makita DFT023F Cordless Precise Torque Screwdriver Instruction Manual

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Contents

SPECIFICATIONS

Model:		DFT023F	DFT045F
Fastening torque	Hard joint	0.5 – 2 N•rn	1 – 4 N•rn
	Soft joint	0.5 – 2 N•rn	1 – 4 N•rn
No load speed		400 – 1,300 min-1	150 – 900 min-1
Dimensions (L x W x H)	with BL1415 battery	159 mm x 72 mm x 232 mm	
	with BL1430 battery	159 mm x 72 mm x 249 mm	
Rated voltage		D.C. 14.4 V	
Standard battery cartridge		BL1415, BL1415N, BL1415NA, BL1430, BL1430A, BL 1430B, BL1440, BL1450, BL1460A, BL1460B	
Charger		DC18RC, DC18RD, DC18SD, DC18SE, DC18SF	
Net weight		1.1 – 1.3 kg	

- 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.
- 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.

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:

Model DFT023F

- **Sound pressure level (LpA):** 70 dB(A) or less
- **Uncertainty (K):** 3 dB(A)

Model DFT045F

- **Sound pressure level (LpA):** 70 dB(A) or less
  Uncertainty (K): 3 dB(A)

The noise level under working may exceed 80 dB (A).

WARNING: Wear ear protection.

Vibration

The vibration total value (tri-axial vector sum) determined according to EN62841:

Model DFT023F

- **Work mode:** screwdriving without impact
- **Vibration emission (ah) :** 2.5 m/s2 or less
- **Uncertainty (K) :** 1.5 m/s2

Model DFT045F

- **Work mode:** screwdriving without impact
- **Vibration emission (ah) :** 2.5 m/s2 or less
- **Uncertainty (K) :** 1.5 m/s

NOTE: 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.

NOTE: 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.

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).

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 screwdriver 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. Keep hands away from rotating parts.
5. Do not touch the bit or the workpiece immediately after operation; they may be extremely hot and could burn your skin.
6. Always secure workpiece in a vise or similar hold-down device.

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.

SAVE THESE INSTRUCTIONS.

CAUTION: Only use genuine Makita batteries.
Use of non-genuine Makita batteries, or batteries thathave 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.
4. Charge the battery cartridge if you do not use it for a long period (more than six months).

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

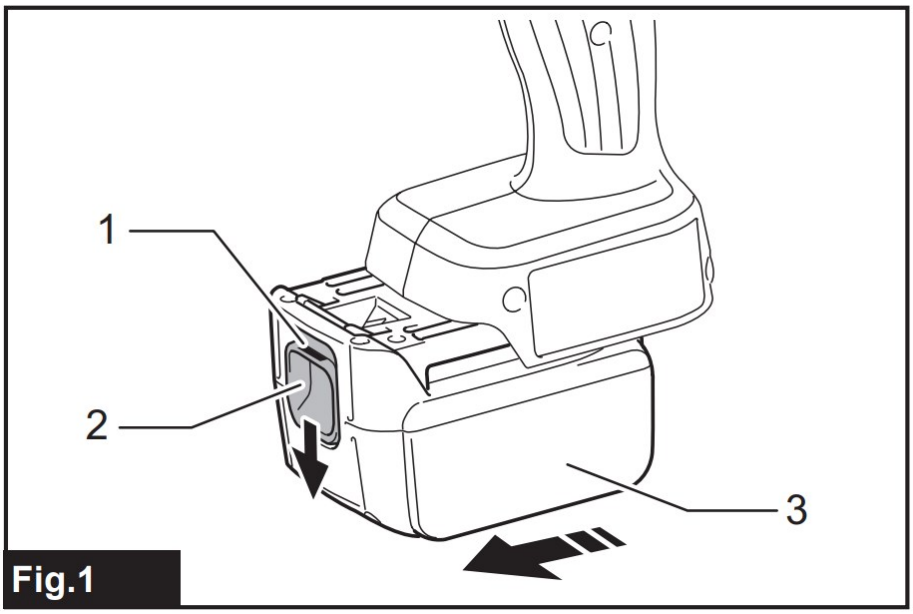
Installing or removing battery cartridge

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. Red indicator 2. Button 3. 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. 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.

CAUTION: Always install the battery cartridge 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.

