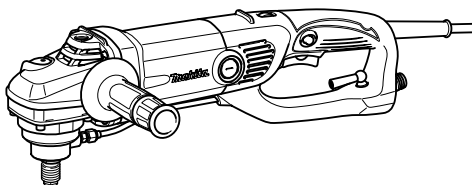


INSTRUCTION MANUAL

Angle Sander

PK5011C



012054

IMPORTANT: Read Before Using.

ENGLISH (Original instructions)

SPECIFICATIONS

Model	PK5011C
Spindle thread	M14
Abrasive disc / Offset diamond wheel	125 mm
Rated speed (n) / No load speed (n ₀)	2,000 - 5,500 min ⁻¹
Overall length	468 mm
Net weight	3.8 kg

- Due to our continuing programme 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

END227-1

GEA005-3

Symbols

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



- Read instruction manual.



- Wear safety glasses.



- Only for EU countries
Do not dispose of electric equipment together with household waste material! In observance of European Directive 2002/96/EC 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.

ENE057-1

Intended use

The tool is intended for surface work with natural stone.

ENF001-1

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. This tool should be grounded while in use to protect the operator from electric shock. Use only three-wire extension cords which have three-prong grounding-type plugs and three-pole receptacles which accept the tool's plug.

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

4. **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.
5. **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.
6. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
7. **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.

8. **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.
9. **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.
10. **Use of power supply via a RCD with a rated residual current of 30mA or less is always recommended.**

Personal safety

11. **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.
12. **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.
13. **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.
14. **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.
15. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
16. **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.
17. **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

18. **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.
19. **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.
20. **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.
21. **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.
22. **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.
23. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
24. **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

25. **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.
26. **Follow instruction for lubricating and changing accessories.**
27. **Keep handles dry, clean and free from oil and grease.**

WET SANDER SAFETY WARNINGS

Safety Warnings Common for Grinding or Sanding Operation:

1. **This power tool is intended to function as a grinder or sander. Read all safety warnings, instructions, illustrations and specifications provided with this power tool.** Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.
2. **Operations such as, wire brushing, polishing or cutting-off are not recommended to be performed with this power tool.** Operations for which the power tool was not designed may create a hazard and cause personal injury.
3. **Do not use accessories which are not specifically designed and recommended by the tool manufacturer.** Just because the accessory can be attached to your power tool, it does not assure safe operation.
4. **The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.** Accessories running faster than their rated speed can break and fly apart.
5. **The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool.** Incorrectly sized accessories cannot be adequately guarded or controlled.
6. **The arbour size of backing pads or any other accessory must properly fit the spindle of the power tool.** Accessories with arbour holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.
7. **Do not use a damaged accessory. Before each use inspect the accessory such as backing pad for cracks. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute.** Damaged accessories will normally break apart during this test time.
8. **Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments.** The eye protection must be capable of stopping flying debris generated by various operations . The dust mask or respirator must be capable of filtrating particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.
9. **Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment.** Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.
10. **Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
11. **Position the cord clear of the spinning accessory.** If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.
12. **Never lay the power tool down until the accessory has come to a complete stop.** The spinning accessory may grab the surface and pull the power tool out of your control.
13. **Do not run the power tool while carrying it at your side.** Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.
14. **Regularly clean the power tool's air vents.** The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.
15. **Do not operate the power tool near flammable materials.** Sparks could ignite these materials.

Kickback and Related Warnings

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation at the point of the binding.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions.

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

- a) **Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during start-up.** The operator can control torque reactions or kickback forces, if proper precautions are taken.
- b) **Never place your hand near the rotating accessory.** Accessory may kickback over your hand.
- c) **Do not position your body in the area where power tool will move if kickback occurs.** Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.
- d) **Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory.** Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.
- e) **Do not attach a saw chain woodcarving blade or toothed saw blade.** Such blades create frequent kickback and loss of control

Safety Warnings Specific for Grinding Operation:

- 16. **Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel.** Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.

Safety Warnings Specific for Sanding Operations:

- 17. **Do not use excessively oversized sanding disc paper.** Follow manufacturers recommendations, when selecting sanding paper. Larger sanding paper extending beyond the sanding pad presents a laceration hazard and may cause snagging, tearing of the disc or kickback.

