and performance. Do not force a small tool to do the job of a heavy duty tool. For example, do not use a circular saw to cut limbs or logs.
8. Wear appropriate clothing. No loose clothing or jewellery that can be caught in the moving parts. Non-slip footwear is particularly recommended for outdoor work. Long hair must be protected.
9. Always wear safety glasses. Wear a mask as well if the operation creates a lot of dust.
10. Connect the dust-vacuuming collecting equipment. If a dust collection device is provided, make it is properly connected and used.
11. Do not mishandle the cord. Never pull on the cord in order to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.
12. Secure the piece of wood you are working on. Whenever possible, use clamps or a vice to secure the piece of wood. Do not hold down the wood with your hands.
13. Do not lean over the tool. Keep your balance at all times.
14. Keep tools in good condition. Keep tools sharp and clean for optimal results in complete safety. Follow instructions for lubricating and changing accessories. Regularly check the cord and replace if damaged. Keep handles dry, clean and free of oil and grease.
15. Unplug the tool when not in use, before servicing and when changing accessories such as blades, bits, milling cutters, etc.
16. Remove keys and adjusting wrenches. Make it a habit to check that keys and adjusting wrenches have been removed from tool before turning it on.
17. Avoid accidental starting. Make sure the switch is "OFF" before plugging the tool into the socket.
18. Use extension cords designed for outdoor use. When using the tool outdoors, only use extension cords designed for outdoor use and bearing indications to that effect.
19. Stay alert. Do not use the tool if you are tired or under the influence of alcohol or drugs.
20. Inspect parts for damage. Before continuing to use the tool, inspect all guards or any other part that may be damaged to ensure they work well and perform their intended task. Make sure that moving parts are properly aligned, do not catch and are not broken. In addition, check the assembly or any other condition that may affect its operation. Any damaged part or guard must be repaired or replaced by an approved after sales service centre. Do not use the tool if the switch does not work correctly.

21. Warning: Use of accessories not recommended in this instruction manual may cause injury.
22. Have your tool repaired by a qualified technician. This power tool is manufactured in compliance with the relevant safety requirements. It must be repaired by a qualified person using original spare parts, it can otherwise be very dangerous for the user.
23. Keep these instructions safe and hand them over to anyone else to whom you lend or give this tool.

ADDITIONAL SAFETY RULES FOR MITRE SAWS

1. N.B.: Only use blades made for cross cutting. When using carbide tipped blades, make sure they have a zero or negative cutting angle. Do not use deep serrated blades since they can flex and make contact with the blade guard.
2. Warning: Do not use the saw until it is fully assembled and installed according to instructions.
3. If you are not completely familiar with the use of mitre saws, get the advice of your supervisor, the instructor or another competent person.
4. Warning: Cutting by pulling the saw towards you can be dangerous, it can jump upwards and recoil. Always push the saw forwards, away from yourself and towards the guide when making a cut using the slide.
5. When using the saw as a mitre saw for plunge cuts, make sure the saw's sliding mechanism is locked to prevent it from recoiling towards you.
6. Be careful not to pinch your fingers when folding or deploying the feet.
7. Place the stand on a flat, horizontal surface to prevent the machine from swaying or tipping.
8. Make sure extensions are securely locked before using the tool.
9. Do not stand on the table or use extensions such as a ladder or scaffolding.
10. Do not exceed a weight of 20 kg per extension.
11. Warning: Never place your hand inside the area designated as a danger zone while the tool is running.
12. Always hold the cut piece firmly pressed against the guide and table. Do not perform freehand work.
13. Important: If the cut piece is such that your hands must be less than 10cm from the blade, the piece must be blocked on the table before cutting.
14. Ensure that the blade is sharp, rotates freely and does not vibrate.
15. Allow the motor to reach maximum speed before starting the cut.
16. Keep the motor's airflow holes clean and free of chips.
17. Always make sure that all tightening knobs are tightened before starting the cut.
18. Make sure the blade and flanges are clean and that the screw shaft is properly tightened.
19. Only use original flanges for the saw.
20. Never use blades with a diameter other than the recommended one. The recommended diameter of the blades is 240 to 250 mm. Never use blades of different thickness from the original or a different bore diameter from the blade.
21. Never lubricate the blade while it is rotating.
22. Always check to ensure the blade is not cracked or damaged before use. Replace any cracked or damaged blade.
23. Only use blades designed to operate at speeds of at least 6500 rpm.
24. Only use blades with a bore diameter of 30 mm.

25. Use the blade guard at all times.
26. The lower blade guard must always be in place and in good working order.
27. Always keep hands away from the blade path.
28. Never reach around or behind the blade.
29. Make sure the blade is not touching the cut piece before switching the tool on.
30. Important: After the cut, release the switch and wait until the blade stops turning before bringing the head back up.
31. The use of accessories not recommended by Delta France may cause injury.
32. Make sure the blade has completely stopped before moving or tightening the cut piece, changing the angle of the piece or changing the angle of the blade.
33. Never cut ferrous metals or masonry.
34. Never crop small pieces.
35. Provide proper support on each side of the saw table for long pieces.
36. Never use the mitre saw in a place where there are flammable liquids or gases.
37. Never use solvents to clean plastic parts. Solvents can dissolve or damage the material. Use a damp cloth to clean plastic parts.
38. Disconnect the saw from the power supply before carrying out maintenance or changing blades.
39. Disconnect the saw from the power supply and clean the machine after use.
40. Make sure that the work area is clean before leaving the machine.
41. If the saw is missing a part, is damaged or defective, or if an electrical part is not working properly, switch it off and unplug it from the outlet. Replace the missing, damaged or defective part before reusing the saw.
42. Keep these instructions. Refer to it often and use them to inform other users.