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

Checking the remaining battery capacity (BL1460A)

Fig.2: 1. Indicator lamps 2. Check button

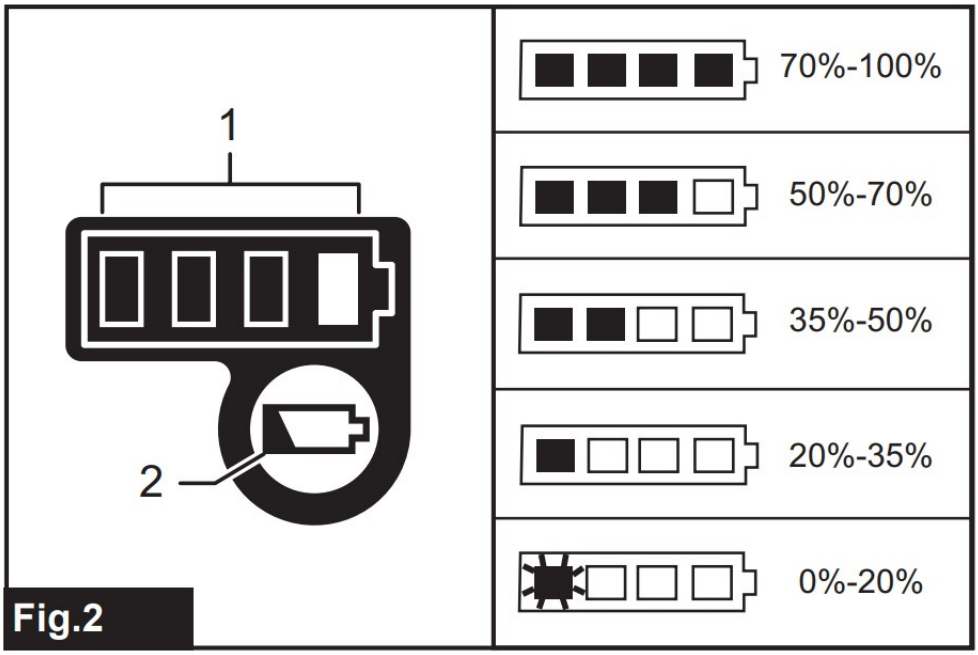


Fig.2

NOTE: Depending on the conditions of use and the ambient temperature, the indication may differ slightly from the actual 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.

NOTE: If the indicator lamp does not turn on or flicker when charging, the battery may be faulty. In this case, ask your local service center.

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 after approx. 5 seconds. When pushing the check button with the tool switched off, the indicator lamps turn on for approx. 5 seconds to show battery capacity.

If the orange lamp flickers, the tool stops because of little remaining battery capacity (Auto-stop mechanism). Charge the battery cartridge or use a charged battery cartridge at this time.
When the tool is used with the battery that has not been used for a long time and is switched on, no lamps may light up. The tool stops because of little remaining battery capacity at this time. Charge the battery properly.

Tool / battery protection system

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

Overload protection

When the tool/battery is operated in a manner that causes it to draw an abnormally high current, the tool stops automatically. In this situation, turn the tool off and stop the application that caused the tool to become overloaded. Then turn the tool on to restart.

Overheat protection

When the tool/battery is overheated, the tool stops automatically. In this situation, let the tool/battery cool before turning the tool on again.

Overdischarge protection

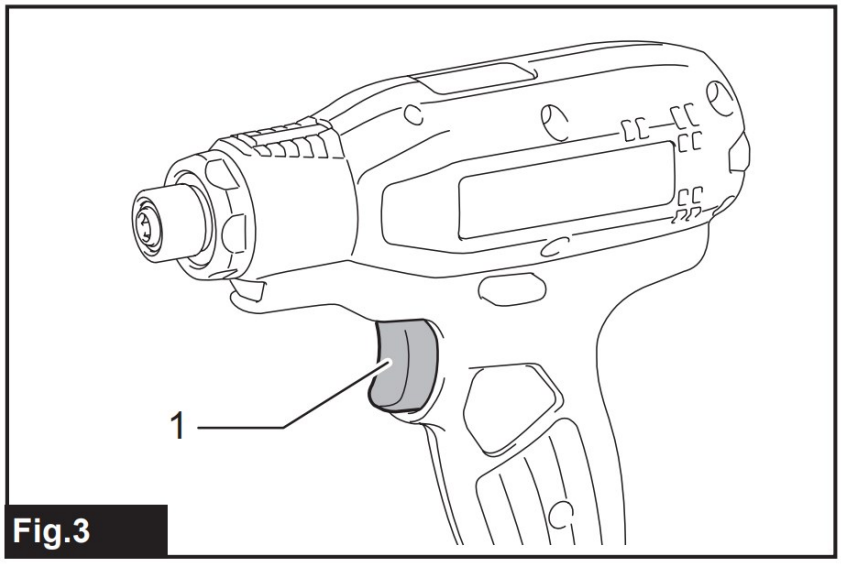
When the battery capacity is not enough, the tool stops automatically. In this case, remove the battery from the tool and charge the battery.