Additional safety warnings:

- 18. **Always use a sanding disc or offset diamond wheel specifically designed for wet operation.**
- 19. **Always install the dust cover before operation.**
- 20. **Make sure that the wheel is not contacting the workpiece before the switch is turned on.**
- 21. **Before using the tool on an actual workpiece, let it run for a while. Watch for vibration or wobbling that could indicate poor installation or a poorly balanced wheel.**
- 22. **Ground Fault Circuit Interrupter (GFCI) protection should be provided on the circuit(s) or outlet(s) to be used for the tool. Receptacles are available having built-in GFCI protection and may be used for this measure of safety.**
- 23. **For additional protection against electric shock, be sure to WEAR RUBBER GLOVES AND RUBBER BOOTS during operation.**

- 24. **When using the water feed, be careful not to let water get into the motor. If water runs into the motor, an electric shock hazard may result.**
- 25. **PROPER GROUNDING.** This tool should be grounding while in use to protect the operator from electric shock.
- 26. **EXTENSION CORDS.** Use only three-wire extension cords which have three-prong grounding-type plugs and three-pole receptacles which accept the tool's plug. Replace or repair damaged or worn cord immediately.
- 27. **Check the backing pad carefully for cracks, damage or deformity before operation.** Replace cracked, damaged or deformed pad immediately.
- 28. **Do not leave the tool running. Operate the tool only when hand-held.**
- 29. **Always be sure that the tool is switched off and unplugged or that the battery cartridge is removed before carrying out any work on the tool.**
- 30. **Do not touch the workpiece or the offset diamond wheel immediately after operation; it may be extremely hot and could burn your skin.**
- 31. **Check that the workpiece is properly supported.**
- 32. **Pay attention that the wheel continues to rotate after the tool is switched off.**
- 33. **Do not use the tool on any materials containing asbestos.**
- 34. **Ensure that ventilation openings are kept clear when working in dusty conditions. If it should become necessary to clear dust, first disconnect the tool from the mains supply (use non metallic objects) and avoid damaging internal parts.**

SAVE THESE INSTRUCTIONS.

⚠WARNING:

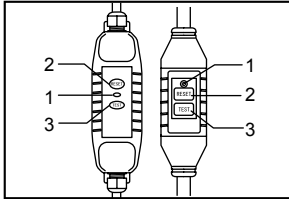
DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product. **MISUSE** or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

FUNCTIONAL DESCRIPTION

⚠CAUTION:

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

Ground Fault Circuit Interrupter



011831

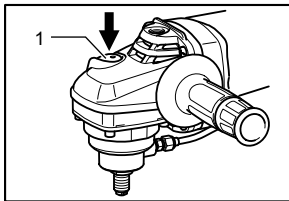
The tool is equipped with either of Ground Fault Circuit Interrupter (GFCI) illustrated.

Connect the tool to a power supply and test the Ground Fault Circuit Interrupter (GFCI) before using the tool. Push the RESET (R) button and confirm that the pilot lamp lights. Push the TEST (T) button and confirm that the pilot lamp goes out. Push the RESET (R) button again to use the tool.

⚠WARNING:

- Do not use the tool if the pilot lamp does not go out when the TEST (T) button is pushed.

Shaft lock

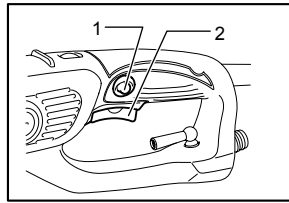


012062

⚠CAUTION:

- Never actuate the shaft lock when the spindle is moving. The tool may be damaged.
- Press the shaft lock to prevent spindle rotation when installing or removing accessories.

Switch action



012041

⚠CAUTION:

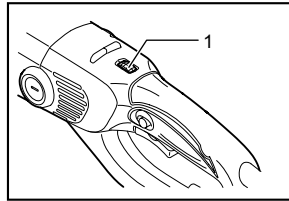
- Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.
- Switch can be locked in "ON" position for ease of operator comfort during extended use. Apply caution when locking tool in "ON" position and maintain firm grasp on tool.

To start the tool, simply pull the switch trigger. Release the switch trigger to stop.

For continuous operation, pull the switch trigger and then push in the lock button.

To stop the tool from the locked position, pull the switch trigger fully, then release it.

Speed adjusting dial



012025

The rotating speed can be changed by turning the speed adjusting dial to a given number setting from 1 to 6.

Higher speed is obtained when the dial is turned in the direction of number 6. And lower speed is obtained when it is turned in the direction of number 1.

Refer to the table for the relationship between the number settings on the dial and the approximate rotating speed.

Number	min ¹ (R.P.M.)
1	2,000
2	2,500
3	3,300
4	4,100
5	4,800
6	5,500

012049

⚠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.
- If the tool is operated continuously at low speeds, the motor will get overloaded and heated up.

Electronic function

Constant speed control

Possible to get fine finish, because the rotating speed is kept constant even under the loaded condition.

