

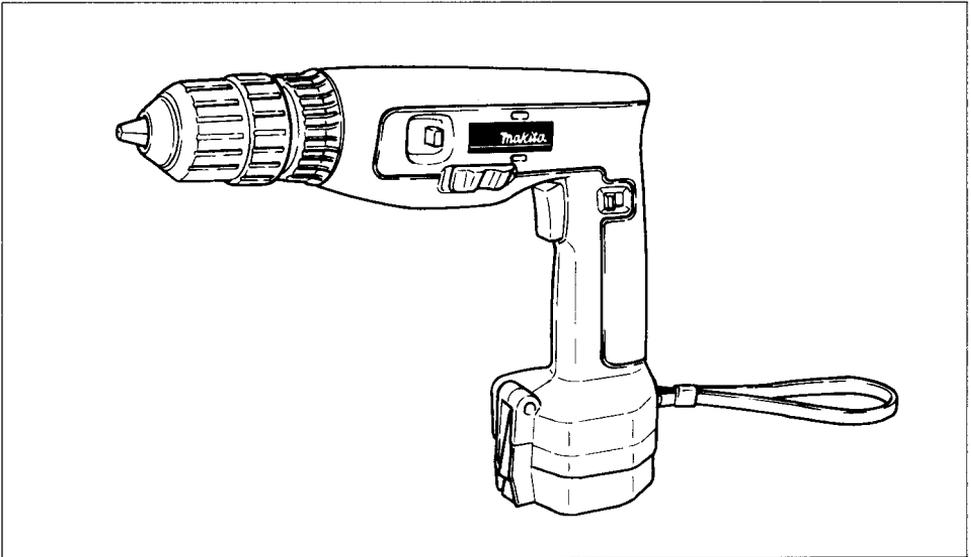
Makita

アメリカ

Cordless Percussion-Driver Drill Equipped with electric brake

MODEL 8412D
MODEL 8412DW
With Fast Charger

INSTRUCTION MANUAL



SPECIFICATIONS

• Model 8412D

Capacities				No load speed (RPM)	
Concrete	Steel	Wood	Wood screw	High	Low
10 mm (3/8")	13 mm (1/2")	24 mm (15/16")	6.4 mm x 55 mm (1/4" x 2-3/16")	0 - 1,150	0 - 370
Blows per minute		Dimensions (L x W x H)		Net weight	
High	Low	313 mm x 79 mm x 225 mm (12-3/8" x 3-1/8" x 8-7/8")		2.2 kg (4.9 lbs)	
0 - 12,700	0 - 4,100				

• Battery Cartridge 1201

• Model DC1201 Fast Charger

Voltage	Input	Output	Charging time
12 V	A.C. only 50 Hz 60 Hz	D.C. 9.6 V, 12 V	1 Hr.

* Manufacturer reserves the right to change specifications without notice.

* Note: Specifications may differ from country to country.

WARNING: For your personal safety, READ and UNDERSTAND before using.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

IMPORTANT SAFETY INSTRUCTIONS

(For All Tools)

WARNING: WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY, INCLUDING THE FOLLOWING:

READ ALL INSTRUCTIONS.

1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **CONSIDER WORK AREA ENVIRONMENT.** Don't use power tools in damp or wet locations. Keep work area well lit. Don't expose power tools to rain. Don't use tool in presence of flammable liquids or gases.
3. **KEEP CHILDREN AWAY.** All visitors should be kept away from work area. Don't let visitors contact tool or extension cord.
4. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
5. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
6. **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended; for example, don't use circular saw for cutting tree limbs or logs.
7. **DRESS PROPERLY.** Don't wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
8. **USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty.
9. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
10. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
11. **DON'T OVERREACH.** Keep proper footing and balance at all times.
12. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
13. **DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.

14. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
15. **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure switch is OFF when plugging in.
16. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
17. **STAY ALERT.** Watch what you are doing, use common sense. Don't operate tool when you are tired.
18. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Don't use tool if switch does not turn it on and off.
19. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.
20. **REPLACEMENT PARTS.** When servicing, use only identical replacement parts.
21. **POLARIZED PLUGS.** To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

VOLTAGE WARNING: Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that specified for the tool can result in **SERIOUS INJURY** to the user — as well as damage to the tool. If in doubt, **DO NOT PLUG IN THE TOOL.** Using a power source with voltage less than the nameplate rating is harmful to the motor.

