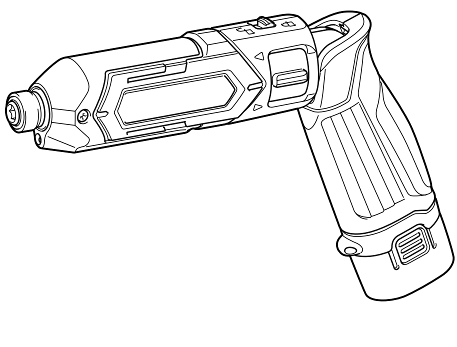
Makita

TD022D



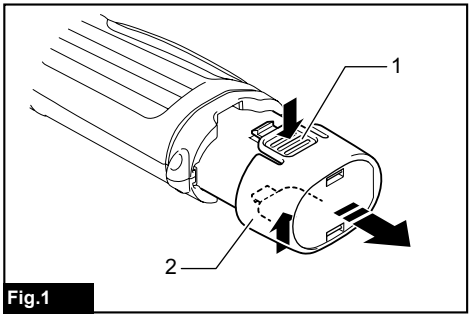


Fig.1

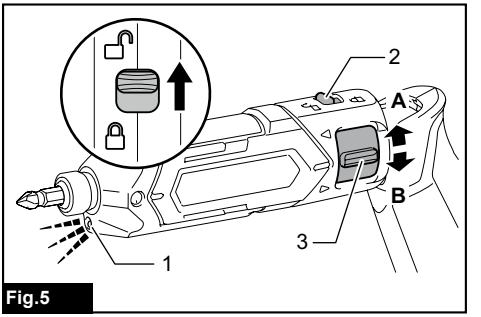


Fig.5

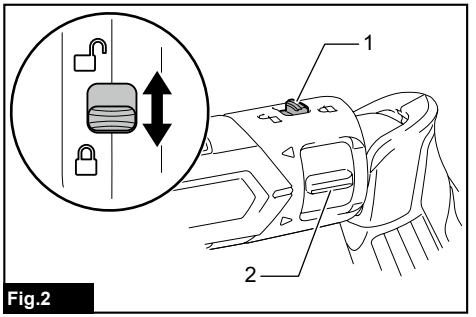


Fig.2

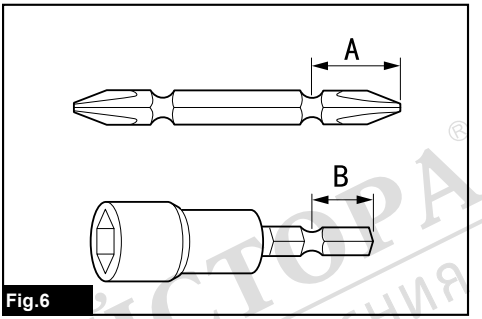


Fig.6

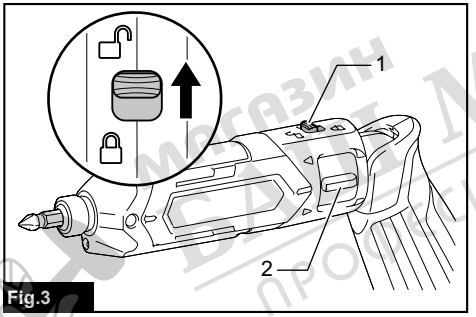


Fig.3

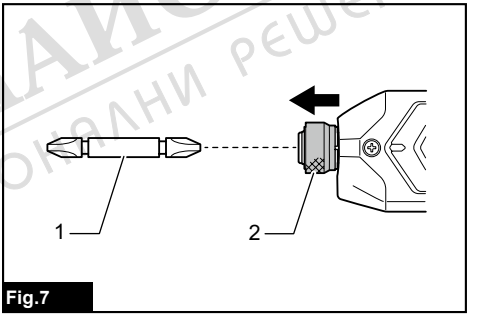


Fig.7

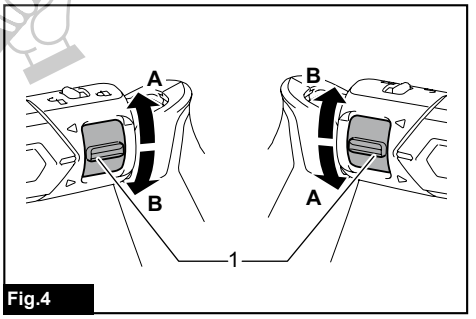


Fig.4

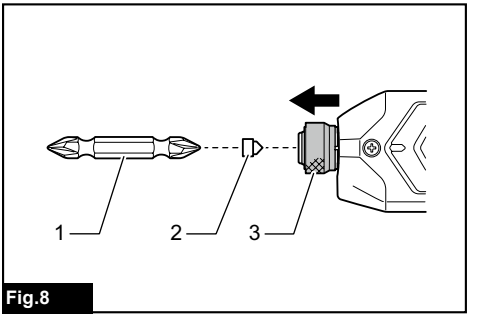


Fig.8

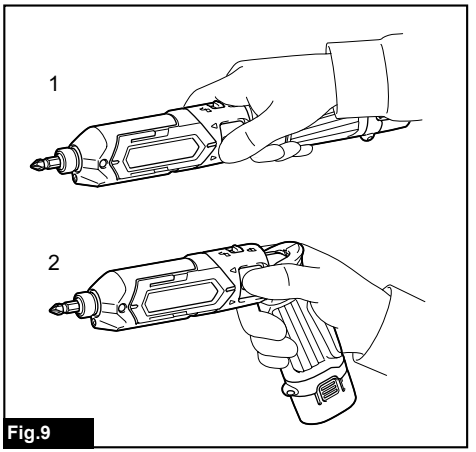


Fig.9

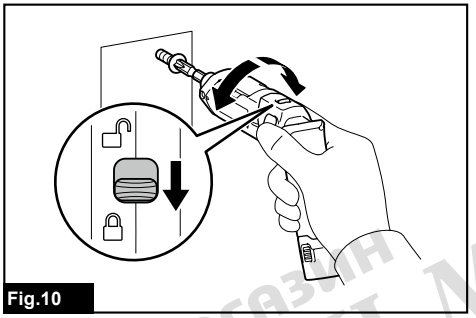


Fig.10

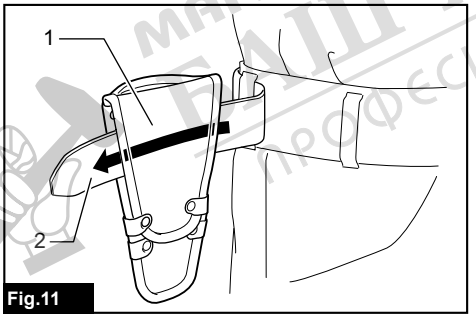


Fig.11

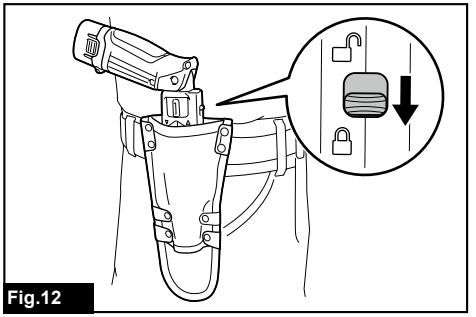


Fig.12

SPECIFICATIONS

Model:		TD022D
Fastening capacities	Machine screw	3 mm - 8 mm
	Standard bolt	3 mm - 8 mm
	High tensile bolt	3 mm - 6 mm
No load speed		0 - 2,450 min^{-1}
Impacts per minute		0 - 3,000 min^{-1}
Overall length	With straight shape	282 mm
	With pistol shape	227 mm
Rated voltage		D.C. 7.2 V
Net weight		0.55 - 0.56 kg

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

Applicable battery cartridge and charger

Battery cartridge	BL7010 / BL0715
Charger	DC10WA / DC10WB

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

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

Intended use

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

Noise

The typical A-weighted noise level determined according to EN62841:
Sound pressure level (L_{pA}) : 85 dB(A)
Sound power level (L_{WA}) : 96 dB (A)
Uncertainty (K) : 3 dB(A)

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

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

⚠***WARNING:*** **Wear ear protection.**

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

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

Vibration

The vibration total value (tri-axial vector sum) determined according to EN62841:
Work mode: impact tightening of fasteners of the maximum capacity of the tool
Vibration emission (a_h) : 7.0 m/s^2
Uncertainty (K) : 1.5 m/s^2

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

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

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

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

EC Declaration of Conformity

For European countries only

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

SAFETY WARNINGS

General power tool safety warnings

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

Save all warnings and instructions for future reference.

