



Cordless Angle Nut Runner

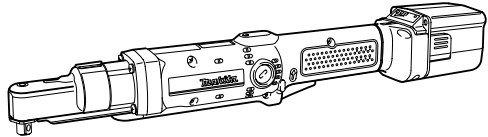
MODEL BFL080F

MODEL BFL081F

MODEL BFL120F

MODEL BFL121F

MODEL BFL200F



003614

I N S T R U C T I O N M A N U A L

WARNING:

For your personal safety, READ and UNDERSTAND before using.
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

SPECIFICATIONS

Model		BFL080F	BFL120F	BFL081F	BFL121F	BFL200F
Fastening torque	Hard joint	2 - 8 N • m (17.7 - 70.9 in • lbs)	5 - 12 N • m (44.3 - 106 in • lbs)	2 - 8 N • m (17.7 - 70.9 in • lbs)	5 - 12 N • m (44.3 - 106 in • lbs)	8 - 20 N • m (70.9 - 177 in • bs)
	Soft joint	2 - 7.5 N • m (17.7 - 66 in • lbs)	5 - 12 N • m (44.3 - 106 in • lbs)	2 - 7.5 N • m (17.7 - 66 in • lbs)	5 - 11.5 N • m (44.3 - 102 in • lbs)	8 - 18 N • m (70.9 - 160 in • bs)
Square drive		9.5 mm (3/8")	9.5 mm (3/8")	9.5 mm (3/8")	9.5 mm (3/8")	9.5 mm (3/8")
No load speed (RPM)		450/min.	250/min.	700/min.	410/min.	220/min.
Dimensions	430 x 65 x 74 mm (17" x 2-9/16" x 2-15/16") (With Battery Cartridge BH9020A)		430 x 71 x 92 mm (17" x 2-13/16" x 3-5/8") (With Battery Cartridge BH1220) 413 x 74 x 92 mm (16-1/4" x 2-15/16" x 3-5/8") (With Battery Cartridge BH1220C)			
	454 x 65 x 74 mm (17-7/8" x 2-9/16" x 2-15/16") (With Battery Cartridge BH9033A)		454 x 71 x 92 mm (17-7/8" x 2-13/16" x 3-5/8") (With Battery Cartridge BH1233) 421 x 74 x 107 mm (16-5/8" x 2-15/16" x 4-1/4") (With Battery Cartridge BH1233C)			
Net weight	1.5 kg (3.3 lbs.) (With Battery Cartridge BH9020A)		1.7 kg (3.7 lbs.) (With Battery Cartridge BH1220) 1.6 kg (3.6 lbs.) (With Battery Cartridge BH1220C)			
	1.7 kg (3.7 lbs.) (With Battery Cartridge BH9033A)		2.0 kg (4.4 lbs.) (With Battery Cartridge BH1233) 1.9 kg (4.2 lbs.) (With Battery Cartridge BH1233C)			

- Manufacturer reserves the right to change specifications without notice.
- Specifications may differ from country to country.

GENERAL SAFETY RULES

USA003-1

(FOR ALL BATTERY OPERATED TOOLS)

WARNING:

Read and understand all instructions. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

SAVE THESE INSTRUCTIONS

Work Area

1. **Keep your work area clean and well lit.** Cluttered benches and 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 bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

Electrical Safety

4. **A battery operated tool with integral batteries or a separate battery pack must be recharged only with the specified charger for the battery.** A charger that may be suitable for one type of battery may create a risk of fire when used with another battery.
5. **Use battery operated tool only with specifically designated battery pack.** Use of any other batteries may create a risk of fire.

Personal Safety

6. **Stay alert, watch what you are doing, and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
7. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
8. **Avoid accidental starting. Be sure switch is in the locked or off position before inserting battery pack.** Carrying tools with your finger on the switch or inserting the battery pack into a tool with the switch on invites accidents.