Additionally, 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.

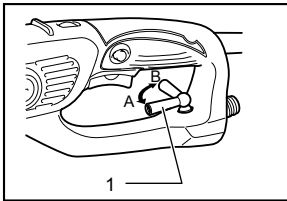
Soft start feature

Soft start because of suppressed starting shock.

Overload protector

When the tool would be employed over the admissible load, it will stop automatically to protect the motor and wheel. When the load will come to the admissible level again, the tool can be started automatically.

Opening or closing of water lever



1. Lever

012026

For water flow open, turn the lever to the position A. Return it to the position B to close.

ASSEMBLY

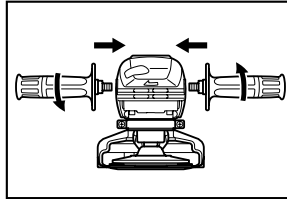
⚠CAUTION:

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

Installing side grip (handle)

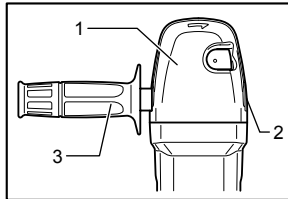
⚠CAUTION:

- Always be sure that the side grip is installed securely before operation.



012027

Screw the side grip securely on the position of the tool as shown in the figure.

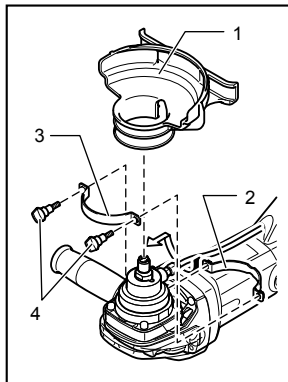


1. Head cover
2. Screw
3. Side grip

012029

If the tool comes with a head cover, remove one of the screws which secure gear housing and head cover, and then screw the side grip on the tool.

Installing or removing dust cover for abrasive disc (Optional accessory)



1. 125mm dust cover
2. Dust cover band A
3. Dust cover band B
4. Screws

012691

When using an abrasive disc, use the 125 mm dust cover together.

To install the dust cover, insert the dust cover band A through between the tool body and the tube, and then fit it onto the tool. The notch of the dust cover band positions just below the joint.

Set the dust cover so that the notch of the dust cover fits to the protrusion of the bearing box.

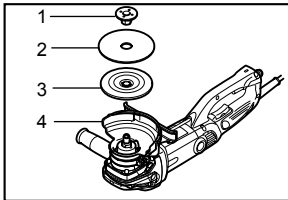
Secure the dust cover band B by firmly tightening the screws.

To remove the dust cover, follow the installation procedure in reverse.

Installing or removing abrasive disc (Optional accessory)

NOTE:

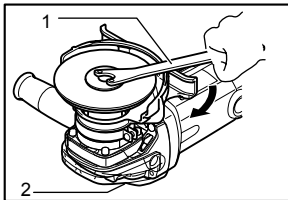
- Use sander accessories specified in this manual. These must be purchased separately.



1. Lock nut
2. Abrasive disc
3. Rubber pad
4. 125 mm dust cover

012030

Mount the rubber pad onto the spindle. Fit the disc on the rubber pad and screw the lock nut onto the spindle.



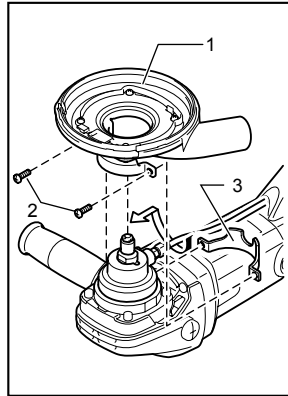
1. Lock nut wrench
2. Shaft lock

012075

To tighten the lock nut, press the shaft lock firmly so that the spindle cannot revolve, and then use the lock nut wrench and securely tighten clockwise.

To remove the disc, follow the installation procedure in reverse.

Installing or removing offset-diamond-wheel cover (Optional accessory)



1. Offset-diamond-wheel cover
2. Screws
3. Set band

012044

When using an offset diamond wheel, install the offset-diamond-wheel cover.

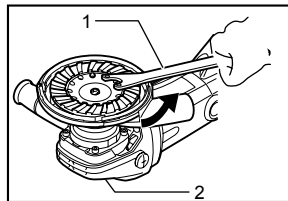
To install the offset-diamond-wheel cover, insert the set band through between the tool body and the tube, and then fit it onto the tool. The notch of the set band position just below the joint.

Set the offset-diamond-wheel cover and secure it and the set band by firmly tightening the screws.