PROTECTION OF THE ENVIRONMENT



The crossed-out wheeled bin symbol means that this product is subject to separate collection at the end of its life within the EU.

This measure applies to your device as well as to any accessories marked with this symbol. Do not dispose of these products as unsorted municipal waste not subject to recycling.

Under the WEEE directive on the environment, it is forbidden to discard appliances or electronic equipment in the environment or simply in a public rubbish dump.

The device must be taken to a collection point for processing, recovery, recycling of EEE waste or returned to its distributor for a trade-in.

In so doing, you are being environmentally responsible, helping to preserve natural resources and protecting human health.

CONNECTING THE MACHINE - ELECTRICAL CONNECTIONS

EXTENSION CORDS

Only use three wire extension cords with a two prong plug and sockets with two holes and an earthing prong corresponding to the tool's plug. When using a power tool at a considerable distance from the power supply, be sure to use an extension cord rated to handle the current required by the tool. An undersized extension cord will cause a voltage drop in the line leading to overheating and power loss. Use the chart to determine the minimum wire size required for the extension cord. Only round extension cords with sheaths listed by the laboratories may be used.

Extension cord length: up to 15 m

Wire size: $3 \times 2.5 \text{ mm}^2$

Before using any extension cord, make sure it does not have any bare or exposed wires and that the insulation is not cut or worn. Repair or replace damaged or worn cords immediately.

ELECTRICAL CONNECTION

Your mitre saw has a precision-built electric motor. It should be connected to a 230 V, 50 Hz power supply. If your device does not work when plugged into a power socket, double check the power supply.

CAUTION : Extension cords must be removed from the work area or located so that they do not get caught in parts, tools or other objects during use of the tool.

INFORMATION RELATIVE TO NOISE

The machine's noise is measured according to the DIN EN ISO 3744 standard: 1995-11; DIN EN ISO 11203: 1996-07. The quoted emission values are calculated according to current standards; they are not values relating to use on the work-site. Although there is a correlation between these different emission levels, it is impossible to draw a conclusion of any kind concerning extra precautions to be provided. Factors that have a potential influence on noise emission in the workplace include the duration of work, room size and other noise sources (e.g. the number of machines in operation and other noisy operations performed at the same time). Noise level thresholds vary from one country to another. For these reasons, we recommend that users wear a helmet with hearing protectors when using this machine.

Acoustic pressure level L_p :	101 dB(A)
Acoustic power level L_{WA} :	114 dB(A)
Uncertainty	3dB (A)

DEFINITION OF SYMBOLS



Always wear eye protection to avoid projections when using the machine.



Read and understand the instruction manual before using the machine.



Always wear a dust mask.



Always wear ear defenders when using the machine.



Heavy package. Two people are required for transporting the machine.



This product meets EC standards.



Material with operational and material insulation and necessarily without any earthing device for metal conductive parts.



Indicates that the machine is equipped with a laser pointing device (see "SPECIFIC SAFETY INSTRUCTIONS FOR THE LASER").



It is forbidden to place hands in this area when the machine is operating. Risk: hand getting cut or caught in the saw.

SPECIFIC SAFETY DIRECTIONS FOR THE LASER

*Energy*saw 254DBclass laser

- Class 2 device
- This allows the device to be used without additional safety precautions.
- Eye protection is normally guaranteed by aversion responses and the blink reflex of the eye. The warning label for class 2 lasers is located on the device. Do not remove any labels from this tool.

The use of measures or procedures other than those specified here may cause hazardous radiation exposure.

- Never look in the direction of the laser beam.
- Do not aim the laser at people or animals.
- Do not use the laser on highly reflective materials. Reflected light is equally dangerous.

LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER DEVICE

SPECIFICATIONS

Motor:	2000W - 230 V AC 50Hz
Speed:	5500 min ⁻¹
Blade size:	255 x 30 x 3.2 mm (40 teeth)
Crosscut at 90°:	82 x 340 mm
Mitre cut at 45° L and R:	82 x 240 mm
Bevel cut at 45° L and R:	50 x 340 mm
Compound cut 45° R and 45° L:	25 x 240 mm
Compound cut 45° L and 45° L:	25 x 240 mm
Mitre stops R and L:	0° - 15° - 22.5° - 30° - 45° R & L
Bevel stop:	0° and 45°
Laser:	Class 2
Net weight:	20 kg
Gross weight:	25 kg

UNPACKING AND CLEANING

Your new mitre saw with dual bevel is shipped complete in a carton. Unpack it and all spare parts carefully as well and check that it has not been damaged in transit. All unpainted parts are protected by an anti-rust film. Remove the protective coating of all parts that are not painted before using the tool for the first time.

Note: If parts are damaged or missing, do not connect the mitre saw and do not turn the switch to "on" until the damaged or missing parts have been obtained and properly installed. Do not discard the carton in which the machine came before it is completely mounted.