IMPORTANT SAFETY INSTRUCTIONS FOR CHARGER & BATTERY CARTRIDGE

1. **SAVE THESE INSTRUCTIONS** – This manual contains important safety and operating instructions for battery charger.
2. Before using battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
3. **CAUTION** – To reduce risk of injury, charge only MAKITA Battery Cartridge 7000, 7001, 9000, 9001, 9100, 9101, 9101A, 1200, 1201, 1201A, 1210 & 1211. Other types of batteries may burst causing personal injury and damage.
4. Do not expose charger to rain or snow.
5. Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
6. To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.
7. Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
8. An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure:
 - a. That pins on plug of extension cord are the same number, size, and shape as those of plug on charger;
 - b. That extension cord is properly wired and in good electrical condition; and
 - c. That wire size is at least as large as the one specified in the table below.

**TABLE 1
RECOMMENDED MINIMUM AWG SIZE FOR
EXTENSION CORDS FOR BATTERY CHARGERS**

Length of Cord (Feet)	25	50	100	150
AWG Size of Cord	18	18	18	16

9. Do not operate charger with damaged cord or plug – replace them immediately.
10. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.
11. Do not disassemble charger or battery cartridge; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
12. To reduce risk of electric shock, unplug charger from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

ADDITIONAL SAFETY RULES FOR CHARGER & BATTERY CARTRIDGE

1. Do not charge Battery Cartridge when temperature is BELOW 10°C (50°F) or ABOVE 40°C (104°F).
2. Do not attempt to use a step-up transformer, an engine generator or DC power receptacle.
3. Do not allow anything to cover or clog the charger vents.
4. Always cover the battery terminals with the battery cover when the battery cartridge is not used.
5. A battery short can cause a large current flow, overheating, possible burns and even a breakdown.
 - (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.
6. Do not store 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.

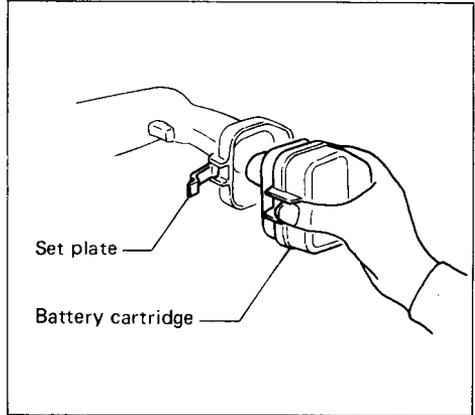
ADDITIONAL SAFETY RULES

1. Be aware that this tool is always in an operating condition, because it does not have to be plugged into an electrical outlet.
2. Wear a hard hat (safety helmet), safety glasses and/or face shield. It is also highly recommended that you wear a dust mask, ear protectors and thickly padded gloves.
3. Under normal operation, the tool is designed to produce vibration. The screws can come loose easily, causing a breakdown or accident. Check tightness of screws carefully before operation.
4. Always be sure you have a firm footing.
Be sure no one is below when using the tool in high locations.
5. Hold the tool firmly.
6. Keep hands away from rotating parts.
7. Do not leave the tool running. Operate the tool only when hand-held.
8. When drilling into walls, floors or wherever "live" electrical wires may be encountered, **DO NOT TOUCH ANY METAL PARTS OF THE TOOL!**
Hold the tool by the insulated grasping surfaces to prevent electric shock if you drill into a "live" wire.
9. Do not touch the bit or the workpiece immediately after operation; they may be extremely hot and could burn your skin.

SAVE THESE INSTRUCTIONS.

Installing or removing the battery cartridge

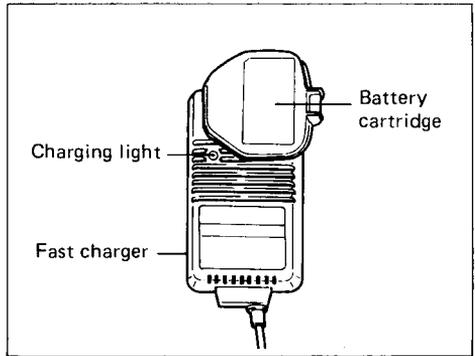
- Always switch off the tool before insertion or removal of the battery cartridge.
- To remove the battery cartridge, pull out the set plate on the tool and grasp both sides of the cartridge while withdrawing it from the tool.
- To insert the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Snap the set plate back into place. Be sure to close the set plate fully before using the tool to prevent the battery cartridge from accidentally falling out of the tool.



