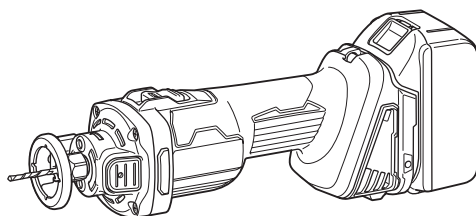


INSTRUCTION MANUAL



Cordless Cut-Out Tool DCO181



Read before use.

SPECIFICATIONS

Model:		DCO181
Collet chuck capacity		3.0 mm, 3.18 mm, 6.0 mm, 6.35 mm
No load speed		32,000 min ⁻¹
Overall length	with BL1820B	293 mm
	with BL1860B	311 mm
Rated voltage		D.C. 18 V
Net weight		1.4 - 1.7 kg

- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Specifications and battery cartridge may differ from country to country.
- The weight may differ depending on the attachment(s), including the battery cartridge. The lightest and heaviest combinations, according to EPTA-Procedure 01/2014, are shown in the table.

Applicable battery cartridge and charger

Battery cartridge	BL1815N / BL1820 / BL1820B / BL1830 / BL1830B / BL1840 / BL1840B / BL1850 / BL1850B / BL1860B
Charger	DC18RC / DC18RD / DC18RE / DC18SD / DC18SE / DC18SF / DC18SH

- Some of the battery cartridges and chargers listed above may not be available depending on your region of residence.

⚠WARNING: Only use the battery cartridges and chargers listed above. Use of any other battery cartridges and chargers may cause injury and/or fire.

Symbols

The followings show the symbols which may be used for the equipment. Be sure that you understand their meaning before use.



Read instruction manual.



Wear safety glasses.



Ni-MH
Li-Ion

Only for EU countries
Do not dispose of electric equipment or battery pack together with household waste material!
In observance of the European Directives, on Waste Electric and Electronic Equipment and Batteries and Accumulators and Waste Batteries and Accumulators and their implementation in accordance with national laws, electric equipment and batteries and battery pack(s) 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 intended for flush trimming and profiling of wood, plastic and similar materials.

Noise

The typical A-weighted noise level determined according to EN62841-2-17:

Sound pressure level (L_{pA}) : 78 dB(A)

Uncertainty (K) : 3 dB(A)

The noise level under working may exceed 80 dB (A).

NOTE: The declared noise emission value(s) has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared noise emission value(s) may also be used in a preliminary assessment of exposure.

⚠WARNING: Wear ear protection.

⚠WARNING: The noise emission during actual use of the power tool can differ from the declared value(s) depending on the ways in which the tool is used especially what kind of workpiece is processed.

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

Vibration

The vibration total value (tri-axial vector sum) determined according to EN62841-2-17:

Work mode: rotation without load

Vibration emission (a_h) : 2.5 m/s² or less

Uncertainty (K) : 1.5 m/s²

NOTE: The declared vibration total value(s) has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared vibration total value(s) may also be used in a preliminary assessment of exposure.

⚠WARNING: The vibration emission during actual use of the power tool can differ from the declared value(s) depending on the ways in which the tool is used especially what kind of workpiece is processed.

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

EC Declaration of Conformity

For European countries only

The EC declaration of conformity is included as Annex A to this instruction manual.

SAFETY WARNINGS

General power tool safety warnings

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

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Work area safety

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.

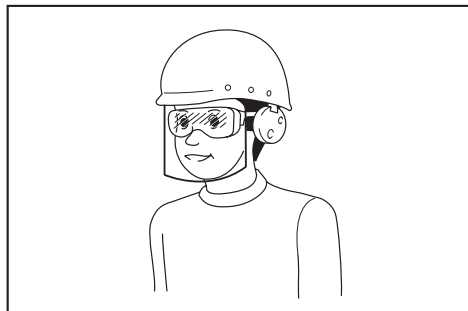
Electrical safety

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. **Power tools can produce electromagnetic fields (EMF) that are not harmful to the user.** However, users of pacemakers and other similar medical devices should contact the maker of their device and/or doctor for advice before operating this power tool.

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 a 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 and clothing 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.

8. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.
9. **Always wear protective goggles to protect your eyes from injury when using power tools.** The goggles must comply with ANSI Z87.1 in the USA, EN 166 in Europe, or AS/NZS 1336 in Australia/New Zealand. In Australia/New Zealand, it is legally required to wear a face shield to protect your face, too.



It is an employer's responsibility to enforce the use of appropriate safety protective equipments by the tool operators and by other persons in the immediate working area.

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 remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
 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 and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
 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.
8. **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
 9. **When using the tool, do not wear cloth work gloves which may be entangled.** The entanglement of cloth work gloves in the moving parts may result in personal injury.

Battery tool use and care

1. **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
2. **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
3. **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
4. **Under abusive conditions, liquid may be ejected from the battery; avoid contact.** If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
5. **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
6. **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C may cause explosion.
7. **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

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. **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.
3. **Follow instruction for lubricating and changing accessories.**

Cordless cut-out tool safety warnings

1. **Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

2. Use clamps or another practical way to secure and support the workpiece to a stable platform. Holding the work by your hand or against the body leaves it unstable and may lead to loss of control.
3. Wear eye protection and dust mask.
4. Ventilate your work area adequately.
5. Check the bit carefully for cracks or damage before operation. Replace cracked or damaged bit immediately.
6. Check for the proper clearance beneath the workpiece before cutting so that the bit will not strike a hard surface such as the floor, workbench, etc.
7. Do not cut metal objects such as nails and screws. Inspect for and remove all nails, screws and other foreign material from the workpiece before operation.
8. Check that the bit is not contacting the workpiece before the switch is turned on. Always hold the tool with two hands while switching the tool on. The motor torque can cause the tool to turn.
9. Before using the tool on an actual workpiece, let it run for a while. Watch for vibration or wobbling that could indicate improperly installed bit.
10. Make sure that the shaft lock is released before the switch is turned on.
11. Always use with the shoe securely attached to the tool and positioned flat and firmly against the workpiece.
12. Hold the tool firmly.
13. Do not perform any operation using your hands to support or guide the workpiece.
14. Keep hands away from moving parts.
15. Do not use this tool for drilling.
16. Do not leave the tool running. Operate the tool only when hand-held.
17. Always switch off and wait for the bit to come to a complete stop before removing the bit from workpiece.
18. Do not touch the bit or the workpiece immediately after operation; they may be extremely hot and could burn your skin.
19. Draw attention to the need to use cutters of the correct shank diameter and which are suitable for the speed of the tool.
20. Place the tool on a flat and stable surface. Otherwise falling accident may occur and cause a personal injury.