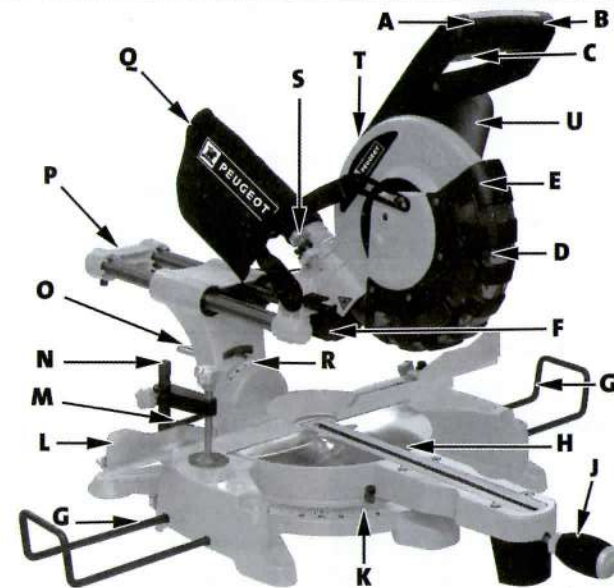
1. Place the mitre saw on a level surface.
2. The saw comes with its head locked in the lowest position. To release it, push the saw head down, pull and turn the release pin (A) Fig.17.

IMPORTANT: Do not lift the tool with the starting handle, always lock the head in the transport position and lift the saw by the base or the carrying handle if there is one.

CAUTION:

Do not use gasoline or other petroleum-based solvent for cleaning the machine after unpacking; these products are extremely flammable. A risk of explosion or fire exists if these products are used. In general, all solvents used for cleaning machines are toxic when inhaled or ingested. Always work in a well ventilated area away from potential sources of solvents. Wear a mask.

IDENTIFICATION OF THE MACHINE



- A. Start/stop handle
- B. On/off switch for the laser
- C. On/off trigger switch
- D. Saw Blade
- E. Lower blade guard
- F. Double beam laser
- G. Table extension wings
- H. Saw table
- I. Table insert
- J. Table rotation handle
- K. Rotary table scale
- L. Cut stop guide
- M. Guide locking handle
- N. Clamp
- O. Saw head bevel locking handle
- P. Saw head slide mechanism
- Q. Dust bag
- R. Mitre angle scale
- S. Depth stop
- T. Upper blade guard

INSTALLATION

CAUTION: Make sure the saw is turned off and unplugged from any power source before proceeding with the assembly or performing any other adjustment.

1. ASSEMBLING THE TABLE ROTATION HANDLE

You must mount the table rotation handle before you can use your dual bevel mitre saw(A) Fig.2. To do this, screw in the handle (A). This handle is used to lock the table at the desired angle for mitre cuts.

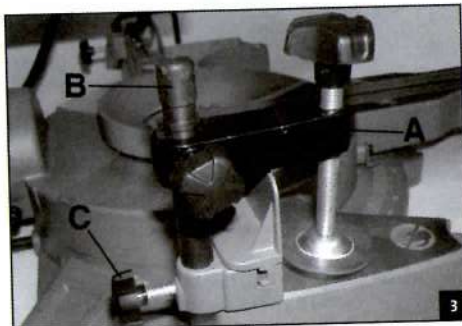


CAUTION! Before making a cut, make sure that the rotation handle is locked properly and the saw table is secured.

2. MITRE STOPS AND TABLE ROTATION

The table has mitre stops at 0°, 15°, 22.5°, 30° and 45° to the left and right. When you turn the table, it will automatically stop at the next stop. To turn the table, make sure the table rotation handle is loose and move the table to the desired angle. Then tighten the table rotation handle.

3. ASSEMBLING THE SAW CLAMP



The clamp can be mounted to the left or right of the saw. Do not use the saw without having tightened the clamp.

Position the clamp (A) by inserting the rod Fig.3 (B) into the locking knob (C) against the shank of the clamp.

4. OPERATION OF THE CLAMP

1. The height of the clamp can be adjusted by loosening the locking knob and dragging the body of the clamp up or down. Once the height of the clamp is adjusted, tighten the locking knob.
2. During operation, place the clamp so that the bottom of the sliding block just touches the top of the piece of wood you are working on.
3. Finally, tighten the piece against the table, tighten the knob until the piece of wood is completely blocked. Once the cut is complete, loosen the lock button; you can then slide or remove the piece.

5. GUIDE EXTENSIONS

The cutting guide can be extended sideways for working on large pieces using two extensions (A) Fig.4 that slide outward. During bevel cutting operations, it is important that these extensions be placed to the outside so that they do not interfere with the motor housing or the blade guard.

To do this:

1. Loosen the hex bolt (B) using an Allen key.
2. Loosen the locking knob (C).
3. Slide the extension to the desired position and tighten the bolt (B) and then the knob (C).



CAUTION! Please remove the right extension support guide completely when using the mitre saw at 45°. Remember to replace the guide after the cut.

6. FITTING THE DUST BAG

1. Insert the dust bag (A) Fig.5 in the connection port (B) on the back of the saw head and check that it is properly attached.
2. If you wish to improve the suction, a vacuum cleaner with a dust suction hose can be connected directly to the saw's elbow extraction.

NOTE: For best suction results, empty the bag regularly to avoid congestion (when half full). The bag has a zip for easier emptying. This makes for better airflow through the dust bag. The bag can also be rinsed in warm soapy water and dried before being reused.

Make sure the bag is properly attached to the connection port and that the bag's zip is securely closed before turning on the saw.