9. **Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
10. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enable better control of the tool in unexpected situations.
11. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Tool Use and Care

12. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
13. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
14. **Do not use tool if switch does not turn it on or off.** A tool that cannot be controlled with the switch is dangerous and must be repaired.
15. **Disconnect battery pack from tool or place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
16. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
17. **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 sparks, burns, or a fire.

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18. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with sharp cutting edge are less likely to bind and are easier to control.
 19. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
 20. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for

one tool may create a risk of injury when used on another tool.

SERVICE

21. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel may result in a risk of injury.
22. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of shock or injury.

SPECIFIC SAFETY RULES

USB082-1

DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to cordless Angle Nut Runner safety rules. If you use this tool unsafely or incorrectly, you can suffer serious personal injury.

1. Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring. Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.
2. Be aware that this tool is always in an operating condition, because it does not
- have to be plugged into an electrical outlet.
3. Always be sure you have a firm footing. Be sure no one is below when using the tool in high locations.
4. Hold the tool firmly.
5. Keep hands away from rotating parts.

SAVE THESE INSTRUCTIONS

⚠ WARNING:
MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

SYMBOLS

USD301-1

The followings show the symbols used for tool.

- V volts

----- direct current
- n_ono load speed

.../min.....revolutions or reciprocation per minute

IMPORTANT SAFETY INSTRUCTIONS FOR CHARGER & BATTERY CARTRIDGE

USC002-3

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** rechargeable batteries marked on the charger label. 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.
 13. The battery charger is not intended for use by young children or infirm persons without supervision.
 14. Young children should be supervised to ensure that they do not play with the battery charger.
 15. If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
 16. 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.








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. 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.
5. A battery short can cause a large current flow, overheating, possible burns and even a breakdown.
5. Do not store the tool and Battery Cartridge in locations where the temperature may reach or exceed 50°C (122°F).
6. 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.
7. Be careful not to drop, shake or strike battery.
8. Do not charge inside a box or container of any kind. The battery must be placed in a well ventilated area during charging.

SAVE THESE INSTRUCTIONS

SYMBOLS

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

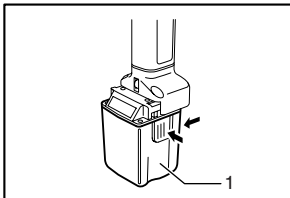
- | | | | |
|----------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------|------------------------|
|  | Ready to charge |  | Delay charge (Cooling) |
|  | Charging |  | Defective battery |
|  | Charging complete |  | Conditioning |
| | |  | Cooling abnormality |

FUNCTIONAL DESCRIPTION

CAUTION:

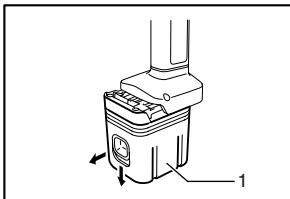
- Always be sure that the tool is switched off and the battery cartridge is removed before adjusting or checking function on the tool.

003615



1. Battery cartridge

003616



1. Battery cartridge

Installing or removing battery cartridge

- Always switch off the tool before insertion or removal of the battery cartridge.

For Models BFL080F, BFL120F

- To remove the battery cartridge, withdraw it from the tool while pressing the buttons on both sides of the cartridge.
- To insert the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Always insert it all the way until it locks in place with a little click. If not, it may accidentally fall out of the tool, causing injury to you or someone around you.

For Models BFL081F, BFL121F, BFL200F

- To remove the battery cartridge, withdraw it from the tool while sliding the button on the front of the cartridge.
- To insert the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Always insert it all the way until it locks in place with a little click. If you can see the red part on the upper side of the button, it is not locked completely. Insert it fully until the red part cannot be seen. If not, it may accidentally fall out of the tool, causing injury to you or someone around you.
- Do not use force when inserting the battery cartridge. If the cartridge does not slide in easily, it is not being inserted correctly.

Charging

Before using battery charger, read all instructions and cautionary markings on the battery 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. Charge the Nickel Metal Hydride battery cartridge when you do not use it for more than six months.
5. Always stop tool operation and charge the battery cartridge when you notice that the warning lamp lightened up.