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.

Important safety instructions for battery cartridge

1. Before using battery cartridge, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
2. Do not disassemble or tamper the battery cartridge. It may result in a fire, excessive heat, or explosion.
3. If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
4. If electrolyte gets into your eyes, rinse them out with clear water and seek medical attention right away. It may result in loss of your eyesight.
5. Do not short the battery cartridge:
 - (1) Do not touch the terminals with any conductive material.
 - (2) Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.
 - (3) Do not expose battery cartridge to water or rain.

A battery short can cause a large current flow, overheating, possible burns and even a breakdown.
6. Do not store and use the tool and battery cartridge in locations where the temperature may reach or exceed 50 °C (122 °F).
7. Do not incinerate the battery cartridge even if it is severely damaged or is completely worn out. The battery cartridge can explode in a fire.
8. Do not nail, cut, crush, throw, drop the battery cartridge, or hit against a hard object to the battery cartridge. Such conduct may result in a fire, excessive heat, or explosion.
9. Do not use a damaged battery.
10. The contained lithium-ion batteries are subject to the Dangerous Goods Legislation requirements.

For commercial transports e.g. by third parties, forwarding agents, special requirement on packaging and labeling must be observed.

For preparation of the item being shipped, consulting an expert for hazardous material is required. Please also observe possibly more detailed national regulations.

Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging.
11. When disposing the battery cartridge, remove it from the tool and dispose of it in a safe place. Follow your local regulations relating to disposal of battery.
12. Use the batteries only with the products specified by Makita. Installing the batteries to non-compliant products may result in a fire, excessive heat, explosion, or leak of electrolyte.
13. If the tool is not used for a long period of time, the battery must be removed from the tool.

14. During and after use, the battery cartridge may take on heat which can cause burns or low temperature burns. Pay attention to the handling of hot battery cartridges.
15. Do not touch the terminal of the tool immediately after use as it may get hot enough to cause burns.
16. Do not allow chips, dust, or soil stuck into the terminals, holes, and grooves of the battery cartridge. It may result in poor performance or breakdown of the tool or battery cartridge.
17. Unless the tool supports the use near high-voltage electrical power lines, do not use the battery cartridge near high-voltage electrical power lines. It may result in a malfunction or breakdown of the tool or battery cartridge.
18. Keep the battery away from children.

SAVE THESE INSTRUCTIONS.

⚠CAUTION: Only use genuine Makita batteries. Use of non-genuine Makita batteries, or batteries that have been altered, may result in the battery bursting causing fires, personal injury and damage. It will also void the Makita warranty for the Makita tool and charger.

Tips for maintaining maximum battery life

1. Charge the battery cartridge before completely discharged. Always stop tool operation and charge the battery cartridge when you notice less tool power.
2. Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life.
3. Charge the battery cartridge with room temperature at 10 °C - 40 °C (50 °F - 104 °F). Let a hot battery cartridge cool down before charging it.
4. When not using the battery cartridge, remove it from the tool or the charger.
5. Charge the battery cartridge if you do not use it for a long period (more than six months).

Important safety instructions for wireless unit

1. Do not disassemble or tamper with the wireless unit.
2. Keep the wireless unit away from young children. If accidentally swallowed, seek medical attention immediately.
3. Use the wireless unit only with Makita tools.
4. Do not expose the wireless unit to rain or wet conditions.
5. Do not use the wireless unit in places where the temperature exceeds 50°C (122°F).
6. Do not operate the wireless unit in places where medical instruments, such as heart pace makers are nearby.
7. Do not operate the wireless unit in places where automated devices are nearby. If operated, automated devices may develop malfunction or error.
8. Do not operate the wireless unit in places under high temperature or places where static electricity or electrical noise could be generated.
9. The wireless unit can produce electromagnetic fields (EMF) but they are not harmful to the user.
10. The wireless unit is an accurate instrument. Be careful not to drop or strike the wireless unit.
11. Avoid touching the terminal of the wireless unit with bare hands or metallic materials.
12. Always remove the battery on the product when installing the wireless unit into it.
13. When opening the lid of the slot, avoid the place where dust and water may come into the slot. Always keep the inlet of the slot clean.
14. Always insert the wireless unit in the correct direction.
15. Do not press the wireless activation button on the wireless unit too hard and/or press the button with an object with a sharp edge.
16. Always close the lid of the slot when operating.
17. Do not remove the wireless unit from the slot while the power is being supplied to the tool. Doing so may cause a malfunction of the wireless unit.
18. Do not remove the sticker on the wireless unit.
19. Do not put any sticker on the wireless unit.
20. Do not leave the wireless unit in a place where static electricity or electrical noise could be generated.
21. Do not leave the wireless unit in a place subject to high heat, such as a car sitting in the sun.
22. Do not leave the wireless unit in a dusty or powdery place or in a place corrosive gas could be generated.
23. Sudden change of the temperature may bedew the wireless unit. Do not use the wireless unit until the dew is completely dried.
24. When cleaning the wireless unit, gently wipe with a dry soft cloth. Do not use benzine, thinner, conductive grease or the like.
25. When storing the wireless unit, keep it in the supplied case or a static-free container.
26. Do not insert any devices other than Makita wireless unit into the slot on the tool.
27. Do not use the tool with the lid of the slot damaged. Water, dust, and dirt come into the slot may cause malfunction.
28. Do not pull and/or twist the lid of the slot more than necessary. Restore the lid if it comes off from the tool.
29. Replace the lid of the slot if it is lost or damaged.

SAVE THESE INSTRUCTIONS.

