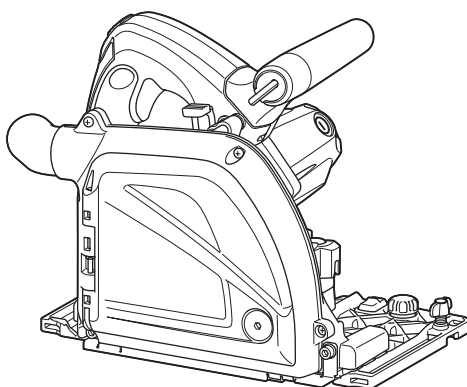


INSTRUCTION MANUAL



Aluminum Groove Cutter CA5000



DOUBLE INSULATION



Read before use.




SPECIFICATIONS

Model:	CA5000
Groove cutter blade diameter	118.0 mm
Max. cutting depth (with groove cutter blade)	11.0 mm
No load speed	2,600 - 6,400 min ⁻¹
Overall length	346 mm
Net weight	5.1 kg
Safety class	□/II

- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Specifications may differ from country to country.
- Weight according to EPTA-Procedure 01/2003

Symbols

The following show the symbols used for the equipment. Be sure that you understand their meaning before use.

	Read instruction manual.
	DOUBLE INSULATION
	Only for EU countries Do not dispose of electric equipment together with household waste material! In observance of the European Directive, on Waste Electric and Electronic Equipment and its implementation in accordance with national law, electric equipment that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

Intended use

The tool is specially intended for cutting groove into composite boards made from aluminum, plastic, mineral materials, and similar materials.

Power supply

The tool should be connected only to a power supply of the same voltage as indicated on the nameplate, and can only be operated on single-phase AC supply. They are double-insulated and can, therefore, also be used from sockets without earth wire.

General power tool safety warnings

⚠ WARNING: Read all safety warnings and all instructions. Failure to follow the warnings and instructions 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

1. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
2. **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.
3. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical Safety

1. **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.
2. **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.
3. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
4. **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.
5. **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.
6. **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.
7. **Use of power supply via an RCD with a rated residual current of 30 mA or less is always recommended.**

Personal Safety

1. **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.

2. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
3. **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.
4. **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.
5. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
6. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
7. **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.

Power tool use and care

1. **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.
2. **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.
3. **Disconnect the plug from the power source and/or the battery pack 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.
4. **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.
5. **Maintain power tools. 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.
6. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
7. **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.

Service

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

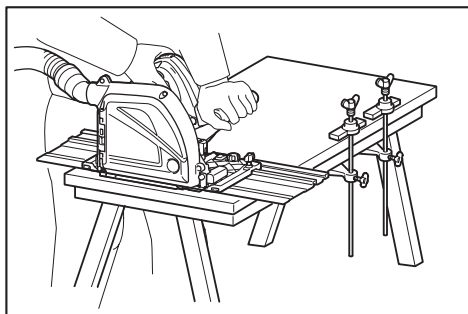
tool is maintained.

2. **Follow instruction for lubricating and changing accessories.**
3. **Keep handles dry, clean and free from oil and grease.**

Circular saw safety warnings

Cutting procedures

1. **⚠ DANGER: Keep hands away from cutting area and the blade. Keep your second hand on auxiliary handle, or motor housing.** If both hands are holding the saw, they cannot be cut by the blade.
2. **Do not reach underneath the workpiece.** The guard cannot protect you from the blade below the workpiece.
3. **Adjust the cutting depth to the thickness of the workpiece.** Less than a full tooth of the blade teeth should be visible below the workpiece.
4. **Never hold piece being cut in your hands or across your leg. Secure the workpiece to a stable platform.** It is important to support the work properly to minimize body exposure, blade binding, or loss of control.



5. **Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will also make exposed metal parts of the power tool "live" and could give the operator an electric shock.
6. **When ripping, always use a rip fence or straight edge guide.** This improves the accuracy of cut and reduces the chance of blade binding.
7. **Always use blades with correct size and shape (diamond versus round) of arbour holes.** Blades that do not match the mounting hardware of the saw will run eccentrically, causing loss of control.
8. **Never use damaged or incorrect blade washers or bolt.** The blade washers and bolt were specially designed for your saw, for optimum performance and safety of operation.