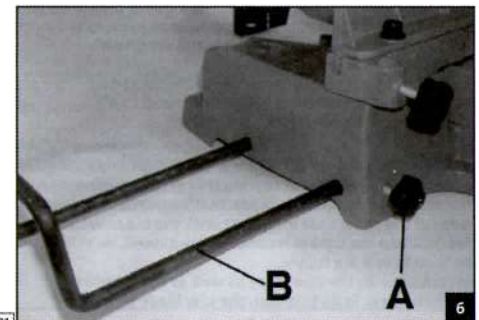


CAUTION! Dust particles can cause respiratory problems. Wearing a dust mask that complies with the current standards is recommended for your protection.

7. FITTING THE SIDE EXTENSIONS

The mitre saw comes with two extensions to support large pieces of wood and thus prevent them sagging while you saw. Extensions can be mounted on both sides of the saw, depending on the dimensions of the piece of wood. The lateral extensions must be installed before attaching the saw to a bench or a table.

1. Tighten the tilt knob so that the blade cannot move.
2. Lower the table rotation handle so that the table cannot be moved.
3. Unscrew the locking knob (A) Fig.6.
4. Insert the table extension (B) in the two holes found in the base of the saw.
5. Lock the side extension in place by screwing the locking knob (A).
6. Repeat steps 3-5 to install the second lateral extension.



ASSEMBLY AND ADJUSTMENTS

CAUTION! Make sure the saw is unplugged from the power source before making any adjustment. To ensure the safe, accurate and efficient operation of the saw, the following adjustments procedures must all be completed. When all adjustments have been made, make sure all of the keys and tools are removed from the machine, and that all screws, bolts and other fasteners are properly tightened. Do not use the saw until you have followed these procedures. Check that all external parts are working properly and are in good condition while making these adjustments. Any and all damaged or broken parts must be replaced by a qualified technician before using the saw.

Check the following settings to be sure to get an accurate cut.

1. CHECKING AND SETTING ANGLES IN RELATION TO THE BLADE

The different angle settings for mitre cuts were adjusted when the machine was manufactured. However, to ensure accurate work, check the precision of the angles before using your mitre saw.

ADJUSTING THE REAR SUPPORT GUIDE FOR 90° MITRE CUT:

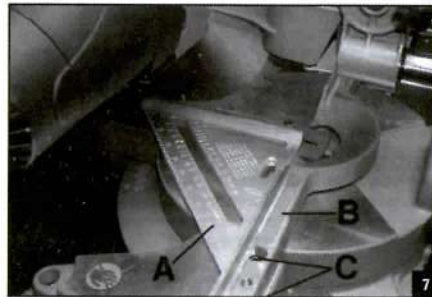
Make sure the blade is perpendicular to the guide.

- Lock the saw head in the down position.
- Loosen the table rotation handle and set it to 0°. Tighten the table rotation handle.
- Loosen the bevel locking handle of the saw head at the rear of the machine and set the head at 0°. Then tighten the bevel locking handle of the head saw.
- Place one of the ends of a square (A) Fig.7 (not included) against the guide (B) and the other against the saw blade. Make sure the square is properly positioned along the blade without coming into contact with the teeth. When the square is correctly positioned, the two ends of the latter must be fully in contact with the saw blade and the guide.
- If the blade is not in contact with the square, adjust the guide as follows:
 - Slide the two extensions of the guide outwards as described in the preceding paragraph.
 - Loosen the guide's 4 adjusting bolts (C) Fig.7.
 - Place the square against the saw blade. Move the guide until it is fully in contact with the extremity of the square.
 - Tighten the adjustment bolts of the guide (C).

ADJUSTING THE SAW TABLE IN RELATION TO THE BLADE:

Make sure the blade is perpendicular to the saw table.

- Lock the saw head in the down position.
- Loosen the table rotation handle and set it to 0°. Tighten the table rotation handle.
- Loosen the bevel locking handle of the saw head at the rear of the machine and set the head to 0°. Then tighten the bevel locking handle of the saw head.
- While lowering the saw head, place one end of a square (A) Fig.8 (not included) against the saw table and the other end against the blade. Make sure that the two sides of the square are in contact with the blade without touching teeth. When the square is correctly positioned, both ends of it are fully in contact with the saw blade as well as the table of the mitre saw. To do this, turn the saw blade by hand



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and check the squareness of the blade with the saw table.
5. If the saw blade does not completely come into contact with the end of the square:

- Slide the extension of the right to guide to the exterior.
- Loosen the locking nuts (A) Fig.9 (located on each side of the bevel handle of the saw head) to release the two bolts (B).
- Loosen the bevel locking handle (C) of the saw head and pull the adjustment knob (D) towards yourself.
- Place the square against the saw table.
- Adjust the two bolts (B) for adjusting the bevel until the two ends of the square are in contact with the blade and the table.
- Tighten the bevel locking handle (C) and the speed nuts (A).
- Check the squareness of the blade in relation to the saw table.



6. Make sure the bevel angle indicator (B) Fig.8 is aligned with 0°.

2. ADJUSTING THE BEVEL OF THE SAW HEAD AND THE STOP

You can incline the head of your machine from 0° to 45° to the right and to the left.

- To adjust the bevel, loosen the bevel locking handle (A) Fig.10 at the rear of the saw.
- To tilt the saw head to the left, unlock the lock handle (A) and then tilt the saw head from 0° to 45° with the aid of the handle.
- To tilt the saw head to the right, unlock the handle (A) and pull the pin (B) to release the bevel angle, then tilt the saw head from 0° to 45° until you reach the desired bevel angle with the help of the handle (A). Once adjusted, tighten the handle firmly.