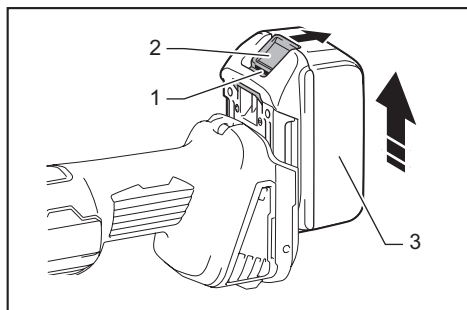
FUNCTIONAL DESCRIPTION

CAUTION: Always be sure that the tool is switched off and the battery cartridge is removed before adjusting or checking function on the tool.

Installing or removing battery cartridge

CAUTION: Always switch off the tool before installing or removing of the battery cartridge.

CAUTION: Hold the tool and the battery cartridge firmly when installing or removing battery cartridge. Failure to hold the tool and the battery cartridge firmly may cause them to slip off your hands and result in damage to the tool and battery cartridge and a personal injury.



► 1. Red indicator 2. Button 3. Battery cartridge

To remove the battery cartridge, slide it from the tool while sliding the button on the front of the cartridge.

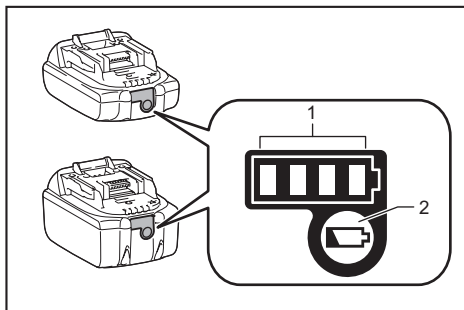
To install the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Insert it all the way until it locks in place with a little click. If you can see the red indicator on the upper side of the button, it is not locked completely.

CAUTION: Always install the battery cartridge fully until the red indicator cannot be seen. If not, it may accidentally fall out of the tool, causing injury to you or someone around you.

CAUTION: Do not install the battery cartridge forcibly. If the cartridge does not slide in easily, it is not being inserted correctly.

Indicating the remaining battery capacity

Only for battery cartridges with the indicator



► 1. Indicator lamps 2. Check button

Press the check button on the battery cartridge to indicate the remaining battery capacity. The indicator lamps light up for a few seconds.

Indicator lamps			Remaining capacity
Lighted	Off	Blinking	
			75% to 100%
			50% to 75%
			25% to 50%
			0% to 25%
			Charge the battery.
			The battery may have malfunctioned.

NOTE: Depending on the conditions of use and the ambient temperature, the indication may differ slightly from the actual capacity.

NOTE: The first (far left) indicator lamp will blink when the battery protection system works.

Tool / battery protection system

The tool is equipped with a tool/battery protection system. This system automatically cuts off power to the motor to extend tool and battery life. The tool will automatically stop during operation if the tool or battery is placed under one of the following conditions:

Overload protection

When the tool or battery is operated in a manner that causes it to draw an abnormally high current, the tool automatically stops without any indication. In this situation, turn the tool off and stop the application that caused the tool to become overloaded. Then turn the tool on to restart.

Overheat protection

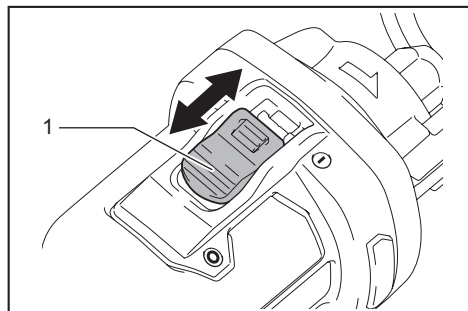
When the tool or battery is overheated, the tool stops automatically and the lamp blinks. In this case, let the tool and battery cool before turning the tool on again.

Overdischarge protection

When the battery capacity is not enough, the tool stops automatically. In this case, remove the battery from the tool and charge the battery.

Switch action

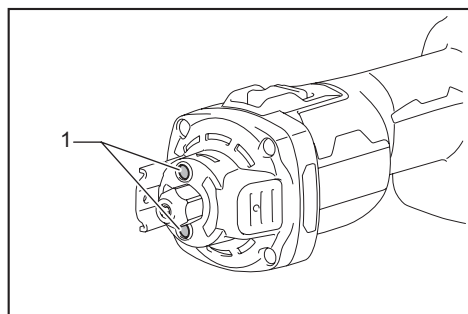
CAUTION: Before installing the battery cartridge into the tool, always check to see that the slide switch moves properly and returns to the "OFF" position when the rear of the slide switch is depressed.



► 1. Slide switch

To start the tool, slide the slide switch toward the "I (ON)" position. For continuous operation, press the front of the slide switch to lock it. To stop the tool, press the rear of the slide switch, then slide it toward the "O (OFF)" position.

Lighting up the front lamp



► 1. Lamp

CAUTION: Do not look in the light or see the source of light directly.

Turn on the switch to light up the lamp. The lamp keeps on lighting while the switch is on. The lamp goes out approximately 10 seconds after turning off the switch.

NOTE: Use a dry cloth to wipe the dirt off the lens of the lamp. Be careful not to scratch the lens of lamp, or it may lower the illumination.

NOTE: When the tool is overheated, the lamp blinks for one minute. In this case, cool down the tool before another operation.

Accidental re-start preventive function

Even if the battery cartridge is installed on the tool with the slide switch in the "I (ON)" position, the tool does not start.

To start the tool, first slide the slide switch toward the "O (OFF)" position and then slide it toward the "I (ON)" position.

Electronic function

The tool is equipped with the electronic functions for easy operation.

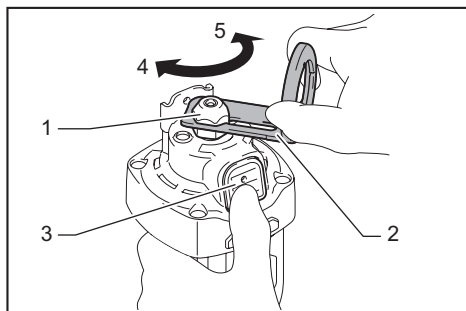
- Soft start
The soft-start function minimizes start-up shock, and makes the tool start smoothly.