- Do not use force when inserting the battery cartridge. If the cartridge does not slide in easily, it is not being inserted correctly.

Charging

- Your new battery cartridge is not charged. You will need to charge it before use. Use the fast charger Model DC1201 to charge the battery cartridge.
- Plug the fast charger into the proper A/C voltage source. The charging light will flash in green color.
- Insert the battery cartridge so that the plus and minus terminals on the battery cartridge are on the same sides as their respective markings on the fast charger. Insert the cartridge fully into the port so that it rests on the charger port floor.



- When the battery cartridge is inserted, the charging light color will change from green to red and charging will begin. The charging light will remain lit steadily during charging.
- When charging is completed, the charging light color will change from red to green and a tone will sound steadily for about 5 seconds.
- After charging, unplug the charger from the power source. Refer to the table below for the charging time.

Battery cartridge \ Fast charger	DC1201
1200	Approx. 45 min.
1201	Approx. 60 min.

CAUTION:

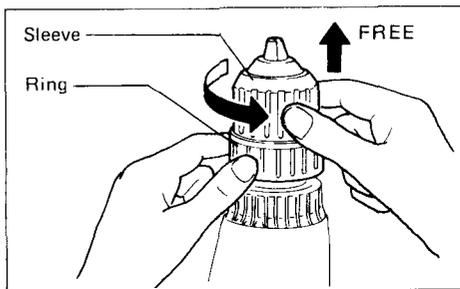
- The fast charger Model DC1201 is specifically designed to charge only Makita battery cartridges. Never use it for other purposes or for other manufacturer's batteries.
- When you charge a new battery cartridge or a battery cartridge which has not been used for a long period of time, it may not accept a full charge. This is a normal condition and does not indicate a problem. You can recharge the battery cartridge fully after discharging it completely and recharging a couple of times.
- If you charge a battery cartridge from a just-operated tool or a battery cartridge which has been left in a location exposed to direct sunlight or heat for a long time, the charging light may flash in red color. If this occurs, wait for a while. Charging will begin after the battery cartridge cools.
- If the charging light flashes alternately in green and red color and a tone sounds "beep, beep, beep, . . ." for about 20 seconds, a problem exists and charging is not possible. The terminals on the charger or battery cartridge are clogged with dust or the battery cartridge is worn out or damaged.
- If you wish to charge two battery cartridges, allow 15 minutes between chargings on the fast charger.

Installing or removing the drill bit or driver bit

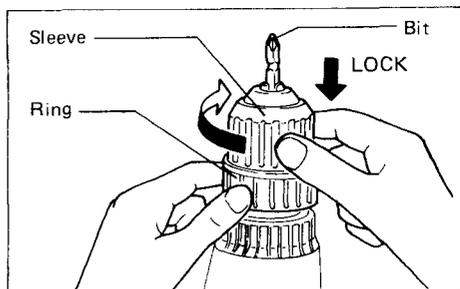
CAUTION:

Always be sure that the tool is switched off and the battery cartridge is removed before installing or removing the bit.

To install the bit, push the sleeve up toward the "FREE" side and turn the sleeve counterclockwise while holding the ring with your other hand as illustrated at right.



Place the bit in the chuck as far as it will go. Hold the ring firmly and turn the sleeve clockwise to tighten the chuck. Then push the sleeve down toward the "LOCK" side.



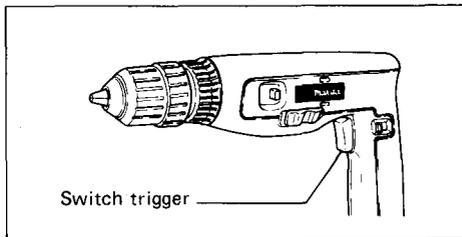
To remove the bit, push the sleeve up toward the "FREE" side and turn the sleeve counterclockwise while holding the ring with your other hand.

CAUTION:

- Do not attempt to turn the sleeve forcibly when the sleeve is in the "LOCK" position. The chuck may be damaged.
- Always push the sleeve down toward the "LOCK" side before operation. If you operate the tool with the sleeve in the "FREE" position, the chuck may loosen and the bit may come out unexpectedly.

Switch action

To start the tool, simply pull the trigger. Tool speed is increased by increasing pressure on the trigger. Release the trigger to stop.