Switch action

WARNING: 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.

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

Fig.3: 1. Switch trigger



NOTE: For approximately one second after fastening, the tool does not work even with the switch pulled.

Lighting up the front lamp

Fig.4: 1. Lamp

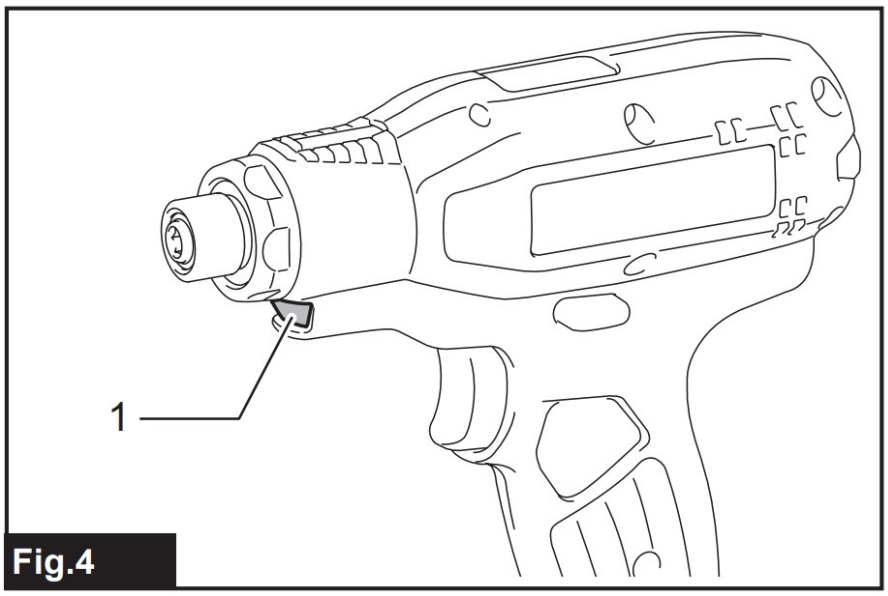


Fig.4

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 lamp goes out approximately 10 seconds after releasing the switch trigger.

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.

Reversing switch action

Fig.5: 1. Reversing switch lever

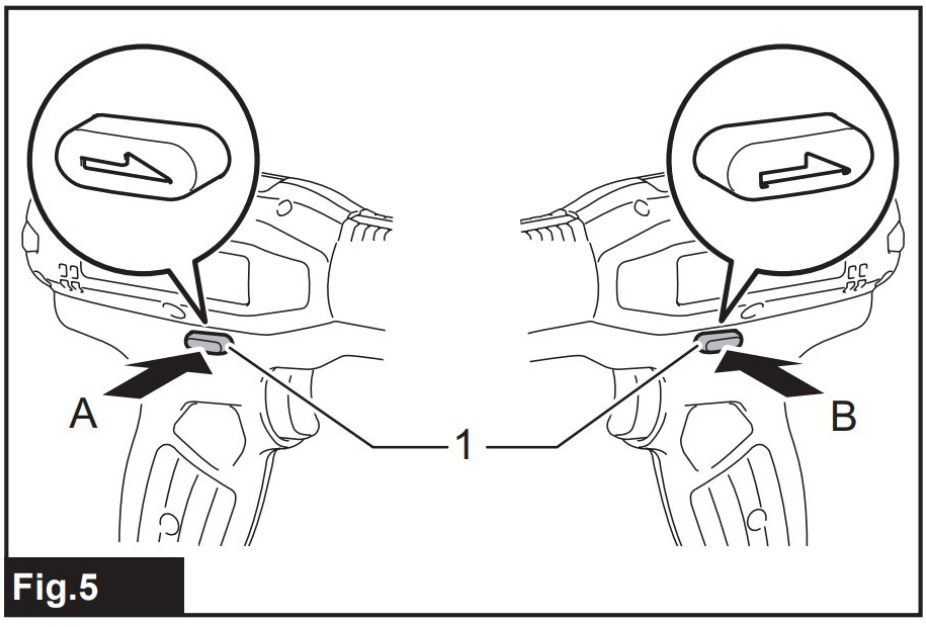


Fig.5

CAUTION: Always check the direction of rotation before operation.