ASSEMBLY

CAUTION: Always be sure that the tool is switched off and the battery cartridge is removed before carrying out any work on the tool.

Installing or removing bit

NOTICE: Do not tighten the collet nut without installing a bit, or the collet cone may break.



► 1. Collet nut 2. Shoe 3. Shaft lock 4. Tighten 5. Loosen

Press the shaft lock to prevent shaft rotation when installing or removing the bit.

To install the bit, insert it into the collet cone as far as it goes and then tighten the collet nut securely with the wrench or the shoe as a wrench.

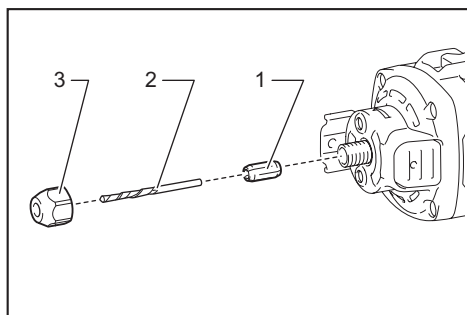
To remove the bit, follow the installation procedure in reverse.

Changing the collet cone

Country specific

NOTICE: Use the correct size collet cone for the bit that you are going to use.

NOTICE: Do not tighten the collet nut without installing a bit, or the collet cone may break.

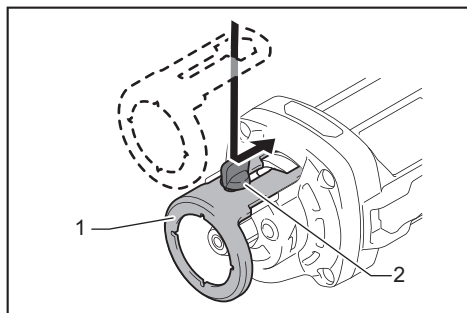


► 1. Collet cone 2. Bit 3. Collet nut

To change the collet cone, loosen the collet nut and remove. Replace the installed collet cone with desired collet cone. Reinstall collet nut.

Installing the shoe

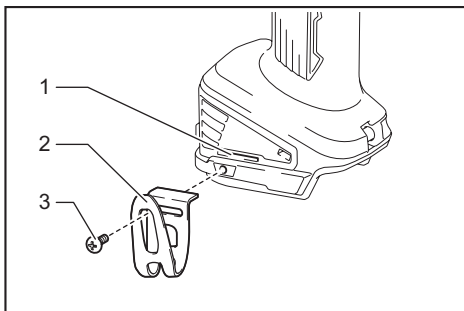
To install the shoe, loosen the thumb screw first. Attach the shoe on the tool, and then fix it firmly with the thumb screw.



► 1. Shoe 2. Thumb screw

Hook

⚠ CAUTION: Never hook the tool at high location or on potentially unstable surface.

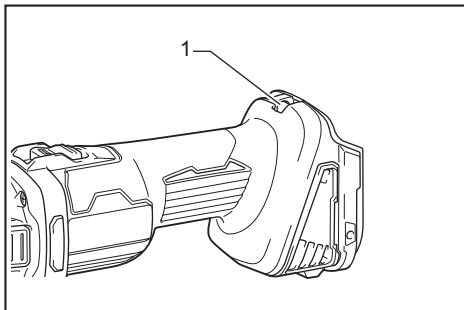


► 1. Groove 2. Hook 3. Screw

The hook is convenient for temporarily hanging the tool. To install the hook, insert it into a groove in the tool housing and then secure it with a screw. To remove, loosen the screw and then take it out.

Strap hole

The strap hole is provided for hanging the tool on the wall using a strap.



► 1. Strap hole

⚠ WARNING: Do not use the strap hole for any other purpose than hanging the tool on the wall. Doing so may result serious injury because the strap hole is not intended for any other purpose than hanging the tool on the wall.

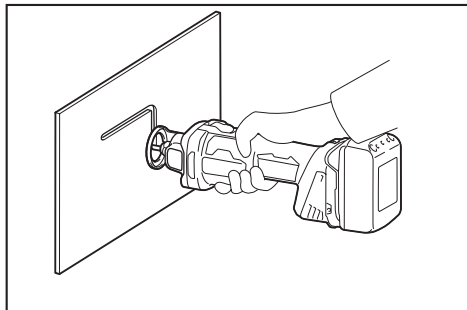
OPERATION

⚠CAUTION: Avoid forcing the bit to bend or twist. It may snap.

⚠CAUTION: Before turning the tool on, make sure the bit and collet nut are securely tightened.

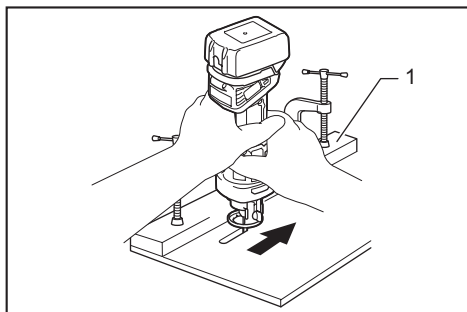
⚠CAUTION: Always use the tool with a base such as the shoe or the vacuum cover attached.

Hold the tool securely with the bit pointing in a safe direction while it is not contacting any surface. Turn the tool on and wait until the tool reaches full speed.



When using the drywall guide bit into a drywall, carefully insert the bit straight until the shoe base contacts the material fully.

Move the tool slowly with a constant pressure in a clockwise direction to make a cut.



► 1. Guide board

When cutting a straight line, clamp a guide board firmly to the material and use it as a guide. Move the tool in the direction of the arrow with the shoe base flush with the side of the guide board. When the cut is complete, turn the tool off and wait for the bit to stop rotating and then carefully pull it out from the material.

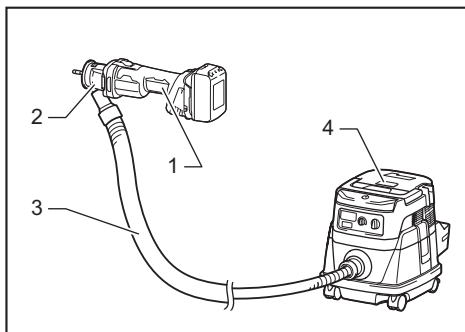
NOTICE: Do not apply excessive force to the bit against the material. Doing so may get the bit dull or broken, or the tool out of order.