Refresh charging

Refreshing battery adapter (optional accessory) can refresh an inactive battery cartridge.

- Refresh charging should be done once a week.
- When you charge a new battery cartridge or a battery cartridge that has not been used for a long time, it may not accept a full charge. In this case, refresh charging must be done. The battery cartridge may decrease the tool performance, because the chemical substance of the battery cartridge is inactive.

001254

Indicating lamp			Capacity
(C)	E	F	
○	□ □ □		
●	■ ■ ■		80% - 100%
●	■ ■ □		60% - 80%
●	■ □ □		40% - 60%
●	□ □ □		10% - 40%
⚡ orange	□ □ □		0% - 10%

Indicating lamp			Capacity
E		F	
□	□ □ □		
■	■ ■ ■		80% - 100%
■	■ ■ □		60% - 80%
■	■ □ □		40% - 60%
■	□ □ □		10% - 40%
⚡ orange	□ □ □		0% - 10%

Checking the remaining battery capacity

When charging

When the charging begins, the first (far left) indicating lamp begins to flicker. Then, as charging proceeds, the other lamps light, one after the other, to indicate the battery capacity.

When using

When the tool is switched on, the lamps will light to indicate the remaining battery capacity. When the tool is switched off, the light goes out. If the battery has not been used for a long time, or is needed refresh charging, the orange lamp begins to flicker. Use Makita refreshing adapter to refresh the battery.

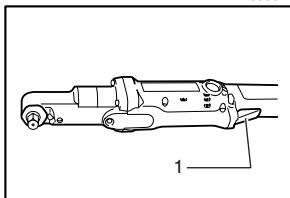
⚠ CAUTION:

- A battery cartridge extracted from the charger that has been unplugged with the battery cartridge inserted does not indicate the battery capacity due to its protective function even if the tool is switched on after the battery insertion into the tool. At this time, recharge it for about five seconds before use.

NOTE:

- Please contact Makita Authorized or Factory Service Center if the warning lamp of the battery cartridge does not light up when using or charging.

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1. Switch trigger

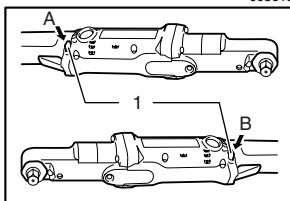
Switch action

⚠ 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.

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

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1. Reversing switch lever

Reversing switch action

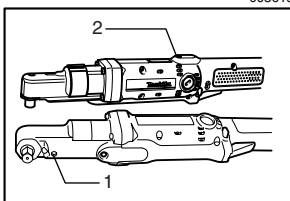
⚠ CAUTION:

- Always check the direction of rotation before operation.
- Use 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.
- When not operating the tool, always set the reversing switch lever to the neutral position.

This tool has a reversing switch to change the direction of rotation. Depress the reversing switch lever from the A side for clockwise rotation or from the B side for counterclockwise rotation.

When the reversing switch lever is in the neutral position, the switch trigger cannot be pulled.

003619



1. Light
2. LED indicator

Lighting up the lamps

⚠ CAUTION:

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

Pull the switch trigger to light up the lamp. The lamp keeps on lighting while the switch trigger is being pulled. The light automatically goes out 10 seconds after the switch trigger is released.

NOTE:

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

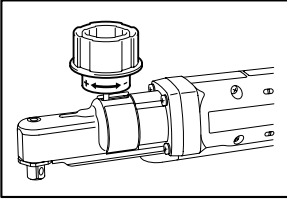
LED indicator

The lamp on the tool shows the following functions.