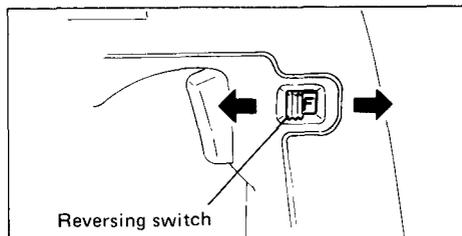


CAUTION:

Before inserting the battery cartridge into the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.

Reversing switch action

This tool has a reversing switch to change the direction of rotation. Move the reversing switch to the left for clockwise rotation or to the right for counterclockwise rotation.

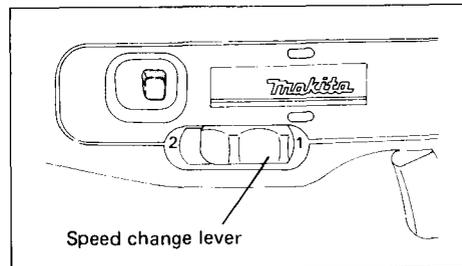


CAUTION:

- Always check the direction of rotation before operation.
- Move the reversing switch only after the tool comes to a complete stop. Changing the direction of rotation before the tool stops. may damage the tool.

Speed change

To change the speed, slide the speed change lever to the "2" side for high speed or "1" side for low speed. To slide the speed change lever easily, pull the trigger slightly while pushing the speed change lever. Be sure that the speed change lever is set to the correct position before operation. Use the right speed for your job.



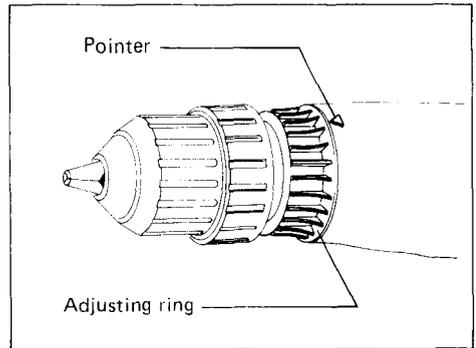
CAUTION:

Always set the speed change lever fully into the correct position. If you operate the tool with the speed change lever positioned halfway between the "2" side and "1" side, the tool may be damaged.

Adjusting the fastening torque

Turn the adjusting ring so that the pointer points to a number on the adjusting ring. The fastening torque is minimum when the pointer points to the number 1 and maximum when it points to the ∞ mark. The clutch will slip at varying torque levels when the pointer points to the numbers 1 to 10. The clutch is designed not to slip at the ∞ mark.

Before actual operation, drive a trial screw into your material or a piece of duplicate material to determine which torque level is required for a particular applications.



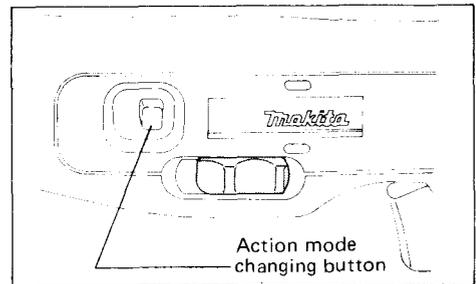
NOTE:

The adjusting ring cannot be locked with the pointer positioned halfway between the numbers.

Action mode

This tool employs action mode changing buttons. For rotation only, press the button on the ∞ mark side fully.

For rotation with hammering action, press the button on the ⚡ mark side fully.



CAUTION:

Be sure to press the action mode changing button as far as it will go. Failure to do so may cause malfunction of the tool.

Operation

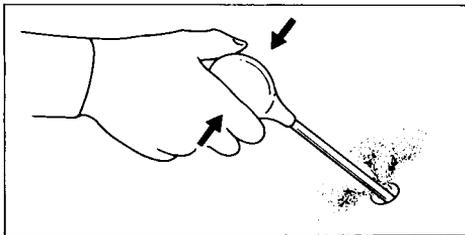
1) Hammer drilling operation

When drilling in concrete, granite, tile, etc., press the action mode changing button on the ⚡ mark side fully. Position the adjusting ring so that the pointer points to the ∞ mark. Be sure to use a tungsten-carbide tipped bit. To position a hole accurately, start the tool slowly and then increase the drilling speed gradually. Do not apply more pressure when the hole becomes clogged with chips or particles. Instead, run the tool at an idle, then remove the bit partially from the hole. By repeating this several times, the hole will be cleaned out.

CAUTION:

Pressing excessively on the tool will not speed up the drilling. In fact, this excessive pressure will only serve to damage the tip of your bit, decrease the tool performance and shorten the service life of the tool.