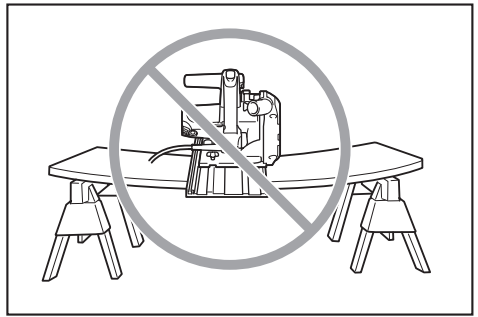
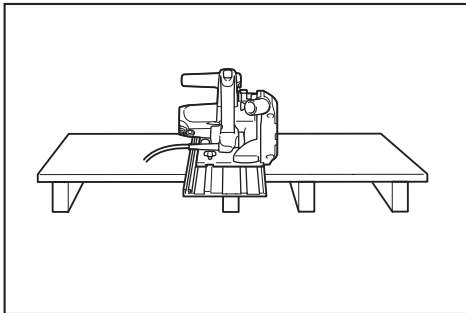
Kickback causes and related warnings

- kickback is a sudden reaction to a pinched, bound or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator;

- when the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator;
- if the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.

Kickback is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

1. **Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Position your body to either side of the blade, but not in line with the blade.** Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator, if proper precautions are taken.
2. **When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur.** Investigate and take corrective actions to eliminate the cause of blade binding.
3. **When restarting a saw in the workpiece, centre the saw blade in the kerf and check that saw teeth are not engaged into the material.** If saw blade is binding, it may walk up or kickback from the workpiece as the saw is restarted.
4. **Support large panels to minimise the risk of blade pinching and kickback.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.



5. **Do not use dull or damaged blades.** Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.
6. **Blade depth and bevel adjusting locking levers must be tight and secure before making cut.** If blade adjustment shifts while cutting, it may cause binding and kickback.
7. **Use extra caution when sawing into existing walls or other blind areas.** The protruding blade may cut objects that can cause kickback.
8. **ALWAYS hold the tool firmly with both hands. NEVER place your hand, leg or any part of your body under the tool base or behind the saw, especially when making cross-cuts.** If kickback occurs, the saw could easily jump backwards over your hand, leading to serious personal injury.



9. **Never force the saw. Push the saw forward at a speed so that the blade cuts without slowing.** Forcing the saw can cause uneven cuts, loss of accuracy, and possible kickback.

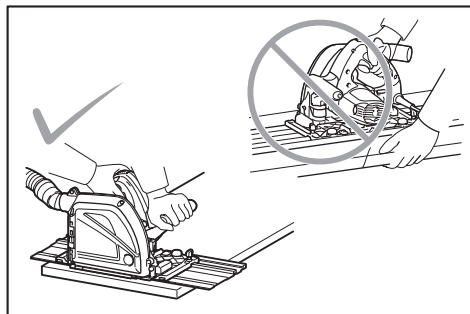
Guard function

1. **Check guard for proper closing before each use. Do not operate the saw if guard does not move freely and enclose the blade instantly. Never clamp or tie the guard so that the blade is exposed.** If saw is accidentally dropped, guard may be bent. Check to make sure that guard moves freely and does not touch the blade or any other part, in all angles and depths of cut.
2. **Check the operation and condition of the guard return spring. If the guard and the spring are not operating properly, they must be serviced before use.** Guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.

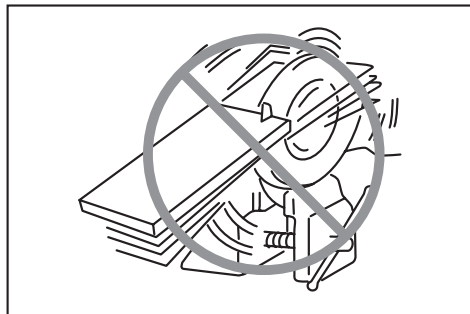
3. **Assure that the base plate of the saw will not shift while performing the “plunge cut” when the blade bevel setting is not at 90 °.** Blade shifting sideways will cause binding and likely kick back.
4. **Always observe that the guard is covering the blade before placing saw down on bench or floor.** An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after switch is released.