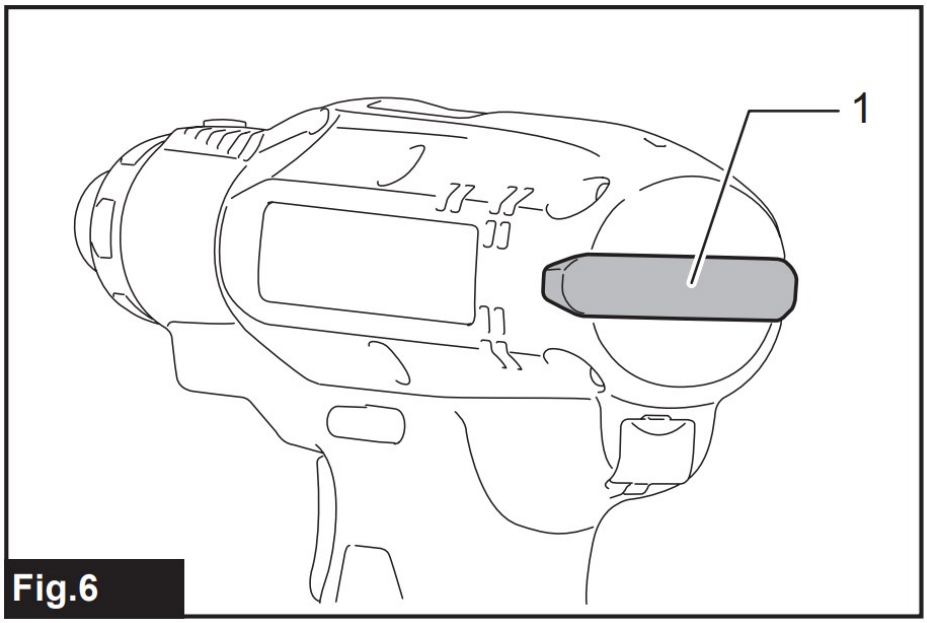
CAUTION: Use the reversing switch only after the tool comes to a complete stop. Changing the direction of rotation before the tool stops may damage the tool.

CAUTION: 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.

LED indicator / Beeper

Fig.6: 1. LED indicator



LED indicator / Beeper on the tool shows the following functions.

Function	**Status of the tool**	**Status of the LED indicator/beeper**		**Action to be taken**
		LED indicator	**Beeper**	
Auto-stop with faste ning completion	The preset fasten- i ng torque has been achieved and the to ol has stopped.	Lights up in green fo r approximately one second.	–	–
Alarm against insuffi - cient fastening	The preset fastening torque has not been achiev ed, because the swi tch trigger hasreleas ed before complet- i ng the fastening.	Lights up in red.	A long beep	Retighten the screw.

Alarm for low batter y capacity	The battery power b ecame low and it is t ime to replace the b attery cartridge.	Flickers in red slowl y.	A series of long bee ps	Replace the battery with fully charged one.
Auto-stop with low r emaining battery ca pacity	The battery power is almost used up and the tool stopped.	Lights up in red.	A long beep	Replace the battery with fully charged one.
Check of the LED in di- cator, light and b eeper operation	When the battery ca r- tridge is installed, the tool checks for it s LED indica- tor, lig ht and beeper.	Lights up first in gre en, next red. (And th en the light comes o n.)	A series of very sho rt beeps	–
Anti-reset of controll er	The battery voltage dropped abnormally for some reason, an d the tool stopped.	Flickers in red and g reen alternatively.	A series of short be eps	Replace the battery with fully charged one.
Overheat protection	Tool’s controller hea ted up abnormaly and the tool stopped .	Flickers in red quickl y.	A series of short be eps	Remove the battery car- tridge immediat ely and cool the tool down.
Detection of switch t rigger operation when installing batte ry	When the battery ca r- tridge is installed with the switch trigg er pulled, the tool st ops to avoid uninten tional start.	Flickers in red and g reen alternatively.	A series of short be eps	Release the switch t rigger.
Motor failure detecti on	Motor failure has be en detected. At this t ime, tool does not w ork.	Flickers in red and g reen alternatively.	A series of short be eps	Ask your local Makit a Service Center for repair.