To remove the offset-diamond-wheel cover, follow the installation procedure in reverse.

Installing or removing offset diamond wheel 125 mm, M14 threaded (Optional accessory)

To install the offset diamond wheel, press the shaft lock, and screw the offset diamond wheel on the tool.

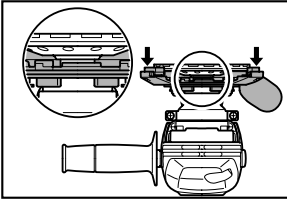


1. Lock nut wrench
2. Shaft lock

012074

To remove the offset diamond wheel, press the shaft lock, place the lock nut wrench on the holes of the wheel and turn it counterclockwise.

In case the holes don't match with the lock nut wrench



012038

Remove the front-edge cover by sliding it. Then press the shaft lock and hold the two parallel flats of the offset diamond wheel by a wrench and turn it. If you can't see the parallel flats, press down the offset-diamond-wheel cover with your fingers.

OPERATION

Sanding operation

⚠WARNING:

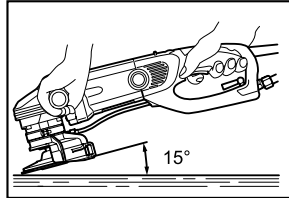
- **To reduce the risk of electric shock, check the tool's water supply system to ensure there is no damage to the seals ("O" rings) or hoses.** A damaged water supply system may result in abnormal water flow to the tool which could be dangerous.
- **When you connect a vacuum cleaner to the offset-diamond-wheel cover, always use a wet type.** Using a dry type vacuum cleaner to collect wet dust could result in electric shock, fire and/or property damage.

⚠CAUTION:

- Always wear safety goggles or a face shield during operation.
- Never switch on the tool when it is in contact with the workpiece, it may cause an injury to operator.
- Always use the abrasive disc together with the rubber pad. Using the rubber pad by itself may seriously damage the rubber pad.
- When using the abrasive disc, make sure that the dust cover is attached on the tool. Otherwise water and dust come into the tool and it can cause tool failure.
- When using the offset diamond wheel, install the offset-diamond-wheel cover. Contact with a rotating wheel can result in serious injury.

Make sure that the cock is closed. Connect the hose to the tool. Make sure that water comes out when the water lever is opened.

Hold the tool firmly. Turn the tool on and then apply the abrasive disc to the workpiece.



012034

When using an abrasive disc, keep the abrasive disc at an angle of about 15° to the workpiece surface.

Apply slight pressure only. Excessive pressure will result in poor performance and premature wear to abrasive disc.

When using an offset diamond wheel, apply the offset diamond wheel flat on the work surface.

NOTE:

- The dust collection with a vacuum cleaner is effective only when grinding a flat surface.

Planing in corners

Flush planing of corners is possible after first removing the dust cover cap.

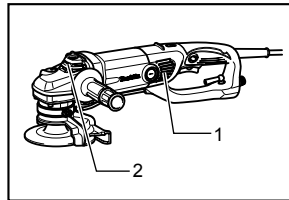
MAINTENANCE

⚠CAUTION:

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

NOTICE:

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



012047

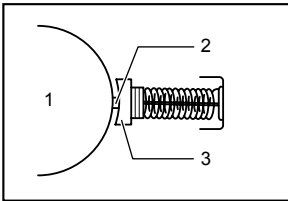
The tool and its air vents have to be kept clean. Regularly clean the tool's air vents or whenever the vents start to become obstructed.

Long use and operation of the tool using much water causes buildup of dust inside the tool. To maintain the product safety and operate the tool with high efficiency, always check the exhaust vent at the back of tool.

When you find buildup of dust in that area, ask Makita service center for cleaning inside of the tool. Never

disassemble or clean the inside of the tool by yourself. Early request for cleaning is recommended at all times.

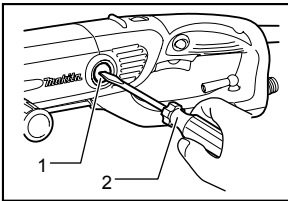
Replacing carbon brushes



001146

When the resin insulating tip inside the carbon brush is exposed to contact the commutator, it will automatically shut off the motor. When this occurs, both carbon brushes should be replaced. 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. Commutator
2. Insulating tip
3. Carbon brush



012036

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

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

1. Brush holder cap
2. Screwdriver

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.

- Abrasive discs (wet type)
- Side grip
- Rubber pad
- Lock nut
- Lock nut wrench
- 125mm dust cover set
- Offset diamond wheel
- Offset-diamond-wheel cover

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