Additional safety warnings

1. **Use extra caution when cutting damp wood, pressure treated lumber, or wood containing knots.** Maintain smooth advancement of tool without decrease in blade speed to avoid overheating the blade tips.
2. **Do not attempt to remove cut material when blade is moving.** Wait until blade stops before grasping cut material. Blades coast after turn off.
3. **Avoid cutting nails.** Inspect for and remove all nails from lumber before cutting.
4. **Place the wider portion of the saw base on that part of the workpiece which is solidly supported, not on the section that will fall off when the cut is made.** If the workpiece is short or small, clamp it down. **DO NOT TRY TO HOLD SHORT PIECES BY HAND!**



5. **Before setting the tool down after completing a cut, be sure that the guard has closed and the blade has come to a complete stop.**
6. **Never attempt to saw with the circular saw held upside down in a vise. This is extremely dangerous and can lead to serious accidents.**



7. **Some material contains chemicals which may be toxic. Take caution to prevent dust**

inhalation and skin contact. Follow material supplier safety data.

8. **Do not stop the blades by lateral pressure on the saw blade.**
9. **Do not use any abrasive wheels.**
10. **Only use the saw blade with the diameter that is marked on the tool or specified in the manual.** Use of an incorrectly sized blade may affect the proper guarding of the blade or guard operation which could result in serious personal injury.
11. **Keep blade sharp and clean.** Gum and wood pitch hardened on blades slows saw and increases potential for kickback. Keep blade clean by first removing it from tool, then cleaning it with gum and pitch remover, hot water or kerosene. Never use gasoline.
12. **Wear a dust mask and hearing protection when use the tool.**

SAVE THESE INSTRUCTIONS.

⚠WARNING: DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product. MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

FUNCTIONAL DESCRIPTION

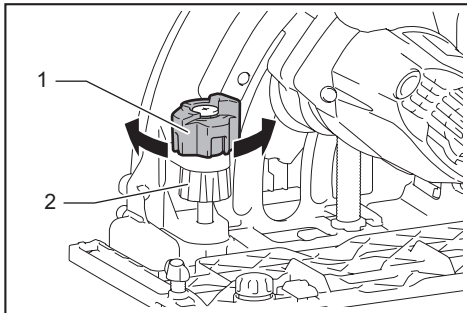
⚠CAUTION: Always be sure that the tool is switched off and unplugged before adjusting or checking function on the tool.

Quick stop for 3, 4, or 6 mm board thickness groove cutting

By turning the quick stop, you can choose the appropriate depth of groove cutting for 3, 4, or 6 mm board thickness swiftly.

The number, seen from the handle side, indicates the workpiece board thickness.

For fine adjustment of depth of groove, use the depth adjusting knob.



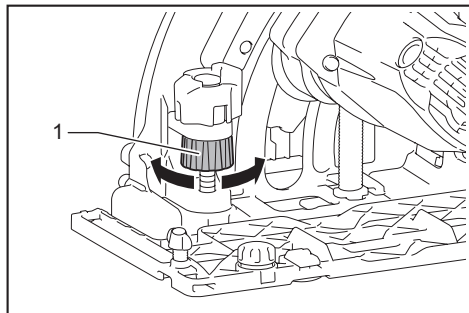
1. Quick stop 2. Depth adjusting knob

0 mm depth is set properly when the tool is shipped from the factory, but if you changed the depth of groove by the adjusting knob, refine the 0 mm depth as follows:

1. Turn the quick stop to 0 mm.
2. Turn the depth adjusting knob to adjust the depth.
3. Make sure that the blade does not make any contact with work piece.
4. Hold the tool firmly with one hand on the front grip and the other on the tool handle. Push in the lock-off button, and turn the tool on.
5. Slowly press down the saw head fully, and check whether the groove cutter blade does not contacts but almost touches the workpiece. If not, stop the tool and wait until the groove cutter blade stops completely, and adjust the depth by turning the depth adjusting knob again.