NOTE: When cutting drywall around outlet box, cut in a counterclockwise direction for ease of cut.

NOTE: The standard bit included with this tool is for cutting a drywall only. When cutting materials other than drywall, do not use the standard drywall guide bit.

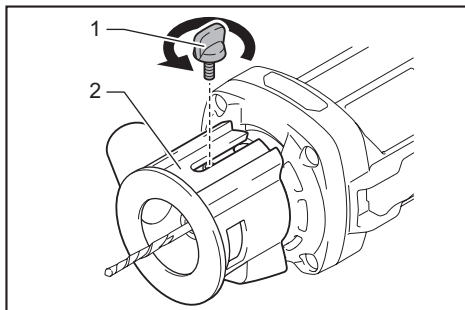
Vacuum cover

To perform cleaner operations, use the vacuum cover and connect the tool to Makita vacuum cleaner.



► 1. Tool 2. Vacuum cover 3. Hose 4. Vacuum cleaner

Loosen the thumb screw and remove the shoe. Attach the vacuum cover, and fasten it securely with the thumb screw.



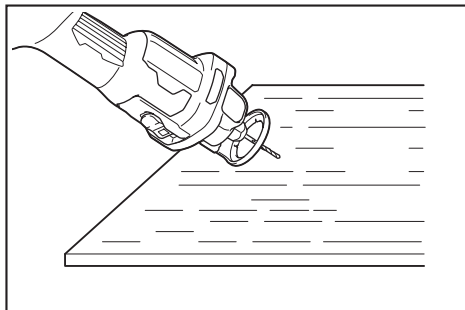
► 1. Thumb screw 2. Vacuum cover

NOTE: The circular guide (optional accessory) can be installed on the vacuum cover.

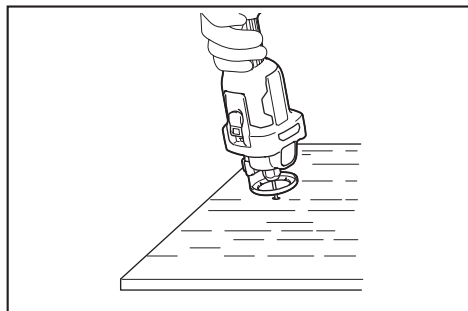
Using multipurpose bit

Optional accessory

When using the multipurpose bit into the material, hold the tool at approximately a 45 degree angle with the edge of the shoe base contacting the material.



Bring the tool carefully to a straight position so the shoe base contacts the material fully.



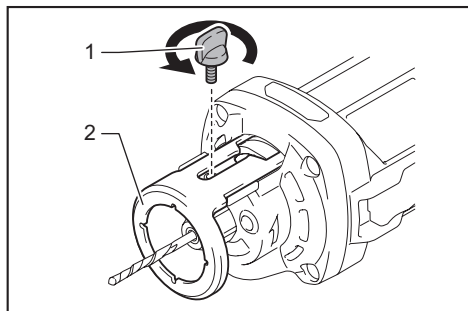
Circular guide

Optional accessory

Circular cutting diameters: 10 cm - 34 cm

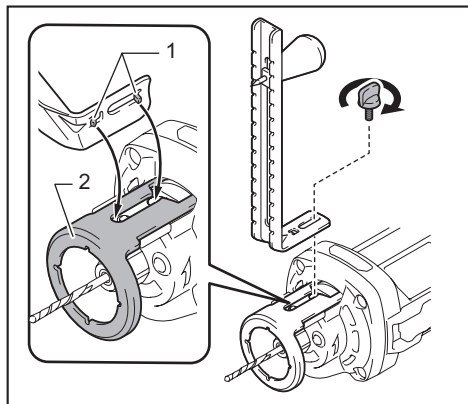
Installing circular guide

Remove the thumb screw which secures the shoe.



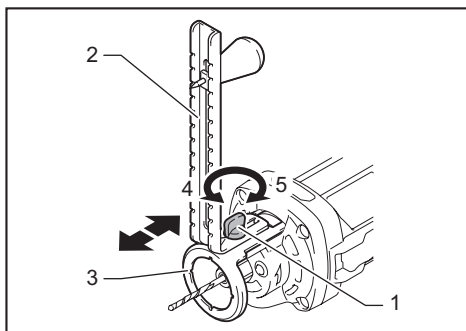
► 1. Thumb screw 2. Shoe

Align the projections in the circular guide with the grooves in the shoe, and secure the shoe and circular guide with the thumb screw.



► 1. Projections 2. Shoe

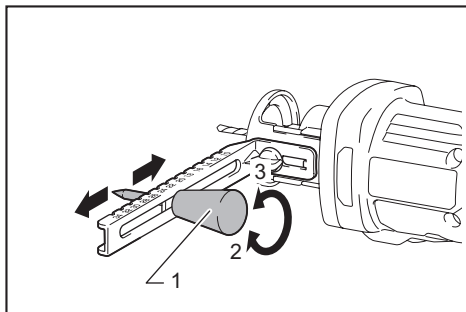
To adjust the cutting depth, loosen the thumb screw and then slide the shoe with the circular guide. After the adjustment, tighten the thumb screw securely.



► 1. Thumb screw 2. Circular guide 3. Shoe 4. Loosen 5. Tighten

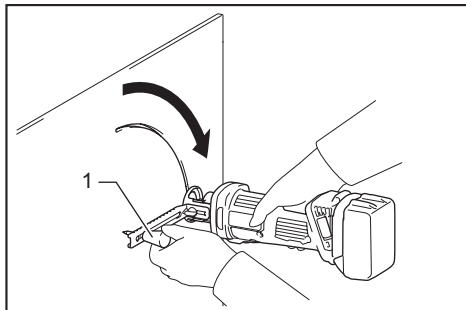
Using circular guide

Loosen the knob, and adjust its position in accordance with the size of the circle to be cut. (The hole radius to be cut are indicated on the side of the circular guide as a general guideline.) After completion of the adjustment, tighten the knob securely.