After drilling the hole, use the blow-out bulb to clean the dust out of the hole.



2) Drilling operation

When drilling in wood, metal or plastic materials, press the action mode changing button on the  mark side fully. Position the adjusting ring so that the pointer points to the  mark.

• Drilling in wood

When drilling in wood, best results are obtained with wood drills equipped with a guide screw. The guide screw makes drilling easier by pulling the bit into the work-piece.

• Drilling in metal

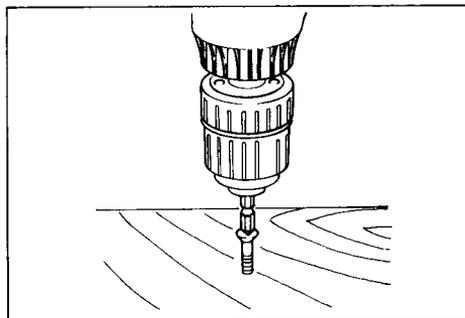
To prevent the bit from slipping when starting a hole, make an indentation with a centerpunch and hammer at the point to be drilled. Place the point of the bit in the indentation and start drilling. Use a cutting lubricant when drilling metals. The exceptions are iron and brass which should be drilled dry.

CAUTION :

- Pressing excessively on the tool will not speed up the drilling. In fact, this excessive pressure will only serve to damage the tip of your bit, decrease the tool performance and shorten the service life of the tool.
- There is a tremendous twisting force exerted on the tool/bit at the time of hole breakthrough. Hold the tool firmly and exert care when the bit begins to breakthrough the workpiece.
- A stuck bit can be removed simply by setting the reversing switch to reverse rotation in order to back out. However, the tool may back out abruptly if you do not hold it firmly.
- Always secure small workpieces in a vise or similar hold-down device.

3) Screwdriving operation

When driving wood screws or machine screws, press the action mode changing button on the  mark side fully. Adjust the desired torque by turning the adjusting ring. Place the point of the driver bit into the screw head and apply pressure to the bit. Start the tool slowly and then increase the driving speed gradually. Release the trigger as soon as the clutch slips.



NOTE:

- Make sure that the driver bit is inserted straight in the screw head, or the screw and/or bit may be damaged.
- When driving wood screws, predrill pilot holes to make driving easier and to prevent splitting of the workpiece. See the chart at right.

Nominal diameter of wood screw (mm)	Recommended size of pilot hole (mm)
3.1 (1/8")	2.0 - 2.2 (5/64" - 3/32")
3.5 (9/64")	2.2 - 2.5 (3/32" - 3/32")
3.8 (5/32")	2.5 - 2.8 (3/32" - 7/64")
4.5 (11/64")	2.9 - 3.2 (7/64" - 1/8")
4.8 (3/16")	3.1 - 3.4 (1/8" - 9/64")
5.1 (13/64")	3.3 - 3.6 (1/8" - 9/64")
5.5 (7/32")	3.6 - 3.9 (9/64" - 5/32")
5.8 (15/64")	4.0 - 4.2 (5/32" - 11/64")
6.1 (15/64")	4.2 - 4.4 (11/64" - 11/64")
6.4 (1/4")	4.4 - 4.6 (11/64" - 3/16")

- Occasionally the adjusting ring cannot be reset to the  mark after screwdriving operation. If this occurs, let the clutch slip or turn the chuck by your hand.

Drilling, hammer drilling and screwdriving performance

The following reference table indicates the approximate drilling, hammer drilling and screwdriving capacities from a single 1 hour battery charge. It may differ under some condition.

Application	Bit diameter	Workpiece	Thickness	No. holes	
				Battery 1200	Battery 1201
Metal	6.5 mm (1/4")	Cold-rolled steel sheet or plate	1.6 mm (1/16")	Approx. 60	Approx. 80
	10 mm (3/8")			Approx. 25	Approx. 35
	10 mm (3/8")	Aluminum sheet	1.6 mm (1/16")	Approx. 130	Approx. 180
Wood	• 15 mm (5/8")	Lauan wood	25 mm (1")	Approx. 115	Approx. 160
	• 18 mm (11/16")			Approx. 70	Approx. 95
	• 24 mm (15/16")			Approx. 35	Approx. 45
Masonry (Hammer drilling)	9.5 mm (3/8")	Brick	30 mm (1-3/16")	Approx. 25	Approx. 35
	6.5 mm (1/4")	Block	30 mm (1-3/16")	Approx. 25	Approx. 35
	9.5 mm (3/8")			Approx. 12	Approx. 16

(••••• 370 R/min.)