Adjusting depth of cut

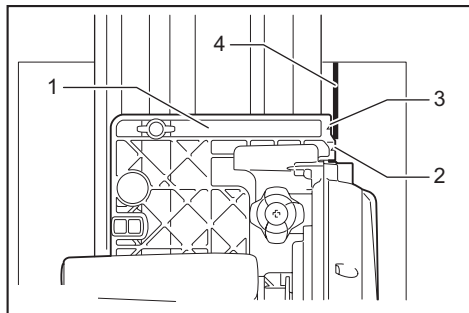
To adjust depth of cut, turn the depth adjusting knob. For deeper cut, turn it clockwise. For shallower cut, turn it counterclockwise.



1. Depth adjusting knob

Sighting

Triangular mark on the base indicates the center of the groove cutter blade. When using with groove cutter blade, align the outside triangular mark with the cutting line.



1. Base 2. Outside triangular mark 3. Inside triangular mark 4. Cutting line

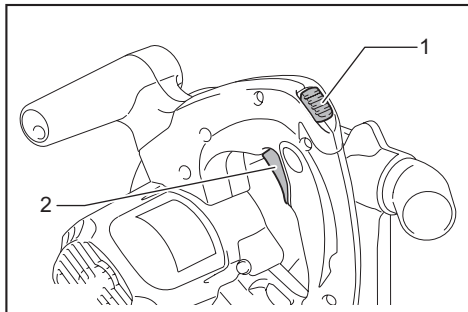
Switch action

CAUTION: Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.

To prevent the switch trigger from being accidentally pulled, a lock-off button is provided.

To start the tool, push in the lock-off button and pull the switch trigger.

Release the switch trigger to stop.



1. Lock-off button 2. Switch trigger

Speed adjusting dial

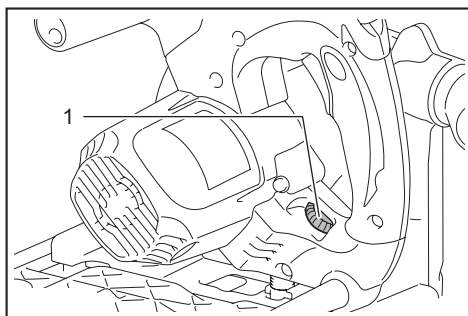
CAUTION: The speed adjusting dial is not for using low speed rated blades but for obtaining a speed which is suitable to material of workpiece. Use only blades which are rated for at least the maximum no load speed stated in the SPECIFICATIONS.

CAUTION: The speed adjusting dial can be turned only as far as 6 and back to 1. Do not force it past 6 or 1, or the speed adjusting function may no longer work.

The tool speed can be adjusted by turning the adjusting dial. Higher speed is obtained when the dial is turned in the direction of number 6; lower speed is obtained when it is turned in the direction of number 1.

Refer to the table to select the proper speed for the workpiece to be cut. However, the appropriate speed may differ with the type or thickness of the workpiece. In general, higher speeds will allow you to cut workpieces faster but the service life of the blade will be reduced.

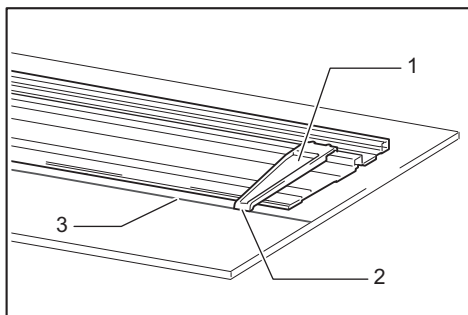
Number	min ⁻¹
1	2,000
2	2,500
3	3,500
4	4,500
5	5,500
6	6,400



1. Speed adjusting dial

Guide plate

For aligning the guide rail (optional accessory) with the cutting line, use the guide plate.



1. Guide plate 2. Plate edge 3. Cutting line

1. Set the guide plate onto the guide rail near from the cutting start point. The plate edge represents the center of the groove cutter blade. Align the plate edge with the cutting line.
2. Then, set again the guide plate on the guide rail near the cutting end point. And align the plate edge with the cutting line again.