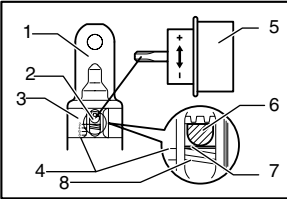
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Function	Status	Status of the LED indicator/beeper		Action to be taken
		LED indicator	Beeper	
Auto-stop fastening	This function works when the tool has reached the preset fastening torque and normal tightening has been completed. This helps overtightening to be avoided.	Lights up in green for approximately one second.	-	-
Delayed re-start	For approximately one second after auto-stop fastening, the tool does not start even if the switch trigger is pulled.			
Warning against insufficient fastening	Insufficient fastening has been performed when the switch trigger has released before reaching the preset fastening torque.	Lights up in red.	A long beep	Retighten the screw
Warning for battery cartridge capacity	This indicates the appropriate time to replace the battery cartridge when the battery power becomes low.	Flickers in red slowly.	A series of long beeps	Replace the battery with fully charged one
Checking the remaining battery capacity, Autostop	This function works when the battery power is almost used up. At this time, tool stops immediately.	Lights up in red.	A long beep	Replace the battery with fully charged one
Check the LED indicator, light and beeper operation	This function works to check the proper operation of the LED indicator, light and beeper when a battery cartridge has been inserted into the tool.	Lights up first in green, next red. (And then the light comes on.)	A series of very short beeps	-
Anti-reset of controller	This function works when an abnormal drop of the battery voltage occurs for some reason, and the tool stops.	Flickers in red and green alternatively.	A series of short beeps	Replace the battery with fully charged one
Overheat	This function works when the temperature of the controller goes up very highly, and the tool stops.	Flickers in red quickly.	A series of short beeps	Remove the battery cartridge immediately and cool the tool down.
Operation error of the switch trigger	This function works to avoid the tool's immediate start upon insertion of battery cartridge into the tool with the switch trigger being pulled.	Flickers in red and green alternatively.	A series of short beeps	Release the switch trigger.

003621



003622



1. Angle head
2. Adjusting ring
3. Ring
4. Sclae
5. Adjusting grip
6. Hole for Adjusting grip
7. Yellow line
8. Compression spring

Adjusting the fastening torque

When you wish to drive machine screws, wood screws, hex bolts, etc. with the predetermined torque, adjusting the fastening torque as follows.

1. First remove the battery cartridge from the tool.
2. Loosen the screws securing the light cover.
3. Rotate the ring in the front of the tool by hand so that a hole can be seen below the ring.
4. Place the battery cartridge in place and pull the switch trigger. Release it so that the adjusting ring rotates and becomes visible in the hole. And then remove the battery cartridge.
5. Use an optional adjusting grip to adjust the fastening torque. Insert the pin of the adjusting grip into the hole in the front of the tool. And then, turn the adjusting grip clockwise to set a greater fastening torque, and counter-clockwise to set a smaller fastening torque.
6. Align the yellow line with your desired number on the fastening torque scale.
7. Insert the battery cartridge and be sure that a fastening torque has been set up by using a fastening torque tester.
8. Tighten the screws to secure the light cover and then rotate the ring in front of the tool until the ring is locked.

NOTE:

- Numbers on the fastening torque scale is a guideline to set up your desired fastening torque.

ASSEMBLY

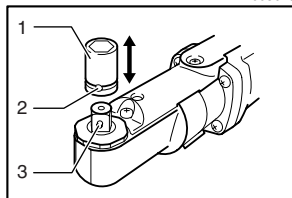
⚠ CAUTION:

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

Selecting correct socket

Always use the correct size socket for bolts and nuts. An incorrect size socket will result in inaccurate and inconsistent fastening torque and/or damage to the bolt or nut.

003623



1. Socket
2. Hole
3. Pin

Installing or removing socket

To install the socket, push it onto the square drive of the tool with one hand by depressing a pin on the square drive with another hand until it locks into place. To remove the socket, simply pull it off depressing the pin on the square drive.

OPERATION

Hold the tool firmly and place the socket over the bolt or nut. Then switch the tool on. When the clutch cuts in, the motor will stop automatically. Then release the switch trigger.

