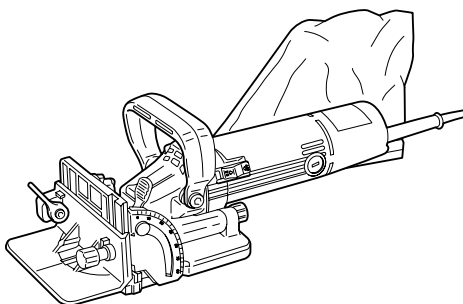


## INSTRUCTION MANUAL



# Plate Joiner

3901



004573



DOUBLE INSULATION

**IMPORTANT:** Read Before Using.

ENGLISH (Original instructions)

SPECIFICATIONS

Model		3901
Blade size	Cutter blade (Outer dia. x Width x Arbor dia.)	100 x 4 x 22 mm
	Circular saw blade (Outer dia. x Arbor dia.)	110 x 20 mm
Max. Cutting depth	Cutter blade	20 mm
	Circular saw blade	25 mm
No load speed (min <sup>-1</sup> )		11,000
Overall length		307 mm
Net weight		3.0 kg
Safety class		□/II

- 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

END201-5

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 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.

ENE013-1

Intended use

The tool is intended for cutting crescent shaped slots for the placement of flat wooden dowels or biscuit by a plunging action.

ENF002-2

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.

GEA005-3

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.
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.**

GEB020-3

## **PLATE JOINER SAFETY WARNINGS**

1. **Blades must be rated for at least the speed marked on the tool.** Blades running over rated speed can fly apart and cause injury.
2. **Always use the guard.** The guard protects the operator from broken blade fragments and unintentional contact with the blade.
3. **Hold power tool by insulated gripping surfaces, because the blade may contact its own cord.** Cutting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
4. **Use only the blades specified for this tool.**
5. **Never operate the tool with the blade locked in exposed position or without the blade cover secured properly in place.**

#### **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.

6. Make sure that the blade slides smoothly before operation.
7. Check the blades carefully for cracks or damage before operation. Replace cracked or damaged blades immediately.
8. Make sure that the flange fits in the arbor hole when installing the blade.
9. Inspect for and remove all nails or foreign matter from the workpieces before operation.
10. Always place the workpieces on a stable workbench.
11. Secure the workpieces firmly with clamp or vise.
12. NEVER wear gloves during operation.
13. Hold the tool firmly with both hands.
14. Keep your hands and body away from the cutting area.
15. Run the tool for a while without the blade pointing toward anybody. Watch for vibration or wobbling that could indicate poor installation or a poorly balanced blade.
16. Never reach your hands underneath the workpieces while the blade is rotating.
17. Do not leave the tool running unattended.
18. Always be sure that the tool is switched off and unplugged before making any adjustments or replacing the blade.
19. Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.
20. Do not use blunt or damaged blades.
21. Do not use the tool with damaged guards.

## SAVE THESE INSTRUCTIONS.

### **⚠WARNING:**

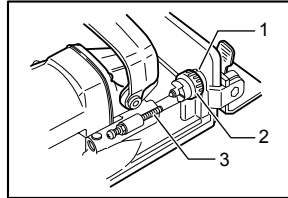
DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product. MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

## FUNCTIONAL DESCRIPTION

### **⚠CAUTION:**

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

### Adjusting the depth of cut



1. Pointer
2. Stopper
3. Adjusting screw

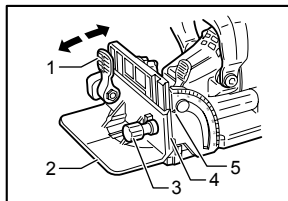
004574

6 cutting depths can be preset according to the size of biscuit to be used or if trimming the wall or ceiling panels as explained later. Rotate the stopper until the pointer points to the appropriate size marked on the stopper. Refer to the table below for the correspondence between the sizes marked on the stopper and the biscuit size. Fine adjustments to the cutting depth can be made by turning the adjusting screw after loosening the hex nut. This may become necessary after the blade has been resharpened a few times.