► 1. Knob 2. Tighten 3. Loosen

Place the tip of the knob into the center of the circle to be cut, and proceed to cut in a clockwise direction.

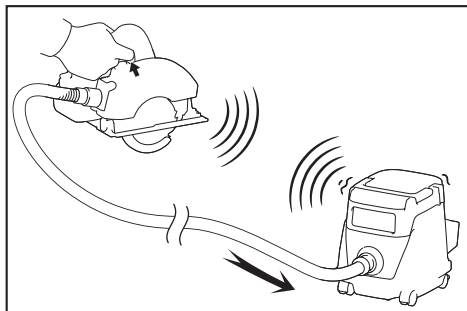


► 1. Knob

WIRELESS ACTIVATION FUNCTION

What you can do with the wireless activation function

The wireless activation function enables clean and comfortable operation. By connecting a supported vacuum cleaner to the tool, you can run the vacuum cleaner automatically along with the switch operation of the tool.



To use the wireless activation function, prepare following items:

- A wireless unit (optional accessory)
- A vacuum cleaner which supports the wireless activation function

The overview of the wireless activation function setting is as follows. Refer to each section for detail procedures.

1. Installing the wireless unit
2. Tool registration for the vacuum cleaner
3. Starting the wireless activation function

Installing the wireless unit

Optional accessory

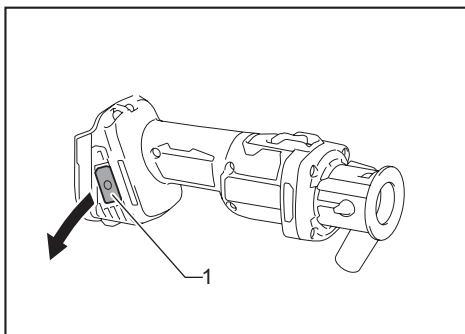
CAUTION: Place the tool on a flat and stable surface when installing the wireless unit.

NOTICE: Clean the dust and dirt on the tool before installing the wireless unit. Dust or dirt may cause malfunction if it comes into the slot of the wireless unit.

NOTICE: To prevent the malfunction caused by static, touch a static discharging material, such as a metal part of the tool, before picking up the wireless unit.

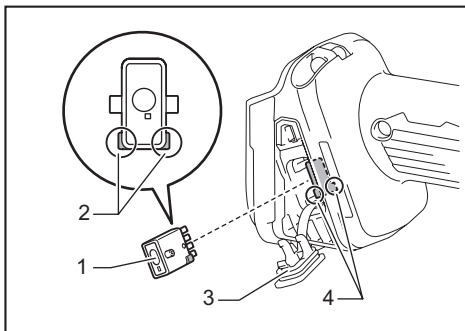
NOTICE: When installing the wireless unit, always be sure that the wireless unit is inserted in the correct direction and the lid is completely closed.

1. Open the lid on the tool as shown in the figure.



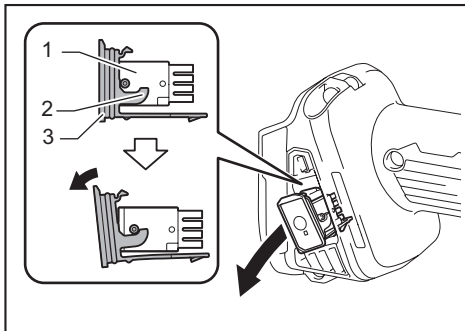
- 1. Lid

2. Insert the wireless unit to the slot and then close the lid. When inserting the wireless unit, align the projections with the recessed portions on the slot.



- 1. Wireless unit 2. Projection 3. Lid 4. Recessed portion

When removing the wireless unit, open the lid slowly. The hooks on the back of the lid will lift the wireless unit as you pull up the lid.



- 1. Wireless unit 2. Hook 3. Lid

After removing the wireless unit, keep it in the supplied case or a static-free container.

NOTICE: Always use the hooks on the back of the lid when removing the wireless unit. If the hooks do not catch the wireless unit, close the lid completely and open it slowly again.

Tool registration for the vacuum cleaner

NOTE: A Makita vacuum cleaner supporting the wireless activation function is required for the tool registration.

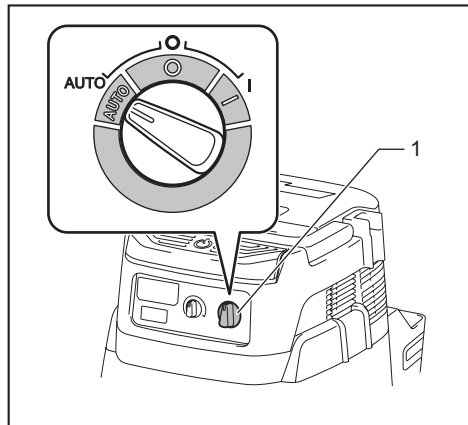
NOTE: Finish installing the wireless unit to the tool before starting the tool registration.

NOTE: During the tool registration, do not pull the switch trigger or turn on the power switch on the vacuum cleaner.

NOTE: Refer to the instruction manual of the vacuum cleaner, too.

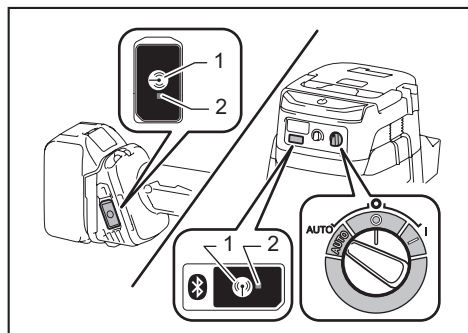
If you wish to activate the vacuum cleaner along with the switch operation of the tool, finish the tool registration beforehand.

1. Install the batteries to the vacuum cleaner and the tool.
2. Set the stand-by switch on the vacuum cleaner to "AUTO".



► 1. Stand-by switch

3. Press the wireless activation button on the vacuum cleaner for 3 seconds until the wireless activation lamp blinks in green. And then press the wireless activation button on the tool in the same way.