NOTE: The bevel angle indicator should be aligned with the 45° mark on each side of the scale when the handle (A) is completely loose and the saw head is tilted completely to the right or left.

3. ATTACHING THE SAW TO A SURFACE

Before use, the saw should be firmly attached to a level surface.

- Four holes are located at the ends of the saw base to attach it to a workbench or other support surface.
- If you use side extensions, install them before you mount the saw on the support surface.
- If the saw is moved frequently, mount it on a plywood base (with a thickness of at least 20 mm) so that you can attach it by clamping it to any support surface.

CAUTION! To reduce the risk of unexpected movement of the saw:

- Unplug the power cord from the outlet.
- Lock the saw head in the down position and secure the sliding bar before transporting the mitre saw.
- Carry the mitre saw close to your body to avoid getting back pain. Bend your knees when you lift the saw.
- Carry the saw by the carrying handle if there is one or by the base. Do not carry the saw by the cord or starting handle. Carrying the saw by the cord may damage the insulation or electrical connections and thus produce an electric shock or start a fire.
- Place the saw in a low traffic area where people cannot circulate or sit. Woody debris thrown by the saw could injure people situated around the machine.
- Attach the saw to a sturdy level surface so that it does not tip over.

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4. ADJUSTING THE DEPTH OF CUT

In the normal position, the depth stop (Fig.11) lets you cut completely through the wood.

When the saw head is raised, you can adjust the depth stop (A) Fig.12 by pulling it to the right. The depth adjustment screw (B) engages with the stop (A) once the head is lowered. The depth of descent of the blade can be adjusted so that the saw can do grooving.

The maximum depth of cut should be adjusted so that the blade is not in contact with the base of the saw; the blade may damage the base of the saw. To adjust cutting depth, follow these steps:

1. Raise the saw head to its uppermost position.
2. Loosen the nut (C) Fig.12.
3. Tighten or loosen the screw for adjusting the cutting depth (B) according to the desired depth of cut.
4. Tighten the locking nut (C).

NOTE: If the screw for adjusting the cutting depth is set too high, the blade will not cut completely through the piece. Always make a test cut after changing the cutting depth of the saw.




5. RADIAL DISPLACEMENT MECHANISM

1. Turn the radial arm locking knob (A) Fig.13 counter-clockwise to release the radial slide-mechanism.
2. Pull or push the handle (A) Fig.1 to move the head of the saw on the track as you wish.
3. Turn the radial arm locking knob (A) Fig.13 clockwise to lock the radial slide-mechanism.

NOTE: Caution! Before transporting the mitre saw, make sure that the radial slide mechanism is blocked.

OPERATION

1. TABLE DANGER ZONE

 The circular work area of the table is designated as a "danger zone". Never place your hands inside this area when the tool is running.

2. ON/OFF SWITCH


To turn the saw on and off, do the following:

1. Plug the saw's power cord into a power outlet.

2. Squeeze the start trigger (C) Fig.1 to crank the saw.
3. Release the trigger to stop the saw.

3. USING AND ADJUSTING THE DUAL-LASER GUIDANCE SYSTEM

The dual laser guidance system is controlled by the switch and (A) Fig.14 only works if the power cord is connected to a power source.

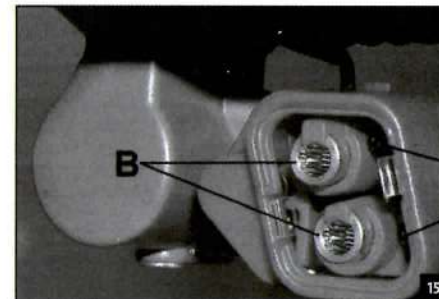
 **WARNING!** Do not look directly into laser beams or a reflective mirror like surface. Turn off the laser when not in use.



The laser lets you view the cut line of your blade directly on the wood.

1. Draw the cutting line on the piece you are cutting.
2. Adjust the mitre and bevel angles as required.
3. Tighten the piece with the vertical clamp against the guide beforehand, turn on the dual laser and align the cut line with one of rays, either on the right or left side of the blade.
4. Start the motor.
5. Once the blade has reached its maximum speed, lower the saw head to begin cutting.

To adjust the dual laser guidance system if it appears not to be in alignment with the two sides of the blade, make the following adjustment:



1. Remove the laser's plastic cover.
2. Loosen the two Phillips screws (A) Fig.15 that are located next to the lasers.
3. Secure your piece of wood on the saw table, start your saw and make a partial cut to indicate the two sides of the cut.
4. Turn each laser (B) until each ray of the dual-laser guide is in perfect alignment with the two sides of the cut.
5. Once the adjustments are made, hold the lasers in place and tighten the Phillips screw (A).
6. Replace the plastic cover of the double laser.

4. LOCKING/UNLOCKING OF THE SAW HEAD


When using the saw, the saw head should never be locked in the down position. The head should always be locked in the down position when transporting the saw, or when the tool is not being used.

To release the saw head:

1. Lightly press the saw head down and keep it in this position.
2. Pull the knob (A) Fig.16 and turn it slightly until the pin is engaged in the horizontal slot.
3. Raise the saw head so that it is in the up position.