Double-hitting detec tion	When the operator s tarts to re-fasten an already-fastened scr ew, the tool detect it and stops.	Lights up in red.	A long beep	–
Maintenance alarm	A maintenance time has come according to your preset numb er of screws driven.	Flickers in yellow.	–	Reset the alarm with the application softw are.
Alarm for unavailabl e data communication (wit h the tool in connec- tion with PC)	Data cannot be exchanged between the tool and PC in s pite of the connectio n.	Flickers in yellow.	–	Restart the applicati on software and re-c onnect the USB cabl e.
Indication that data com- munication is available (with the t ool in connec- tion with PC)	The tool is connecte d to PC and data co mmuni- cation is av ailable.	Flickers in green.	–	–

Adjusting the fastening torque

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

1. Open the change plate by hand so that you can see a hole.

Fig.7: 1. Change plate

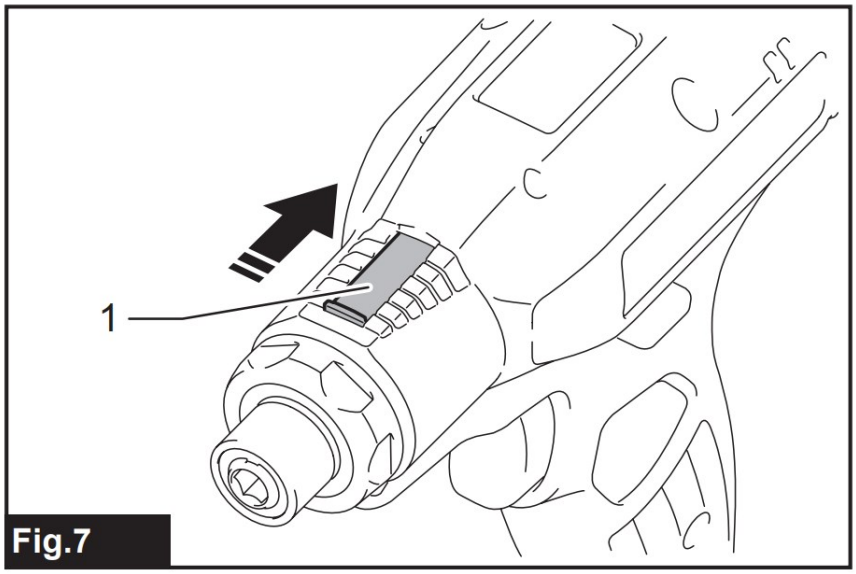
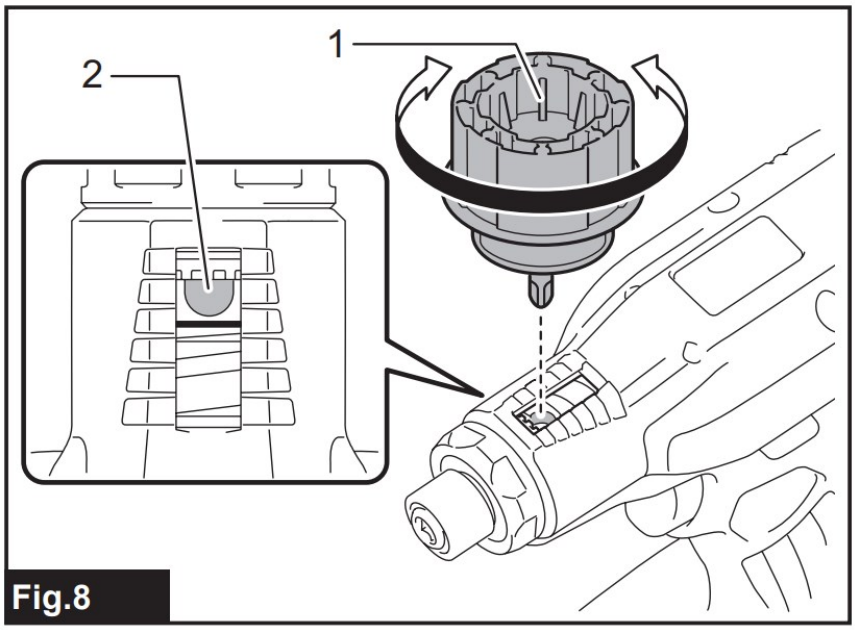


Fig.7

2. Pull the switch trigger and release it so that the adjust ring rotates and the hole becomes visible. And then remove the battery cartridge.
3. Use an optional adjust grip to adjust the fastening torque. Insert the pin of the adjust grip into the hole in the front of the tool. And then, turn the adjust grip clockwise to set a greater fastening torque, and counterclockwise to set a smaller fastening torque.