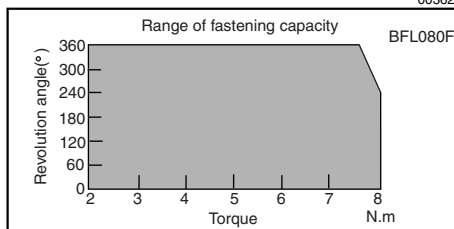
NOTE:

- Hold the tool with its square drive pointed straight at the bolt or nut, or the bolt or nut will be damaged.

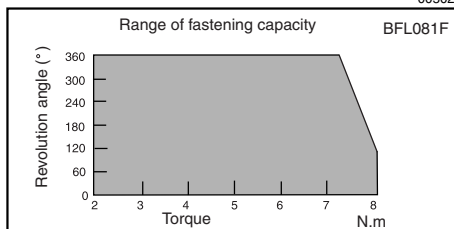
Limits of fastening capacity

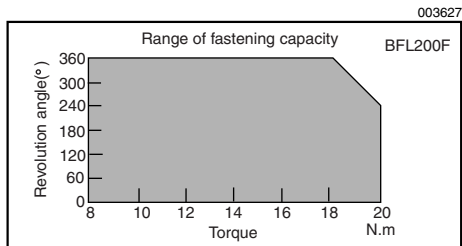
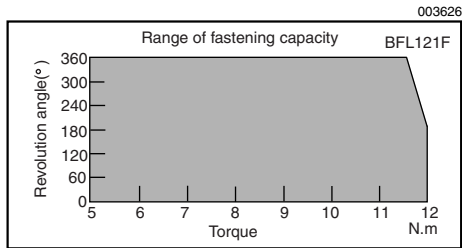
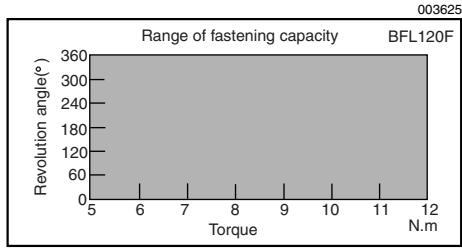
Use the tool within the limits of fastening capacity. If you use the tool beyond the limits, the clutch does not work. And the tool cannot deliver enough fastening torque.

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005026





NOTE:

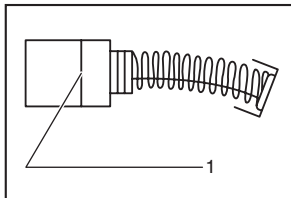
- The revolution angle means the angle which a screw/bolt revolves when the tool attains to 100% from 50% of desired torque.
- Use of a low temperature conditioned battery cartridge may sometimes give warning for battery cartridge capacity by warning lamp and beeper which makes the tool stop immediately. In this case, the range of fastening capacity may be inferior to those shown in the above even if a charged battery cartridge is used.

MAINTENANCE

CAUTION:

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

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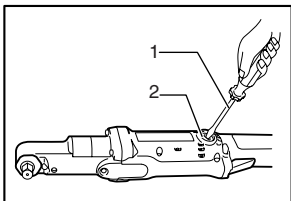


1. Limit mark

Replacing carbon brushes

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.

003628



1. Screwdriver
2. Brush holder cap

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

To maintain product **SAFETY** and **RELIABILITY**, repairs, any other 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. 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.

- Battery charger DC14SA
- Ni-MH Battery Cartridge BH9020A/9033A
- Ni-MH Battery Cartridge BH1220/BH1233
- Automatic refreshing adapter
- Protector
- Angle head set

MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centres. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply:

- where normal maintenance is required,
- repairs have been made or attempted by others,
- the tool has been abused, misused or improperly maintained,
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

"The Makita Warranty is the only and the entire written warranty given by Makita for the Makita tools. No dealer or his agent or employee is authorized to extend or enlarge upon this warranty by any verbal or written statement or advertisement."

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE YEAR TERM OF THIS WARRANTY.

"This Warranty gives you specific rights. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim or exclude any warranties set forth in any provincial legislation. To the extent required by law, the provisions in any provincial or federal legislation with respect to warranties take precedence over the provisions in this warranty."

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