Size on stopper	0	10	20	S	D	MAX
Biscuit size	0	10	20	-	-	-
Depth of cut	8 mm	10 mm	12.3 mm	13 mm	14.7 mm	20 mm

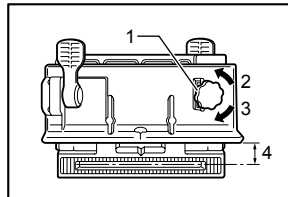
006424

### Angle guide



1. Lock lever
2. Angle guide
3. Knob
4. Scale
5. Pointer

004575



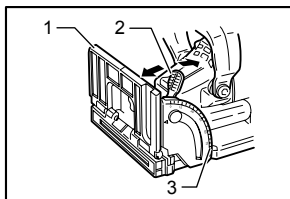
1. Knob
2. Down
3. Up
4. Center of blade thickness

004576

The angle guide can be moved up and down to adjust the position of the blade in relation to the top of the workpiece.

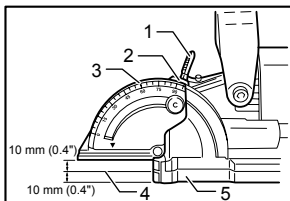
To adjust the angle guide height, loosen the lock lever down and rotate the knob until the pointer points to the desired scale graduation marked on the angle guide. Then tighten the lock lever up to secure the angle guide. The scale on the angle guide indicates the distance from the top of the workpiece to the center of the blade thickness.

## Fence



004577

1. Fence
2. Lock lever
3. Angle scale



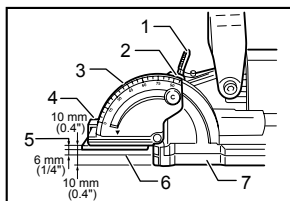
004578

1. Lock lever
2. Pointer
3. Angle scale
4. Center of blade thickness
5. Base

The angle of the fence can be adjusted between 0° and 90° (positive stops at 0°, 45° and 90°). To adjust the angle, loosen the lock lever and tilt the fence until the pointer points to the desired graduation on the angle scale. Then tighten the lock lever to secure the fence.

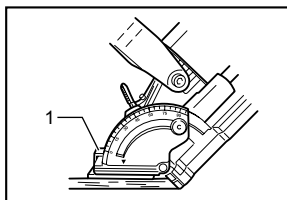
When the fence is set at 90°, both the distance from the center of the blade thickness to the fence and the distance from the center of the blade thickness to the bottom of the base are 10 mm.

## Set plate



004579

1. Lock lever
2. Pointer
3. Angle scale
4. Set plate
5. Thickness of set plate
6. Center of blade thickness
7. Base

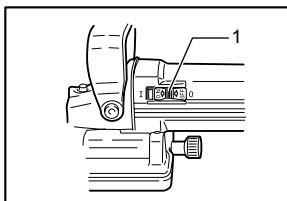


004580

1. Set plate

Use the set plate as shown in the figures when cutting slots in thin workpieces.

## Switch action



004581

1. Slide switch

## ⚠CAUTION:

- Before plugging in the tool, always check to see that the slide switch actuates properly and returns to the "OFF" position when the rear of the slide switch is depressed.

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.

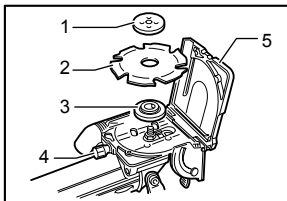
To stop the tool, press the rear of the slide switch, then slide it toward the "O (OFF)" position.

## ASSEMBLY

### ⚠CAUTION:

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

## Removing or installing the blade



004582

1. Lock nut
2. Cutter blade
3. Inner flange
4. Clamp screw
5. Blade cover

### ⚠CAUTION:

- When installing the cutter blade, mount the inner flange with the side marked "22" facing toward you.

- When installing the circular saw blade, mount the inner flange with the side marked "22" facing toward the tool.