To relock the saw head in the down position,



 **CAUTION!** Do not cut short pieces. You cannot properly hold a short piece of wood and keep hands at a safe distance from the blade. Do not cross your hands in front of the blade and do not place it in the cutting area.

do the following:

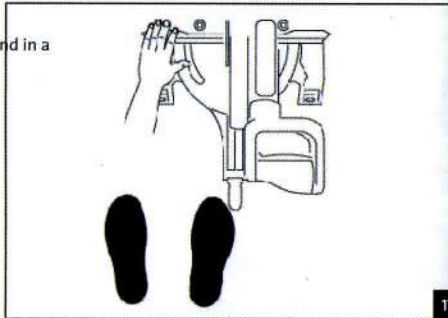
1. Lower the saw head to its lowest position.
2. Return the cutting arm locking knob (A) to its original position, that means that the button's pin must be engaged in the vertical slot.

5. POSITION OF HANDS AND FEET WHILE CUTTING

You will be able to make cuts with your mitre saw more easily and in a safer way if you properly position your hands and body. Position yourself to the side of the saw, do not place yourself in the line of risk of debris projection.

- Keep proper footing and balance. Keep your hands at least 10 cm from the blade. Hold the piece of wood firmly against the guide and keep your hands in position until the trigger is fully released and the blade is completely stopped.

- Before making a cut:
 - Carry out a "simulation" with the power off to determine the blade path or
 - Turn on the laser and double check the blade path between the tracings of the dual laser. Refer to the section "Use and adjustment of the Dual Laser Guidance System" if an adjustment is necessary.



! The circular work area of the table is designated as a "danger zone". Never place your hands inside this area when the tool is running.

CAUTION!

- Do not cross your arms in front of the blade while using the mitre saw.
- Make sure the table is secured and that the bevel is also locked before using the mitre saw.

6. CUTTING A PIECE OF WOOD

CAUTION! Before you start cutting with your saw, make sure it was properly assembled and adjusted. Make sure you have read and understood all of the safety instructions in this manual. Make sure the table lock handle is properly tightened before making a cut. Serious injuries can occur if these warnings are not respected.

To start cutting with your mitre saw:

1. Raise the saw head to its uppermost position.
2. Select and lock the desired angle for the mitre cut.
3. Select and lock the desired angle for the bevel cut.
4. Make sure the size of the piece to be cut is adapted to the power of the saw.
5. Fasten the piece to be cut to the saw with the clamp.
6. Hold large pieces securely to avoid their tipping or use lateral extensions or side tables.
7. Make sure your hands are well outside the path of the blade.
8. Pull the saw head towards you along the radial sliding rails.
9. Hold the trigger to start the motor and let the saw blade reach full speed.
10. Then lower the blade slowly through the cut piece and slide the blade in the opposite direction to complete the cut. Do not force the blade. In fact, it will be more efficient and accurate if used at the rate for which it is intended.
11. Release the start trigger, allow the blade to stop itself and reposition the saw head in the uppermost position once the cut is complete.

CAUTION! Do not cut metal pieces with your mitre saw. This saw is not guaranteed if you cut metal with it. The manufacturer assumes no liability for any problem if the machine was used to perform work other than that for which it was designed.

7. PROPER CUTTING TECHNIQUE WHEN USING THE RADIAL DISPLACEMENT

Warning: Cutting by pulling the saw towards you can be dangerous; the saw can jump up and recoil. Always push the saw to the back, away from yourself and towards the guide when making a cut using the slide. The following steps provide the correct procedure for using the slide when cutting with your sliding compound mitre saw:

1. Place the piece to be cut on the saw table and against the guide. Hold the handle of the saw head but do not turn the saw on yet.
2. Pull the saw head towards you with it in the up position. Once you've pulled the saw head towards you, press the trigger to start it.
3. Press the latch and press on the saw head.
4. Push the saw head to the back and towards the guide to make the cut.
5. Release the trigger and leave the saw head down position until the blade stops completely.
6. Once the blade is stopped, raise the saw head to the uppermost position.

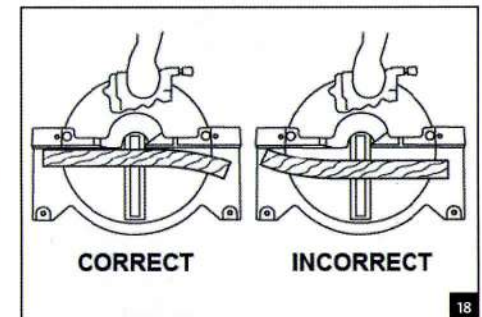
8. USING THE SAW TO CUT TO LENGTH

When cutting material that is sufficiently narrow to allow the blade to cut by performing an up and down movement (similar to that of a conventional mitre saw) instead of sliding the saw blade across the piece, the sliding movement of the saw is locked in the back position by tightening the lock button of the radial displacement arm. The saw head is pushed down to make the cut. When cutting is finished, release the trigger and let the blade stop completely before replacing the cutting head in the up position.

9. CUTTING CURVED MATERIAL

Inspect your piece of wood before starting to cut. If it is curved, position it against the guide with the curved side as shown in figure opposite.

CAUTION! If you do not cut your curved piece of wood as shown above, you risk catching the blade. Your piece may move abruptly, causing serious personal injury.



10. MITRE CUTS

1. Turn the table rotation handle (J) Fig.1 to unlock the table.
2. Using the same handle, move the saw table (H) to the desired angle.
3. Lock the table rotation handle (J) to secure the table in place before starting the cut.
4. Position yourself in alignment with the angle to make the cut.

CAUTION! Extend the guide on each side before attempting to make a mitre or bevel cut. The blade may come into contact with the guide if the extensions are not completely extended.