Application	Dimensions of wood screw	Workpiece	Fastenings	
			Battery 1200	Battery 1201
Wood screws	4.5 mm x 20 mm (3/16" x 3/4")	Lauan wood	Approx. 440	Approx. 610
	• 5.1 mm x 35 mm (3/16" x 1-3/8")		Approx. 100	Approx. 140
	• 5.5 mm x 50 mm (7/32" x 2")		Approx. 70	Approx. 90
	• 6.4 mm x 50 mm (1/4" x 2")		Approx. 40	Approx. 50

(••••• 370 R/min.)

CAUTION:

If the tool is operated continuously until the battery cartridge has discharged, allow the tool to rest for 15 minutes before proceeding with a fresh battery.

MAINTENANCE

CAUTION:

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

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

ACCESSORIES

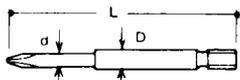
CAUTION:

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. The accessories or attachments should be used only in the proper and intended manner.

•Phillips bit

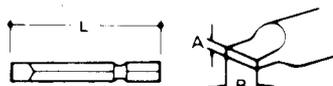


Part No.	Size	L (mm)
784201-5	No. 1	65 (2-5/8")
784202-3	No. 2	45 (1-3/4")
784203-1		65 (2-5/8")
784206-5		110 (4-3/8")
784207-3		150 (5-7/8")
784221-9		250 (10")
784208-1	No. 3	45 (1-3/4")
784209-9		65 (2-5/8")
784210-4		110 (4-3/8")



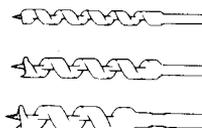
Part No.	Size	L (mm)	D (mm)	d (mm)
784204-9	No. 2	82 (3-1/4")	6 (1/4")	5 (3/16")

• Slotted bit



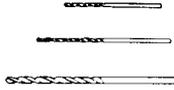
Part No.	A (mm)	B (mm)	L (mm)
784001-3	0.6 (.024")	5 (3/16")	45 (1-3/4")
784004-7	0.8 (.031")	6 (1/4")	70 (2-3/4")
784002-1		5 (3/16")	82 (3-1/4")
784005-5	1.0 (.039")	6.35 (1/4")	45 (1-3/4")
784006-3	1.2 (.047")	8 (5/16")	45 (1-3/4")
784007-1			70 (2-3/4")

• Drill bit (For wood)



Part No.	Size (mm)
791059-5	9 (11/32")
791058-7	12 (15/32")
791057-9	15 (19/32")

• **Drill bit set (For steel)**



Part No.	Size (mm)
791005-8	1.5 (1/16")
	2.0 (5/64")
	3.0 (1/8")
791006-6	4.0 (5/32")
	5.0 (3/16")
	6.0 (1/4")

Each 1 per set

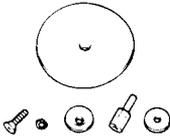
• **Tungsten-carbide tipped bit**



Part No.	Bit diameter (mm)	Max. drilling depth (mm)	Overall length (mm)
791027-8	5.0 (3/16")	40 (1-9/16")	70 (2-3/4")
791092-7	6.5 (1/4")	50 (2")	80 (3-1/8")
791028-6	7.5 (9/32")	60 (2-3/8")	90 (3-1/2")
711057-3	8.0 (5/16")	95 (3-3/4")	120 (4-3/4")
791008-2	8.5 (11/32")	75 (3")	100 (4")
711058-1	9.5 (3/8")	95 (3-3/4")	120 (4-3/4")

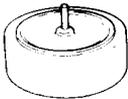
• **Rubber pad assembly**

Part No. 123001-2



• **Foam polishing pad**

Part No. 794159-0



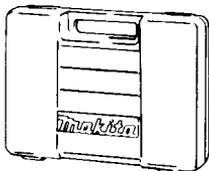
• **Wool bonnet**

Part No. 794172-8



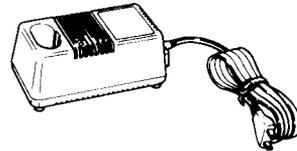
• **Plastic carrying case**

Part No. 182525-7



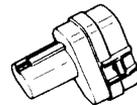
• **Fast charger**

Model DC1201



• **Battery cartridge 1201**

Part No. 192293-4



• **Battery cover**

Part No. 414938-7



• **Dust cover**

Part No. 415165-9