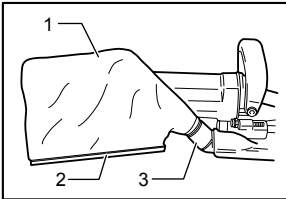
To remove the blade, loosen the clamp screw and open the blade cover. Push the shaft lock and loosen the lock nut using the lock nut wrench. To install the blade, first mount the inner flange.

Then mount the blade and the lock nut. Securely tighten the lock nut using the lock nut wrench. Close the blade cover and tighten the clamp screw to secure the blade cover.

### ⚠ CAUTION:

- Use only Makita lock nut wrench provided to remove or install the blade.
- Always check the depth of cut after replacing the blade. Readjust it if necessary.

### Dust bag



1. Dust bag
2. Fastener
3. Dust nozzle

004583

To attach the dust bag, fit it onto the dust nozzle. If the dust bag becomes an obstacle to your work, turn the dust nozzle to change the dust bag position.

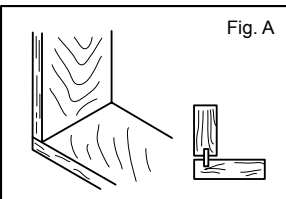
When the dust bag is about half full, switch off and unplug the tool. Remove the dust bag from the tool and pull the bag's fastener out. Empty the dust bag by tapping it lightly to remove as much of the dust as possible.

### NOTE:

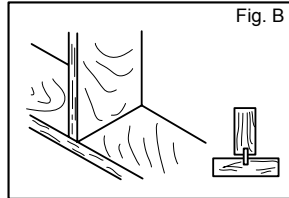
- If you connect a Makita vacuum cleaner to your plate joiner, more efficient and cleaner operations can be performed.

## OPERATION

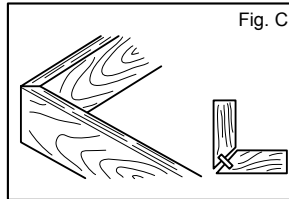
### How to make joints



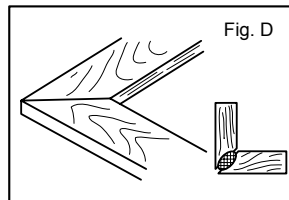
004584



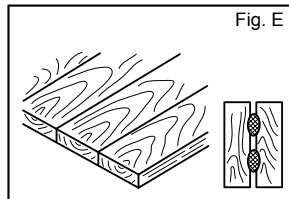
004585



004586



004587



004588

To make joints, proceed as follows:

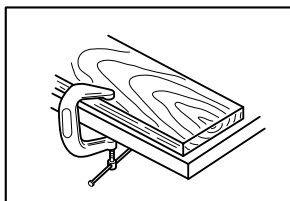
- Fit the two workpieces together as they will appear in the finished joint position.
  - Corner Joint (Fig. A)
  - T-Butt Joint (Fig. B)
  - Miter Joint (Fig. C)
  - Frame Joint (Fig. D)
  - Edge-To-Edge Joint (Fig. E)
- Mark the center of the intended biscuit slots on the workpiece using a pencil.

### NOTE:

- The center of slots should be at least 50 mm from the outer edge of the workpieces.

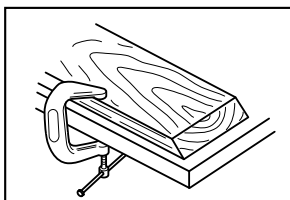
- Allow 100 mm - 150 mm between slots in multiple biscuit application.

### 3. For Corner Joint and T-Butt Joint only



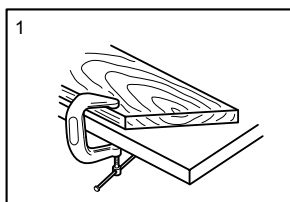
004589

Clamp the vertical workpiece to the workbench.  
**For Miter Joint only**



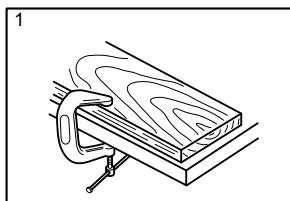
004590

Clamp one workpiece to the workbench with the mitered edge facing up.  
**For Frame Joint and Edge-To-Edge Joint only**



004591

1. For Frame Joint

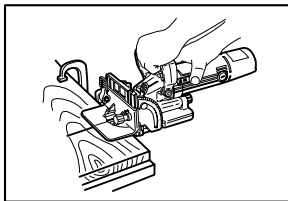


004592

Clamp one workpiece to the workbench.