► 1. Wireless activation button 2. Wireless activation lamp

If the vacuum cleaner and the tool are linked successfully, the wireless activation lamps will light up in green for 2 seconds and start blinking in blue.

NOTE: The wireless activation lamps finish blinking in green after 20 seconds elapsed. Press the wireless activation button on the tool while the wireless activation lamp on the cleaner is blinking. If the wireless activation lamp does not blink in green, push the wireless activation button briefly and hold it down again.

NOTE: When performing two or more tool registrations for one vacuum cleaner, finish the tool registration one by one.

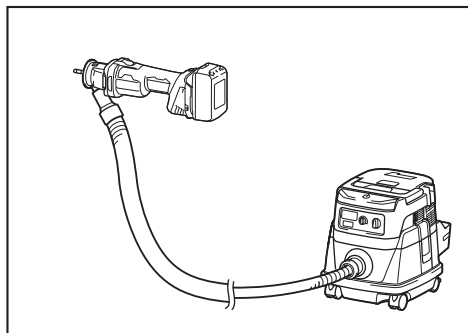
Starting the wireless activation function

NOTE: Finish the tool registration for the vacuum cleaner prior to the wireless activation.

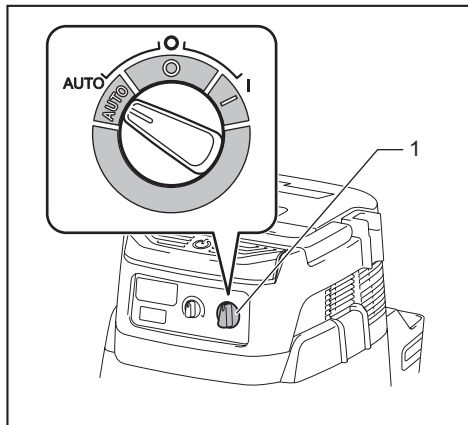
NOTE: Refer to the instruction manual of the vacuum cleaner, too.

After registering a tool to the vacuum cleaner, the vacuum cleaner will automatically runs along with the switch operation of the tool.

1. Install the wireless unit to the tool.
2. Connect the hose of the vacuum cleaner with the tool.

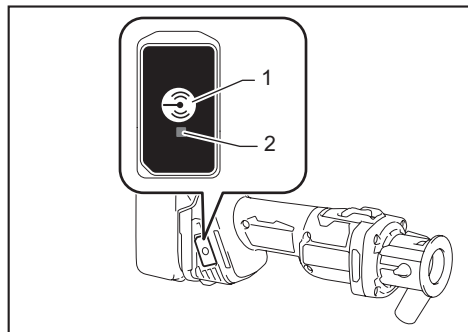


3. Set the stand-by switch on the vacuum cleaner to "AUTO".



► 1. Stand-by switch

4. Push the wireless activation button on the tool briefly. The wireless activation lamp will blink in blue.



► 1. Wireless activation button 2. Wireless activation lamp

5. Pull the switch trigger of the tool. Check if the vacuum cleaner runs while the switch trigger is being pulled.

To stop the wireless activation of the vacuum cleaner, push the wireless activation button on the tool.

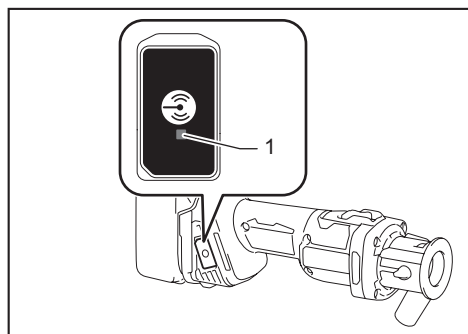
NOTE: The wireless activation lamp on the tool will stop blinking in blue when there is no operation for 2 hours. In this case, set the stand-by switch on the vacuum cleaner to "AUTO" and push the wireless activation button on the tool again.

NOTE: The vacuum cleaner starts/stops with a delay. There is a time lag when the vacuum cleaner detects a switch operation of the tool.

NOTE: The transmission distance of the wireless unit may vary depending on the location and surrounding circumstances.

NOTE: When two or more tools are registered to one vacuum cleaner, the vacuum cleaner may start running even if you do not pull the switch trigger because another user is using the wireless activation function.

Description of the wireless activation lamp status



► 1. Wireless activation lamp

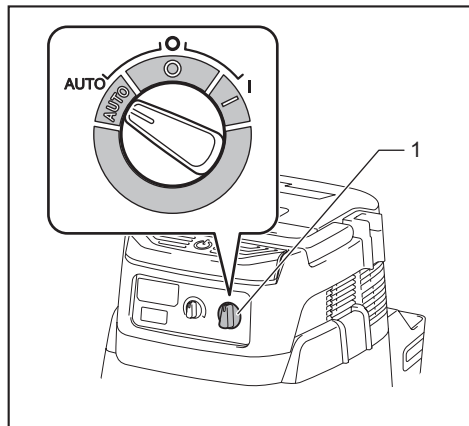
The wireless activation lamp shows the status of the wireless activation function. Refer to the table below for the meaning of the lamp status.

Status	Wireless activation lamp				Description
	Color	On	Blinking	Duration	
Standby	Blue			2 hours	The wireless activation of the vacuum cleaner is available. The lamp will automatically turn off when no operation is performed for 2 hours.
				When the tool is running.	The wireless activation of the vacuum cleaner is available and the tool is running.
Tool registration	Green			20 seconds	Ready for the tool registration. Waiting for the registration by the vacuum cleaner.
				2 seconds	The tool registration has been finished. The wireless activation lamp will start blinking in blue.
Cancelling tool registration	Red			20 seconds	Ready for the cancellation of the tool registration. Waiting for the cancellation by the vacuum cleaner.
				2 seconds	The cancellation of the tool registration has been finished. The wireless activation lamp will start blinking in blue.
Others	Red			3 seconds	The power is supplied to the wireless unit and the wireless activation function is starting up.
	Off	-		-	The wireless activation of the vacuum cleaner is stopped.