11. BEVEL CUTS

The cutting head of your mitre saw can be tilted to cut any bevel angle from a straight cut at 90° to a bevel cut with an angle of 45° to the right or left. For this, refer to "Setting the bevel of the saw head."

12. COMPOUND CUTS

A compound angle cut is a mitre and bevel cut made simultaneously. You must use the radial sliding mechanism when cutting large pieces.

1. Loosen the bevel locking knob (A) Fig.10.
2. Position the saw head to the desired position. Tighten the bevel locking knob.
3. Turn the table rotation handle to release the table and turn the table to the desired angle. Tighten the table rotation handle to secure the saw table.
4. Position yourself in alignment with the handle to make the cut.

13. SKIRTING BOARD CUTS

Skirting boards may be cut using a mitre saw. The method used depends on the skirting board, its characteristics and uses.

1. Use fastening vices, clamps or hand screws whenever possible. Place a strip of protective tape on the surface to tighten to avoid damaging the surface of the skirting board.
2. Locate the part of the skirting board to cut in order to avoid projections and draw a cutting line on the piece to be cut.
3. Make several test cuts on scrap before you make the final cut.

NOTE: splintering may be due to the thickness of the skirting board or the improper choice of blade type.

14. CORNICE AND MOULDING CUTS

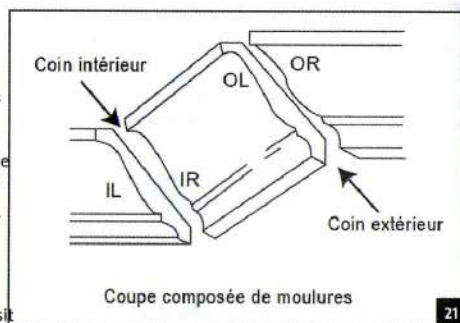
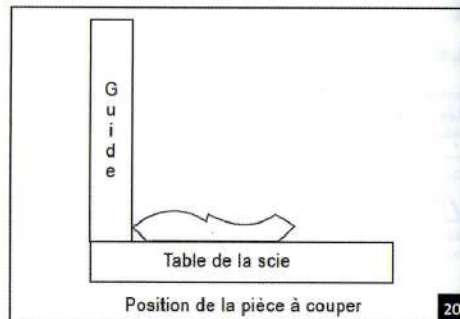
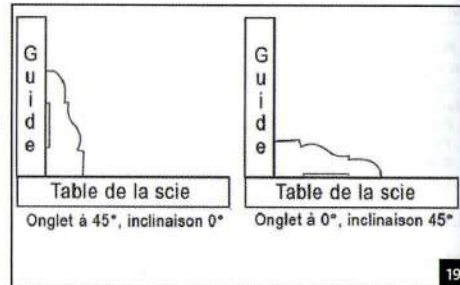
One of the unique characteristics of the saw is the ease with which you can cut cornices.

Cornices must be cut with extreme accuracy. Both surfaces of the cornice must adapt to a wall or ceiling, and vice versa.

The following is an example of cutting inside and outside corners on cornices with wall angles of $52/38^\circ$ (Fig.21).

Please note: When cutting wall angle cornices of 45° , the following method is the same for inside and outside corners, except that the bevel position remains 30 degrees at all times and the mitre position is $35-1/4^\circ$ to the right or left.

1. Adjust the table for a mitre angle of 31.62° to the right. A positive stop is provided to quickly set the table for this angle. Tilt the saw blade at a bevel angle of 33.9° .
2. Place the cornice on the saw table, **with the ceiling side** of the cornice against the guide, and make the cut. It should be noted that a clamp must be used to hold the piece to be cut firmly against the table. The piece of cornice used for the outer corner is always to the right of the blade. The piece of cornice used for the inner corner is always to the left of the blade.
3. To make the matching halves of the inner and outer corners, simply turn the table to the left bevel cutting position of 31.62° . A positive stop is provided in order to quickly adjust the table to this angle. The saw blade is already inclined to the bevel angle of 33.9° for the previous cut.
4. Place the cornice on the saw table, **with the wall side** of the cornice against the guide, and make the cut. You are once again reminded that a clamp must be used to hold the piece firmly against the table. The piece of cornice used for the outside corner is always to the right of the blade. The piece of cornice used for the inside corner is always to the left of the blade.



CARE AND MAINTENANCE

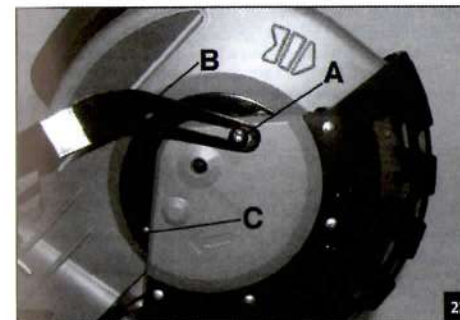
1. CHANGING THE BLADE

Immediately replace the blade if you notice any signs of damage or other abnormalities. The dulling and wear of saw blades can cause serious personal injury and make the saw's job of cutting ineffective.



CAUTION!

- Before changing the blade, disconnect the power cord from the power socket. The power cord must always be unplugged whenever you adjust or repair your saw.
- To avoid being injured by flying debris, do not use a blade diameter that's greater than or less than 255 mm.
- Do not use a dull blade. This could be dangerous.
- Only use blades made for cross cutting. When using carbide tipped blades, make sure they have a zero or negative cutting angle. Do not use deep serrated blades since they can flex and make contact with the blade guard.
- Never use a blade thickness greater than that of the original blade.