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

Cordless impact driver safety warnings

1. **Hold the 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.**
5. **Do not touch the bit or the workpiece immediately after operation. They may be extremely hot and could burn your skin.**
6. **Keep hands away from rotating parts.**
7. **Use auxiliary handle(s), if supplied with the tool.** Loss of control can cause personal injury.
8. **Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

SAVE THESE INSTRUCTIONS.

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

Important safety instructions for battery cartridge

1. **Before using battery cartridge, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.**
2. **Do not disassemble 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.**
10. **The contained lithium-ion batteries are subject to the Dangerous Goods Legislation requirements.**
    For commercial transports e.g. by third parties, forwarding agents, special requirement on packaging and labeling must be observed.
    For preparation of the item being shipped, consulting an expert for hazardous material is required. Please also observe possibly more detailed national regulations.
    Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging.
11. **Follow your local regulations relating to disposal of battery.**
12. **Use the batteries only with the products specified by Makita.** Installing the batteries to non-compliant products may result in a fire, excessive heat, explosion, or leak of electrolyte.

SAVE THESE INSTRUCTIONS.

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

Tips for maintaining maximum battery life

1. **Charge the battery cartridge before completely discharged. Always stop tool operation and charge the battery cartridge when you notice less tool power.**
2. **Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life.**
3. **Charge the battery cartridge with room temperature at 10 °C - 40 °C (50 °F - 104 °F). Let a hot battery cartridge cool down before charging it.**

FUNCTIONAL DESCRIPTION

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

Installing or removing battery cartridge

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

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

► **Fig.1:** **1.** Button **2.** Battery cartridge

To remove the battery cartridge, withdraw it from the tool while pressing the buttons on both sides 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.

⚠*CAUTION:* Always insert it 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.

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

Battery protection system

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

Low battery voltage:
The remaining battery capacity is too low and the tool will not operate. If you turn the tool on, the motor runs again but stops soon. In this situation, remove and recharge the battery.

Lock lever

⚠*CAUTION:* When not operating the tool, always set the lock lever in the locked position 🔒.

► **Fig.2:** **1.** Lock lever **2.** Switch

When the lock lever is in the locked position 🔒, the switch cannot be actuated.
When the lock lever is in the unlocked position 🔓, the switch can be actuated.

Switch action

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

⚠*CAUTION:* Always check the direction of rotation before operation.

***NOTICE:* Change the direction only after the tool comes to a complete stop.** Changing the direction of rotation before the tool stops may damage the tool.

To start the tool, first move the lock lever to the unlocked position 🔓 to release the switch.
► **Fig.3:** **1.** Lock lever **2.** Switch

And then turn the switch to A side for clockwise rotation or to B side for counterclockwise rotation.
Tool speed is increased by increasing rotation angle on the switch. Release the switch to stop.
► **Fig.4:** **1.** Switch

Lighting up the front lamp

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

To turn on the lamp only, first move the lock lever to the unlocked position 🔓. And then rotate the switch to the A or B side a little.
Release the switch to turn off the lamp.
► **Fig.5:** **1.** Lamp **2.** Lock lever **3.** Switch

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

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/ socket bit

► **Fig.6**

Use only driver bit/socket bit that has inserting portion shown in the figure. Do not use any other driver bit/ socket bit.

For tool with shallow driver bit hole

A=12mm B=9mm	Use only these type of driver bit. Follow the procedure 1. (Note) Bit-piece is not necessary.

For tool with deep driver bit hole

A=17mm B=14mm	To install these types of driver bits, follow the procedure 1.
A=12mm B=9mm	To install these types of driver bits, follow the procedure 2. (Note) Bit-piece is necessary for installing the bit.

Procedure 1

► **Fig.7: 1.** Driver bit **2.** Sleeve

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

Procedure 2

In addition to **Procedure 1**, insert the bit-piece into the sleeve with its pointed end facing in.
► **Fig.8: 1.** Driver bit **2.** Bit-piece **3.** Sleeve

To remove the driver bit, pull the sleeve in the direction of the arrow and pull the driver bit out.