Other features

The tools equipped with electronic function are easy to operate because of the following features.

Overload protector

When the load on the tool exceeds admissible levels, power to the motor is reduced to protect the motor from overheating. When the load returns to admissible levels, the tool will operate as normal.

Constant speed control

Electronic speed control for obtaining constant speed. Possible to get fine finish, because the rotating speed is kept constant even under load condition.

Soft start feature

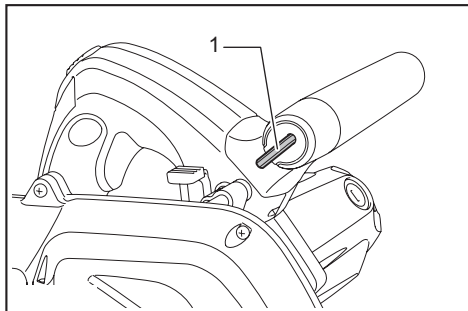
Soft start because of suppressed starting shock.

ASSEMBLY

⚠CAUTION: Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

Hex wrench storage

Hex wrench is stored on the tool. To remove hex wrench, just pull it out. To install hex wrench, place it on the grip and insert it as far as it goes.



1. Hex wrench

Removing or installing groove cutter blade

⚠CAUTION: Do not use blades which do not comply with the characteristics specified in these instructions.

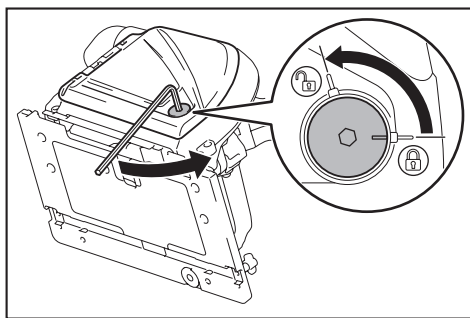
⚠CAUTION: Use only blades which are rated for at least the maximum no load speed stated in the SPECIFICATIONS.

⚠CAUTION: Be sure the blade is installed with teeth pointing up at the front of the tool.

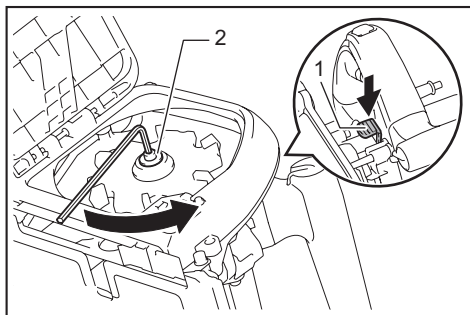
⚠CAUTION: Use only the Makita wrench to install or remove the blade.

To remove the groove cutter blade, perform following steps:

1. Lie down the tool as the motor housing and the base touching the ground. Then insert the hex wrench into the hex hole, push it in, and open the blade case door by turning the hex wrench.

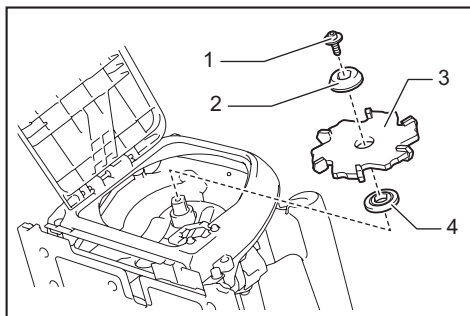


2. Press the shaft lock fully so that the blade does not revolve, then loosen the hex bolt counterclockwise with the wrench.



1. Shaft lock 2. Hex bolt

3. Remove the hex bolt, outer flange and blade.



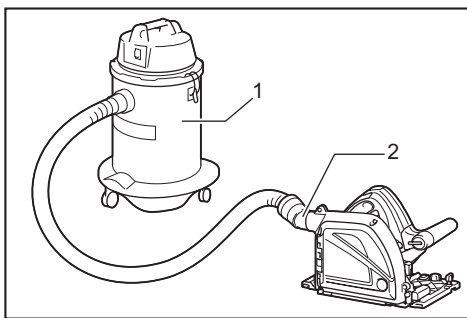
1. Hex bolt 2. Outer flange 3. Groove cutter blade
4. Inner flange

To install the blade, follow the removal procedure in reverse. **Be sure to tighten the hex bolt clockwise securely.** And close the blade case door after installing the blade.