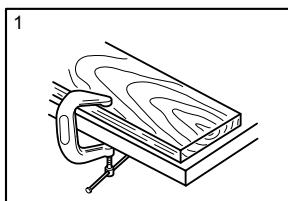
4. Set the depth of cut according to the size of biscuit to be used. Refer to the table in the "Adjusting the depth of cut" section.
5. Adjust the angle guide height so that the blade is centered in the board thickness.

6. Align the center mark on the base with the pencil line on the workpiece.



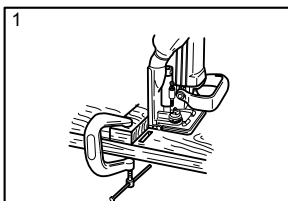
004593

7. Switch on the tool and gently push it forward to extend the blade into the workpiece.
8. Gently return the tool to the original position after the adjusting screw reaches the stopper.
9. **For Corner Joint and T-Butt Joint only**



004594

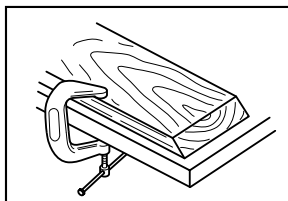
1. For Corner Joint



004595

1. For T-Butt Joint

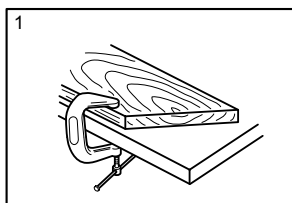
Clamp the horizontal workpiece to the workbench.  
**For Miter Joint only**



004596

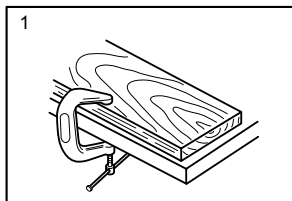
Clamp the other workpiece to the workbench with the mitered edge facing up.

## For Frame Joint and Edge-To-Edge Joint only



004597

1. For Frame Joint

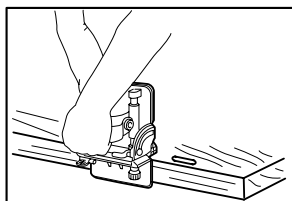


004598

1. For Edge-To-Edge Joint

Clamp the other workpiece to the workbench.

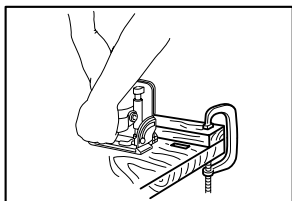
### 10. For Corner Joint only



004599

Place the tool on the workpiece so that the blade is facing down.

### For T-Butt Joint only



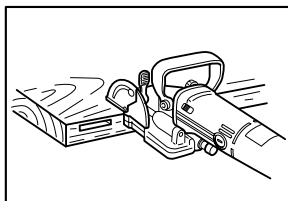
004600

Remove the angle guide from the tool. Place the tool on the workpiece so that the blade is facing down.

11. Repeat the steps 6 - 8 to cut the slots in the horizontal or the other workpiece.

If you do not need to center the blade in the board thickness, proceed as follows:

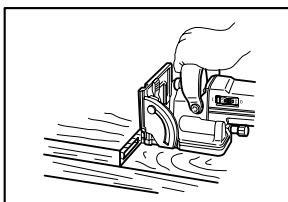
## For Corner Joint, Miter Joint, Frame Joint and Edge-To-Edge Joint only



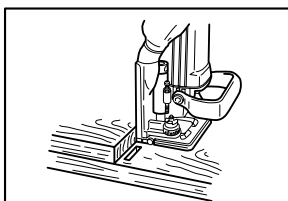
004601

- Remove the angle guide from the tool. Set the fence at 90° for Corner Joint, Frame Joint and Edge-To-Edge Joint or at 45° for Miter Joint.
- Follow steps 1 - 11 excluding steps 5 and 10 described above.