Fig.8: 1. Adjust grip 2. Hole for adjust grip

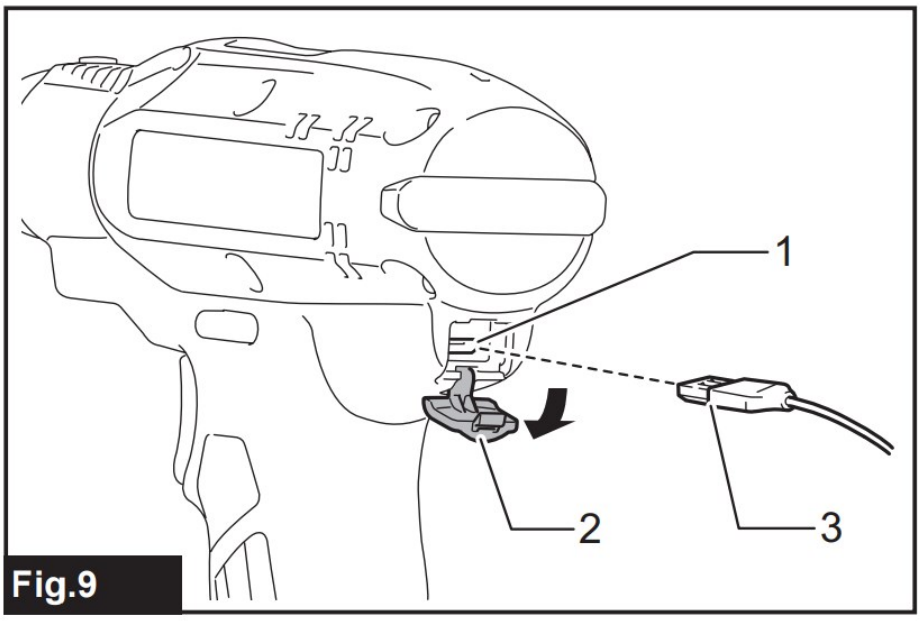


4. Insert the battery cartridge and be sure that a fastening torque has been set up by using a fastening torque tester.
5. Close the change plate by hand securely

Adjusting no-load speed and revolution angle etc.

You can adjust the no-load speed, number of turn, etc. of the tool with your computer. Install the application software in your computer and connect it to the tool with an USB cable.

Fig.9: 1. USB port 2. USB cover 3. USB cable



NOTICE: Make sure that the USB cover closed when fastening.
NOTE: For the application software, please contact Makita sales representative.

