

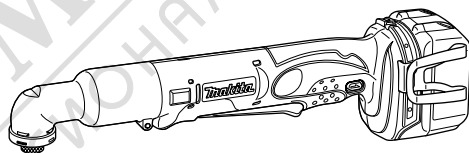
INSTRUCTION MANUAL



Cordless Angle Impact Driver

DTL060

DTL061



МАГАЗИН МАЙСТОРА
БАШ ПРОФЕСИОНАЛНИ РЕШЕНИЯ

008328



IMPORTANT: Read Before Using.

ENGLISH (Original instructions)

SPECIFICATIONS

Model		DTL060	DTL061
Capacities	Machine screw	4 mm - 8 mm	
	Bolt	4 mm - 12 mm	
No load speed (min ⁻¹)		0 - 2,000	
Impacts per minute		0 - 3,000	
Max. fastening torque		60 N•m	
Overall length		387 mm	
Net weight		1.7 kg	1.5 kg
Rated voltage		D.C. 14.4 V	D.C. 18 V

- 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.
- Weight, with battery cartridge, according to EPTA-Procedure 01/2003

END004-4

ENG900-1

Symbols

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



• Read instruction manual.



• Only for EU countries

Do not dispose of electric equipment or battery pack together with household waste material!

In observance of European Directive 2002/96/EC on waste electric and electronic equipment, 2006/66/EC on batteries and accumulators and waste batteries and accumulators and their implementation in accordance with national laws, electric equipment and battery pack that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

ENE033-1

Intended use

The tool is intended for screw driving in wood, metal and plastic.

ENG905-1

Noise

The typical A-weighted noise level determined according to EN60745:

Sound pressure level (L_{pA}) : 91 dB (A)

Sound power level (L_{WA}) : 102 dB (A)

Uncertainty (K) : 3 dB (A)

Wear ear protection

Vibration

The vibration total value (tri-axial vector sum) determined according to EN60745:

Model DTL060

Work mode : impact tightening of fasteners of the maximum capacity of the tool

Vibration emission (a_{h1}) : 9.5 m/s²

Uncertainty (K) : 1.5 m/s²

Model DTL061

Work mode : impact tightening of fasteners of the maximum capacity of the tool

Vibration emission (a_{h1}) : 17.5 m/s²

Uncertainty (K) : 1.5 m/s²

ENG901-1

- The declared vibration emission value has been measured in accordance with the standard test method and may be used for comparing one tool with another.
- The declared vibration emission value 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 emission value depending on the ways in which the tool is used.
- 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).

For European countries only

EC Declaration of Conformity

We Makita Corporation as the responsible manufacturer declare that the following Makita machine(s):

Designation of Machine:

Cordless Angle Impact Driver

Model No./ Type: DTL060,DTL061

are of series production and

Conforms to the following European Directives:

2006/42/EC

And are manufactured in accordance with the following standards or standardised documents:

EN60745

The technical documentation is kept by our authorised representative in Europe who is:

Makita International Europe Ltd.

Michigan Drive, Tongwell,

Milton Keynes, Bucks MK15 8JD, England

30.1.2009



Tomoyasu Kato

Director

Makita Corporation

3-11-8, Sumiyoshi-cho,

Anjo, Aichi, 446-8502, JAPAN

000230

GEA006-2

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 ground fault circuit interrupter (GFCI) protected supply.** Use of an GFCI reduces the risk of electric shock.

Personal safety

10. **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.
11. **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.
12. **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.
13. **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.
14. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
15. **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.

16. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

Power tool use and care

17. **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.
18. **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.
19. **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.
20. **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.
21. **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.
22. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
23. **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.

Battery tool use and care

24. **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.
25. **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
26. **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.

27. **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.

Service

28. **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.
29. **Follow instruction for lubricating and changing accessories.**
30. **Keep handles dry, clean and free from oil and grease.**

GEB054-1

CORDLESS IMPACT DRIVER SAFETY WARNINGS

1. **Hold power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring.** Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
2. **Always be sure you have a firm footing.** Be sure no one is below when using the tool in high locations.
3. **Hold the tool firmly.**
4. **Wear ear protectors.**

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.

ENC007-7

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 battery cartridge.**
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 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. Be careful not to drop or strike battery.
9. Do not use a damaged battery.

SAVE THESE INSTRUCTIONS.

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 battery cartridge once in every six months if you do not use it for a long period of time.

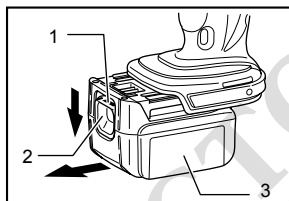


FUNCTIONAL DESCRIPTION

⚠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

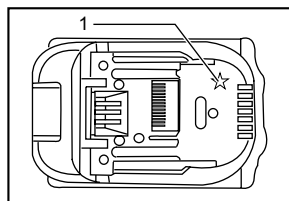


1. Red indicator
2. Button
3. Battery cartridge

012122

- Always switch off the tool before installing or removing of the 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. Always 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. Install it 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.
- Do not use force when installing the battery cartridge. If the cartridge does not slide in easily, it is not being inserted correctly.