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

NOTE: After inserting the driver bit, make sure that it is firmly secured. If it comes out, do not use it.

OPERATION

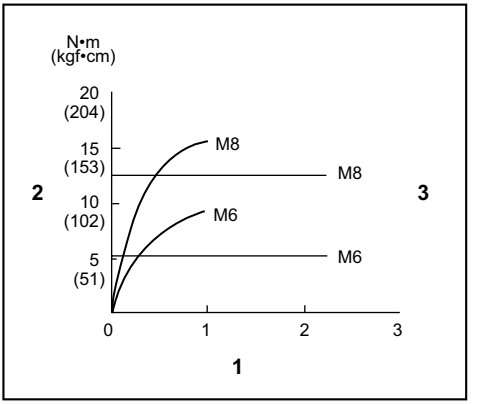
⚠***CAUTION:*** **When bending the tool to use in the pistol shape or straightening to use in the straight shape, do not hold the bendable part of the tool.** Failure to do so may cause your hand and fingers to be pinched and injured by this part.

► **Fig.9: 1.** Straight shape **2.** Pistol shape

The tool can be used in two ways; a straight shape and a pistol shape which are selectable according to the conditions of workplace and screwdriving.

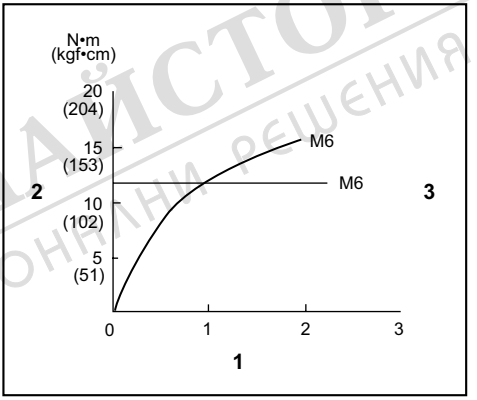
The proper fastening torque may differ depending upon the kind or size of the screw/bolt, the material of the workpiece to be fastened, etc. The relation between fastening torque and fastening time is shown in the figures.

Standard bolt



1. Fastening time (second) **2.** Fastening torque
3. Proper fastening torque corresponding to each bolt diameter

High tensile bolt



1. Fastening time (second) **2.** Fastening torque
3. Proper fastening torque corresponding to each bolt diameter

Hold the tool firmly and place the point of the driver bit in the screw head. Apply forward pressure to the tool to the extent that the bit will not slip off the screw and turn the tool on to start operation.

NOTICE: **If you use a spare battery to continue the operation, rest the tool at least 15 min.**

NOTE: Use the proper bit for the head of the screw/bolt that you wish to use.

NOTE: When fastening M5 or smaller screw, carefully adjust rotation angle on the switch so that the screw is not damaged.

NOTE: Hold the tool pointed straight at the screw.

NOTE: If the impact force is too strong or you tighten the screw for a time longer than shown in the figures, the screw or the point of the driver bit may be over-stressed, stripped, damaged, etc. Before starting your job, always perform a test operation to determine the proper fastening time for your screw.

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.

Using the tool as a hand screwdriver

► **Fig.10**

Switch off the tool.
Move the lock lever to the locked position 🔒.
Turn the tool.

NOTICE: Use the tool with a fastening torque less than 12.5 N•m.

NOTICE: Do not use the tool for work requiring excessive force, such as tightening bolt M10 or bolts greater than M10 or removing rusted screws.

NOTE: This use is convenient for checking the screwdriving.

Using holster

Optional accessory

⚠***CAUTION:*** **When using the holster, remove a driver bit/drill bit from the tool.**

⚠***CAUTION:*** **Turn off the tool and wait until it comes to a complete stop before placing it in the holster.**

⚠***CAUTION:*** **Be sure to set the lock lever in the locked position before using the holster.**

⚠***CAUTION:*** **When using the holster, insert the tool deeply and be sure that the tool is held securely.**

1. Thread a waist belt or similar through holster holder.
► **Fig.11: 1.** Holster holder **2.** Waist belt

2. Set the lock lever in the locked position and insert the tool into the holster firmly.
► **Fig.12**

MAINTENANCE

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

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

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

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.

- Driver bits
- Socket bits
- Bit piece
- Soft carrying case
- Makita genuine battery and charger

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