Cancelling tool registration for the vacuum cleaner

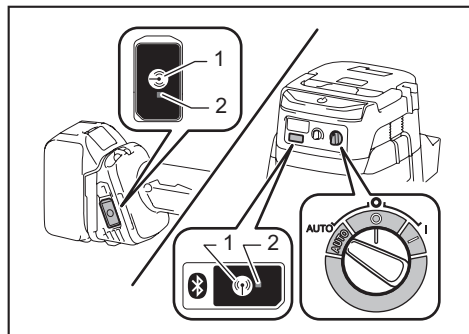
Perform the following procedure when cancelling the tool registration for the vacuum cleaner.

1. Install the batteries to the vacuum cleaner and the tool.
2. Set the stand-by switch on the vacuum cleaner to "AUTO".



► 1. Stand-by switch

3. Press the wireless activation button on the vacuum cleaner for 6 seconds. The wireless activation lamp blinks in green and then become red. After that, press the wireless activation button on the tool in the same way.



► 1. Wireless activation button 2. Wireless activation lamp

If the cancellation is performed successfully, the wireless activation lamps will light up in red for 2 seconds and start blinking in blue.

NOTE: The wireless activation lamps finish blinking in red after 20 seconds elapsed. Press the wireless activation button on the tool while the wireless activation lamp on the cleaner is blinking. If the wireless activation lamp does not blink in red, push the wireless activation button briefly and hold it down again.

Troubleshooting for wireless activation function

Before asking for repairs, conduct your own inspection first. If you find a problem that is not explained in the manual, do not attempt to dismantle the tool. Instead, ask Makita Authorized Service Centers, always using Makita replacement parts for repairs.

State of abnormality	Probable cause (malfunction)	Remedy
The wireless activation lamp does not light/blink.	The wireless unit is not installed into the tool. The wireless unit is improperly installed into the tool.	Install the wireless unit correctly.
	The terminal of the wireless unit and/or the slot is dirty.	Gently wipe off dust and dirt on the terminal of the wireless unit and clean the slot.
	The wireless activation button on the tool has not been pushed.	Push the wireless activation button on the tool briefly.
	The stand-by switch on the vacuum cleaner is not set to "AUTO".	Set the stand-by switch on the vacuum cleaner to "AUTO".
	No power supply	Supply the power to the tool and the vacuum cleaner.
Cannot finish tool registration / cancelling tool registration successfully.	The wireless unit is not installed into the tool. The wireless unit is improperly installed into the tool.	Install the wireless unit correctly.
	The terminal of the wireless unit and/or the slot is dirty.	Gently wipe off dust and dirt on the terminal of the wireless unit and clean the slot.
	The stand-by switch on the vacuum cleaner is not set to "AUTO".	Set the stand-by switch on the vacuum cleaner to "AUTO".
	No power supply	Supply the power to the tool and the vacuum cleaner.
	Incorrect operation	Push the wireless activation button briefly and perform the tool registration/cancellation procedures again.
	The tool and vacuum cleaner are away from each other (out of the transmission range).	Get the tool and vacuum cleaner closer to each other. The maximum transmission distance is approximately 10 m however it may vary according to the circumstances.
	Before finishing the tool registration/cancellation; - the switch trigger on the tool is pulled or; - the power button on the vacuum cleaner is turned on.	Push the wireless activation button briefly and perform the tool registration/cancellation procedures again.
	The tool registration procedures for the tool or vacuum cleaner have not finished.	Perform the tool registration procedures for both the tool and the vacuum cleaner at the same timing.
The vacuum cleaner does not run along with the switch operation of the tool.	Radio disturbance by other appliances which generate high-intensity radio waves.	Keep the tool and vacuum cleaner away from the appliances such as Wi-Fi devices and microwave ovens.
	The wireless unit is not installed into the tool. The wireless unit is improperly installed into the tool.	Install the wireless unit correctly.
	The terminal of the wireless unit and/or the slot is dirty.	Gently wipe off dust and dirt on the terminal of the wireless unit and clean the slot.
	The wireless activation button on the tool has not been pushed.	Push the wireless activation button briefly and make sure that the wireless activation lamp is blinking in blue.
	The stand-by switch on the vacuum cleaner is not set to "AUTO".	Set the stand-by switch on the vacuum cleaner to "AUTO".
	More than 10 tools are registered to the vacuum cleaner.	Perform the tool registration again. If more than 10 tools are registered to the vacuum cleaner, the tool registered earliest will be cancelled automatically.
	The vacuum cleaner erased all tool registrations.	Perform the tool registration again.
	No power supply	Supply the power to the tool and the vacuum cleaner.
	The tool and vacuum cleaner are away from each other (out of the transmission range).	Get the tool and vacuum cleaner closer each other. The maximum transmission distance is approximately 10 m however it may vary according to the circumstances.
	Radio disturbance by other appliances which generate high-intensity radio waves.	Keep the tool and vacuum cleaner away from the appliances such as Wi-Fi devices and microwave ovens.
The vacuum cleaner runs while the tool's switch trigger is not pulled.	Other users are using the wireless activation of the vacuum cleaner with their tools.	Turn off the wireless activation button of the other tools or cancel the tool registration of the other tools.

MAINTENANCE

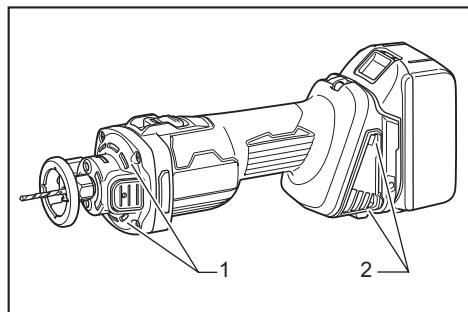
⚠CAUTION: Always be sure that the tool is switched off and the battery cartridge is removed before attempting to perform inspection or maintenance.

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

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.

Air vent cleaning

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.



► 1. Exhaust vent 2. Inhalation vent

⚠CAUTION: Clean out the air vents when it is clogged with dust or foreign matters. Continuing operation with the clogged air vents may cause fire.

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.

- Drywall guide bit
- Multi purpose bit
- Collet cone
- Wrench
- Circular guide
- Vacuum cover

- Hook
- Wireless unit
- Makita genuine battery and charger

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

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