1. Raise the saw head to the uppermost position.
2. Unscrew and remove the screw (A) Fig.22 that secures the plastic blade guard housing to the upper blade guard.
3. Remove the connecting part (B) Fig.22.
4. Unscrew and remove the pan head screws (C), which attach the plate of the blade guard and the lower blade guard to the upper blade guard.
5. Turn the lower blade guard and the blade guard plate to the back in order to gain access to the screw shaft, see Fig.23.
6. Press the button to lock the shaft (A) Fig.24 then turn the blade by hand until the shaft is locked.
7. Remove the screw shaft (B) Fig.25 using the blade change key (A) that is provided. Turn the blade change key (A) clockwise to remove the screw shaft.
8. Remove the outer flange (C), then the blade.
9. Do not remove the inner flange except for cleaning. Make sure the interior surfaces of the interior and exterior flanges are clean and free of foreign substances.

10. Clean the flanges and pour a little oil on both flanges before reassembling the new blade. Install a blade with a diameter of 255 mm only. Check that the rotation direction of the blade (arrow marked on the blade) corresponds to the direction of the arrow on the upper blade guard. Make sure the blade is behind the flange.
11. Press the button to lock the shaft(A) Fig.24. Secure the blade in place using the blade change key, and turn the screw shaft in a counter-clockwise direction to tighten.
12. Replace the lower blade guard and the protective flange in a down position and replace the pan head screw(C) Fig.22the connecting part(B)and the housing screw (A).

CAUTION!
It is absolutely essential to use blades of the same thickness as the original blade so that the outer flange is held securely on the machine axis during reassembly.

CAUTION!
Unplug the power cord from the power socket before carrying out any repairs or maintenance on the saw. The power cord must always be unplugged whenever you adjust or carry out maintenance on the machine.
- Only use identical replacement parts with equivalent OEM characteristics to avoid electric shock, fire or personal injury.
- Replace the power cord immediately if it is worn, cut or damaged.

2. SAWDUST

CAUTION!
Wear eye protection when using compressed air to clean your mitre saw.

Empty the dust bag regularly. Avoid the accumulation of sawdust around and under the saw. Use compressed air or a vacuum cleaner to keep the area clean.

3. LOWER BLADE GUARD

CAUTION!
Make sure you have unplugged the power cord from the wall outlet before cleaning the lower blade guard.

Regularly check the proper functioning of lower blade guard. Do not use the saw with a damaged or missing lower blade guard.
The lower blade guard is mounted on the machine for your safety.

Make sure that the lower blade guard is not cluttered with wood dust and that it is clean. Use a damp cloth to remove dust from the lower blade guard.

NOTE: To avoid damage to the lower blade guard, only clean it with a damp cloth. The use of solvents may damage the plastic of the guard.

4. MAINTENANCE OF THE DUAL LASER

CAUTION!
Do not look directly at the laser rays. You risk serious injury to your eye by deliberately staring at the laser beams. Read all of the safety rules concerning the laser.

Check the cleanliness of the laser and remove dust from it if necessary.

1. Turn off the mitre saw and the laser. Unplug the saw.
2. Remove dust from the laser using a soft brush or a clean soft cloth, or a very light blast of compressed air.

5. LUBRICATION

All bearings are permanently lubricated and need not be greased periodically.

CAUTION!
Unplug the power cord from the outlet before carrying out any repairs or maintenance on the saw.

6. INSPECTION AND REPLACEMENT OF CARBON BRUSHES

CAUTION: Unplug the tool before checking the carbon brushes. The life of carbon brushes varies. It depends on the workload that is demanded of the motor. Check the carbon brushes after the first 50 hours of use in the case of a new tool or after installing a new set of carbon brushes.

After the first check, they must be inspected after every 10 hours of use until it becomes necessary to replace them.

The carbon brushes doors (see figure opposite) are located on each side of the motor housing. Replace the two carbon brushes when the carbon of a carbon brush is used, and in less than 5 mm in length, or if a spring or wire is burned or damaged. If the carbon brushes are still usable after inspection, return them to the position they were in originally.

To do this, follow these steps:

1. Loosen and remove the two truss heads screws (B) Fig.26 that hold the cover of the motor casing(A).
 2. Once the motor casing is removed, remove each carbon brush(B) Fig.27. Check them and replace if necessary. Replace the two carbon brushes even if only one of the two is worn down.
 3. To remove the carbon brushes, lower the spring(A), unplug the carbon brush's wire(C) then remove the carbon brush and check it. Repeat this step for the other carbon brush.
 4. Replace the carbon brushes as soon as the wear limit is reached (see Fig.28). Keep them clean.
- NOTE:** After checking the carbon brushes, make sure to put them back in the same position that they were in at the outset if you do not replace them.
5. Place the carbon brushes in the motor casing. Reconnect the wires to the terminals, attach the carbon brushes by readjusting the springs(A) then put the motor cover back in place and tighten the two screws(B) Fig.26.

6. Start the saw and let it run for about 5 to 10 minutes to allow the carbon brushes to position themselves correctly. If the carbon brushes are not correctly mounted, the circuit breaker cannot function normally and the engine may suffer damage. When the carbon brushes are being "positioning", you can see some sparks in the motor. This is quite normal for new carbon brushes.

Warning: Always follow the basic safety precautions when using power tools in order to reduce the risk of fire, electric shock and injury. In addition, you must read all instructions before using this product and save these instructions so you can refer to them at any time.