Battery protection system (Lithium-ion battery with star marking)



1. Star marking

012128

Lithium-ion batteries with a star marking are equipped with a protection system. This system automatically cuts off power to the tool to extend battery life.

The tool will automatically stop during operation if the tool and/or battery are placed under one of the following conditions:

- Overloaded:

The tool is operated in a manner that causes it to draw an abnormally high current. In this situation, release the trigger switch on the tool and stop the application that caused the tool to become overloaded. Then pull the trigger switch again to restart.

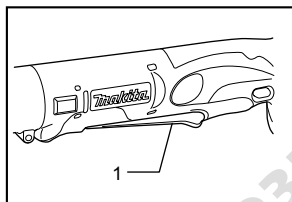
If the tool does not start, the battery is overheated. In this situation, let the battery cool before pulling the trigger switch again.
- Low battery voltage:

The remaining battery capacity is too low and the tool will not operate. In this situation, remove and recharge the battery.

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.



1. Switch lever

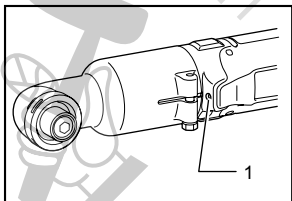
008330

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

Lighting up the front lamp

⚠ CAUTION:

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



1. Lamp

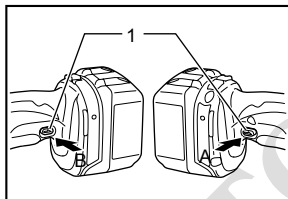
008337

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 - 15 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.

Reversing switch action



1. Reversing switch lever

008331

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.

⚠ CAUTION:

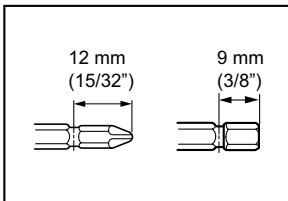
- Always check the direction of rotation before operation.
- Use the reversing switch only after the tool comes to a complete stop. Changing the direction of rotation before the tool stops may damage the tool.
- When not operating the tool, always set the reversing switch lever to the neutral position.

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.

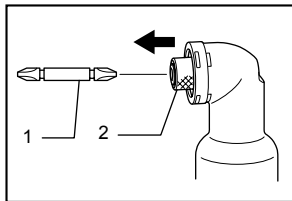
Installing or removing driver bit



001266

Use only the driver bit or socket bit shown in the figure. Do not use any other driver bit or socket bit.

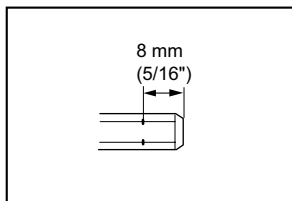
To install the bit, pull the sleeve in the direction of the arrow and insert the bit into the sleeve as far as it will go. Then release the sleeve to secure the bit.



1. Bit
2. Sleeve

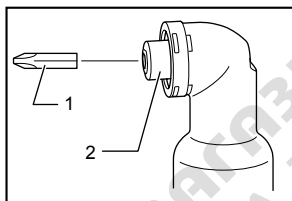
008332

For tool without sleeve to retain the bit



008629

Use only the driver bit or socket bit shown in the figure. Do not use any other driver bit or socket bit. Use insert bits shown in the figure. To install the bit, just insert it into the spindle.



1. Insert bit
2. Spindle

008623

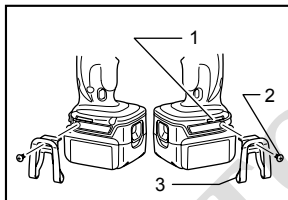
NOTE:

- If the bit is not inserted deep enough into the sleeve, the sleeve will not return to its original position and the bit will not be secured. In this case, try re-inserting the bit according to the instructions above.

Hook (Accessory)

⚠CAUTION:

- When installing the hook, tighten the screw firmly. Failure to do so may cause the breakage of the tool or personal injury.



1. Groove
2. Screw
3. Hook

008338

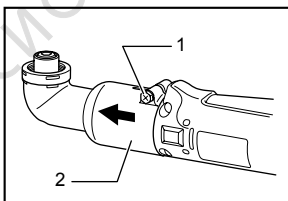
The hook is convenient for temporarily hanging the tool. This can be installed on either side of the tool.

To install the hook, insert it into a groove in the tool housing on either side and then secure it with a screw. To remove, loosen the screw and then take it out.