When changing blade, make sure to also clean the guard of accumulated sawdust and chips as discussed in the Maintenance section. Such efforts do not replace the need to check guard operation before each use.

Connecting a vacuum cleaner

For groove cutting operation, connect a Makita vacuum cleaner to your tool. Connect a hose of the vacuum cleaner to the dust port.



1. Vacuum cleaner 2. Dust port

OPERATION

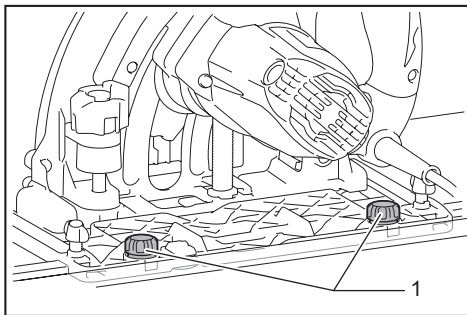
CAUTION: Always use a front grip and rear handle and firmly hold the tool by both front grip and rear handle during operations.

Guide rail

Optional accessory

Always use the guide rail for groove cutting operation. Place the tool on the rear end of the guide rail.

Turn two adjusting screws on the tool base so that the tool slides smoothly without a clatter.



1. Adjusting screws

Groove cutting

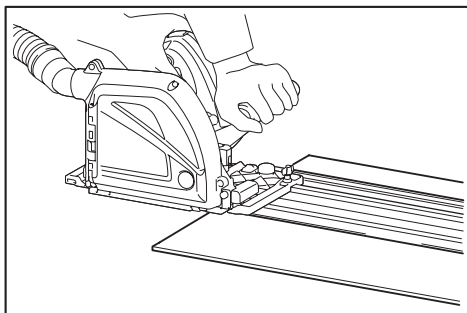
⚠CAUTION: Be sure to move the tool forward in a straight line gently. Forcing or twisting the tool may result in overheating the motor and dangerous kickback, possibly causing severe injury.

⚠CAUTION: Never approach any part of your body under the tool base when section cutting, especially at starting. Doing so may cause serious personal injuries. The blade is exposed under the tool base.

⚠CAUTION: Use eye protection to avoid injury.

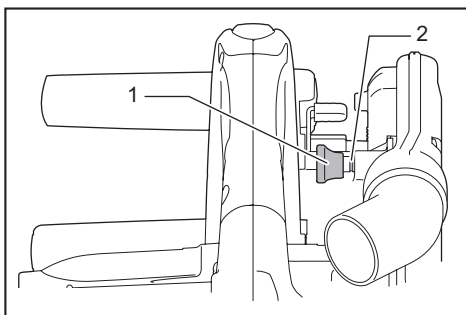
⚠CAUTION: For groove cutting operation, always connect the tool to a vacuum cleaner.

⚠CAUTION: Hold the tool firmly. The tool is provided with both a front grip and rear handle. Use both to best grasp the tool. If both hands are holding saw, they cannot be cut by the blade.



1. Adjust the depth of cut.
2. Set the tool on the guide rail.
3. Align the guide rail along the cutting line with using the guide plate. Make sure that the blade does not make any contact with workpiece.
4. Push in the lock-off button and turn the tool on, and wait until the blade attains full speed.
5. Press down the tool slowly to the preset depth of cut, and simply move the tool forward over the workpiece surface, keeping it flat and advancing smoothly until the cutting is completed.
6. When cutting is complete, release switch, wait for blade to stop and then withdraw tool. To get clean cuts, keep your cutting line straight and your speed of advance uniform. If the cut fails to properly follow your intended cut line, **do not attempt to turn or force the tool back to the cut line**. Doing so may bind the blade and lead to dangerous kickback and possible serious injury.