### For T-Butt Joint only



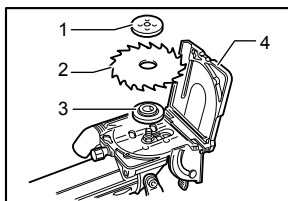
004602



004603

- Fit the two workpieces together as they will appear in the finished joint position.
- Lay the vertical workpiece on the horizontal one. Clamp both workpieces to the workbench.
- Remove the angle guide from the tool.
- Follow the steps 2, 4, 6, 7, 8 and 11 described above.

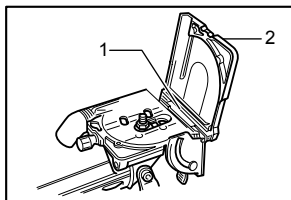
### How to trim wall or ceiling panels



004604

1. Lock nut
2. Circular saw blade
3. Inner flange
4. Blade cover





1. Rubber facing
2. Blade cover

004605

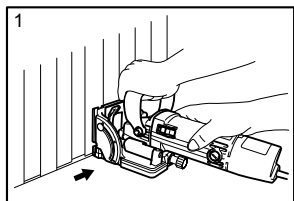
First unplug the tool. Open the blade cover and replace the existing cutter blade with an optional circular saw blade 110 mm in diameter.

Refer to the "Removing or installing the blade" section which was described previously. Remove the rubber facing from the base. Then close and secure the blade cover. Now the max. depth of cut is 25 mm.

#### ⚠ CAUTION:

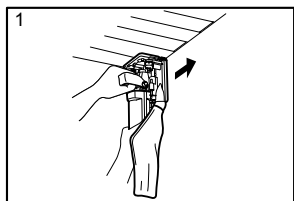
- Be very careful that the blade has been properly mounted on the tool spindle between the inner flange and the lock nut. Be sure to securely tighten the lock nut.

Set the depth of cut to "MAX". Rest the base on the floor (when trimming the wall panels) or the wall (when trimming the ceiling panels). Using the floor or wall as a guide, trim wall or ceiling panels. Feed in the direction of the arrow.



1. When trimming the wall panels

004606



1. When trimming the ceiling panels

004607

#### ⚠ CAUTION:

- Before trimming the panels, check the wall or ceiling carefully to avoid cutting the electrical wires, nails or other foreign materials.
- Always reinstall the rubber facing after trimming the panels. If cutting slots for biscuits without the rubber facing installed properly on the tool, the tool might

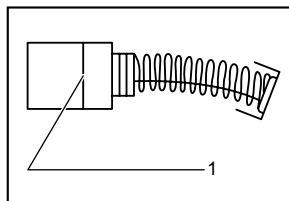
slip unexpectedly on the workpiece, causing dangerous loss of control of the tool. When installing the rubber facing, always hook it onto the inside of the front opening.

## MAINTENANCE

#### ⚠ CAUTION:

- Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.
- Never use gasoline, benzine, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

### Replacing carbon brushes

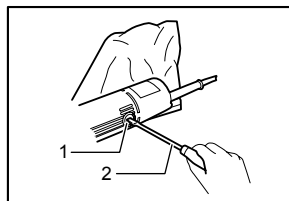


1. Limit mark

001145

Remove and check the carbon brushes regularly. Replace 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.

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.



1. Brush holder cap
2. Screwdriver

004608

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

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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.

- Angle guide
- Dust bag
- Set plate 4
- Lock nut wrench 20
- Cutter blade 100-4
- Cross-cut saw blade
- Combination saw blade
- Carbide-tipped saw blade

**NOTE:**

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

[illegible]

Makita Corporation