Adjusting the angle head

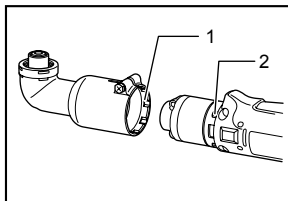
The angle head can be adjusted 360°(8 positions in 45-degree increments). To adjust it, loosen the hex bolt and remove the angle head.

Adjust the angle head to the desired position and reinstall it so that the teeth on the housing will match up with the grooves in the angle head. Then tighten the hex bolt to secure the angle head.



1. Hex bolt
2. Angle head

008335



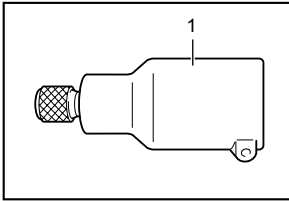
1. Groove
2. Tooth

008336



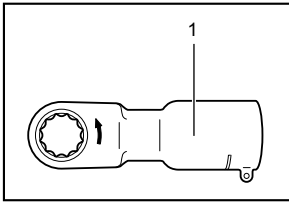
Straight head and ratchet head (Accessory)

Straight heads and ratchet heads are available as optional accessories for various applications on the job.



1. Straight head

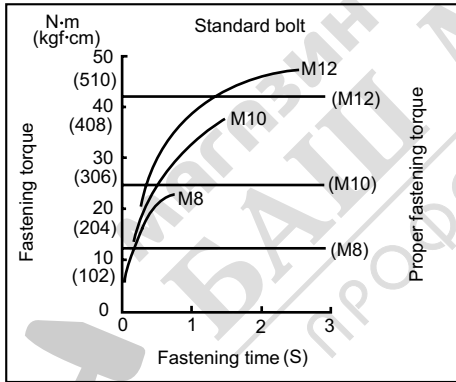
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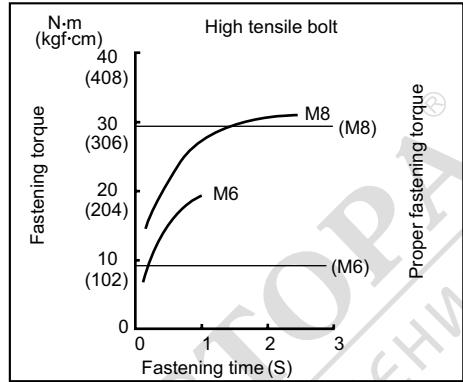
1. Ratchet head

002829

OPERATION

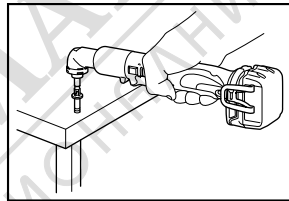


006339



008340

The proper fastening torque may differ depending upon the kind or size of the screw/bolt, the material of the workpiece to be fastened, etc. Before starting your job, always perform a test operation to determine the proper fastening time for your screw.



006346

NOTE:

- Use the proper bit for the head of the screw/bolt that you wish to use.
- Hold the tool pointed straight at the screw.
- 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.

The fastening torque is affected by a wide variety of factors including the following. After fastening, always check the torque with a torque wrench.

1. When the battery cartridge is discharged almost completely, voltage will drop and the fastening torque will be reduced.
2. Driver bit or socket bit
Failure to use the correct size driver bit or socket bit will cause a reduction in the fastening torque.
3. Bolt
 - Even though the torque coefficient and the class of bolt are the same, the proper fastening torque will differ according to the diameter of bolt.

- Even though the diameters of bolts are the same, the proper fastening torque will differ according to the torque coefficient, the class of bolt and the bolt length.
- 4. The manner of holding the tool or the material of driving position to be fastened will affect the torque.
- 5. Operating the tool at low speed will cause a reduction in the fastening torque.

MAINTENANCE

CAUTION:

- Always be sure that the tool is switched off and the battery cartridge is removed before attempting to perform inspection or maintenance.
- 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 Service Centers, always using Makita replacement parts.

OPTIONAL ACCESSORIES

CAUTION:

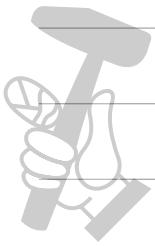
- These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. Only use accessory or attachment for its stated purpose.

If you need any assistance for more details regarding these accessories, ask your local Makita Service Center.

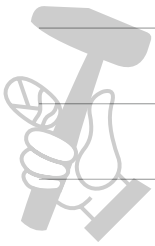
- Phillips bit
- Bit piece
- Straight head
- Ratchet head
- Socket
- Socket adapter
- Various type of Makita genuine batteries and chargers

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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МАГАЗИН
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ПРОФЕССИОНАЛНИ РЕШЕНИЯ

Makita Corporation
Anjo, Aichi, Japan