NOTE: Make sure that the stopper is released and the red mark can be seen for groove cutting operation.

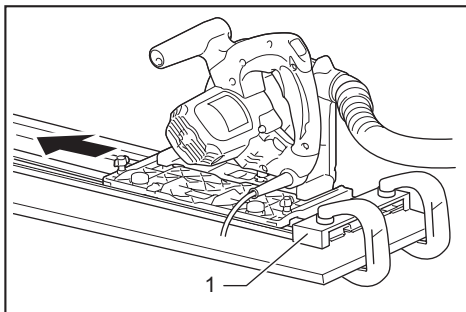


1. Stopper 2. Red mark

Plunge cutting (Cutting-out)

⚠WARNING: To avoid a kickback, be sure to observe the following instructions.

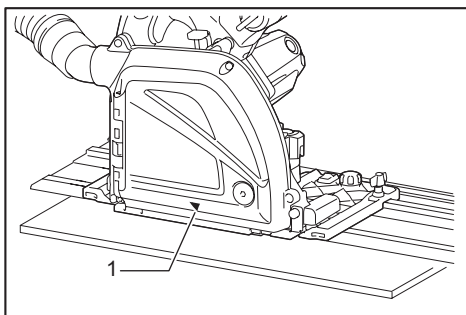
1. Place the tool on the guide rail with the rear edge of tool base against a fixed stop or equivalent which is clamped on the guide rail.



1. Fixed stop

2. Hold the tool firmly with one hand on the front grip and the other on the tool handle. Push in the lock-off button, and turn the tool on, then wait until the blade attains full speed.
3. Press down the saw head slowly to the preset depth of cut, and move the tool forward to the desired plunge position.

NOTE: The triangular mark on the blade case shows the approximate center of the blade.



1. Triangular mark

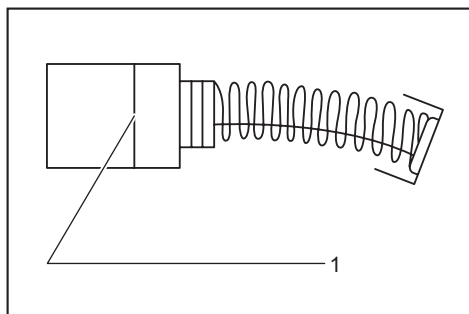
MAINTENANCE

⚠CAUTION: Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

⚠CAUTION: Clean out the guard to ensure there is no accumulated sawdust and chips which may impede the operation of the guarding system. A dirty guarding system may limit the proper operation which could result in serious personal injury. The most effective way to accomplish this cleaning is with compressed air. **If the dust is being blown out of the guard, be sure the proper eye and breathing protection is used.**

NOTICE: Never use gasoline, benzine, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

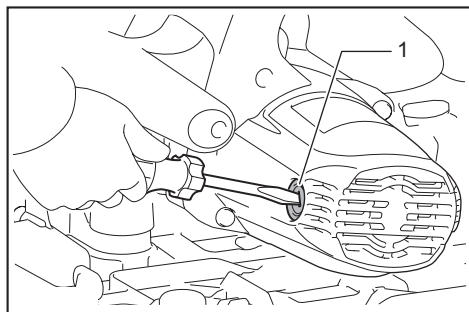
Replacing carbon brushes



1. Limit mark

Check the carbon brushes regularly. Replace them when they wear down to the limit mark. Keep the carbon brushes clean and free to slip in the holders. Both carbon brushes should be replaced at the same time. Use only identical carbon brushes.

1. Use a screwdriver to remove the brush holder caps.
2. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.



1. Brush holder cap

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

OPTIONAL ACCESSORIES

⚠CAUTION: These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. Only use accessory or attachment for its stated purpose.

If you need any assistance for more details regarding these accessories, ask your local Makita Service Center.

- Guide rail
- 90° groove cutter blade
- 135° groove cutter blade
- Guide plate
- Clamp
- Hex wrench
- Sheet set for guide rail
- Rubber sheet set for guide rail
- Position sheet for guide rail

NOTE: Some items in the list may be included in the tool package as standard accessories. They may differ from country to country.

Makita Corporation

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