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.10

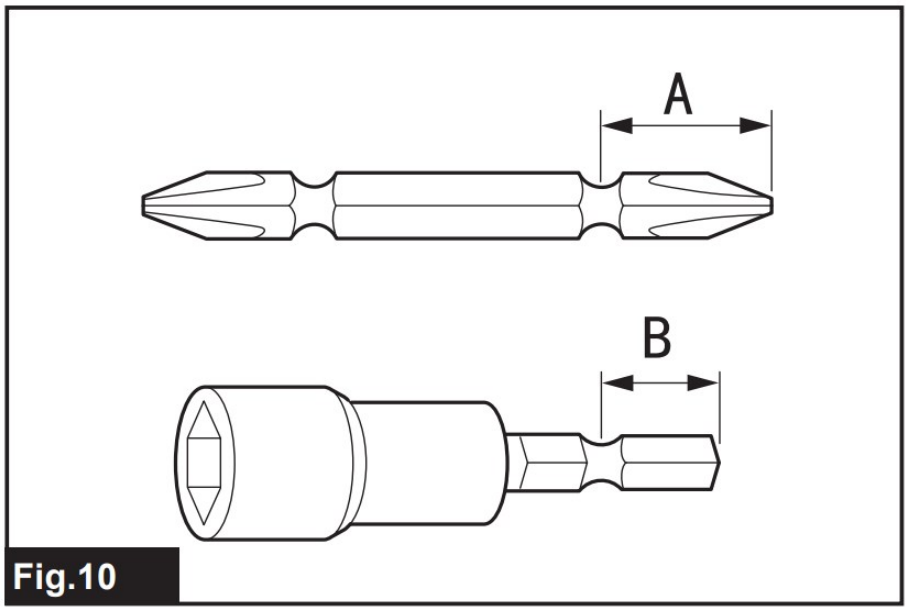


Fig.10

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

Fig.11: 1. Driver bit 2. Sleeve

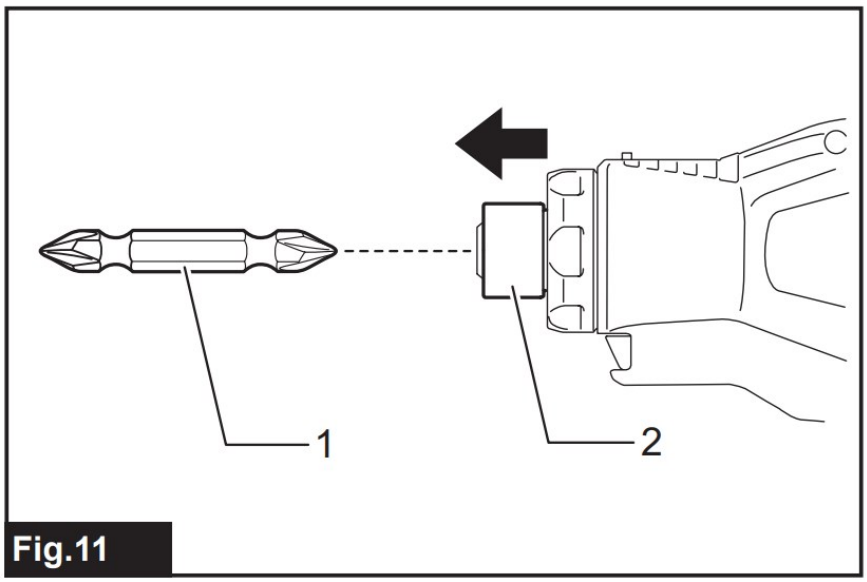


Fig.11

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.
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: When it is difficult to insert the driver bit, pull the sleeve and insert it into the sleeve as far as it will go.
NOTE: After inserting the driver bit, make sure that it is firmly secured. If it comes out, do not use it.

Installing hook

Optional accessory
The hook is useful to hang the tool. Install the hook to the holes on the tool body.
Fig.12: 1. Hook 2. Hole

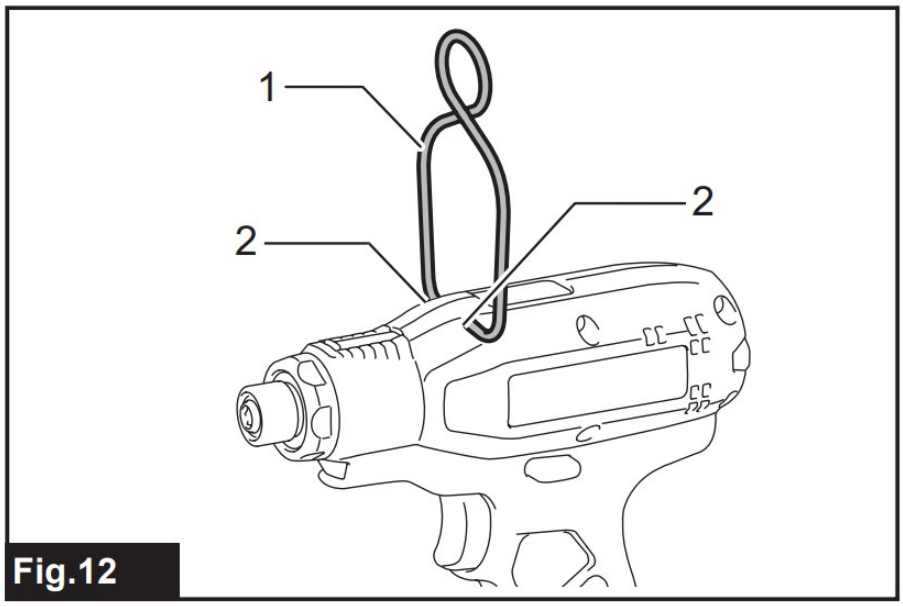


Fig.12

OPERATION

Screwdriving operation

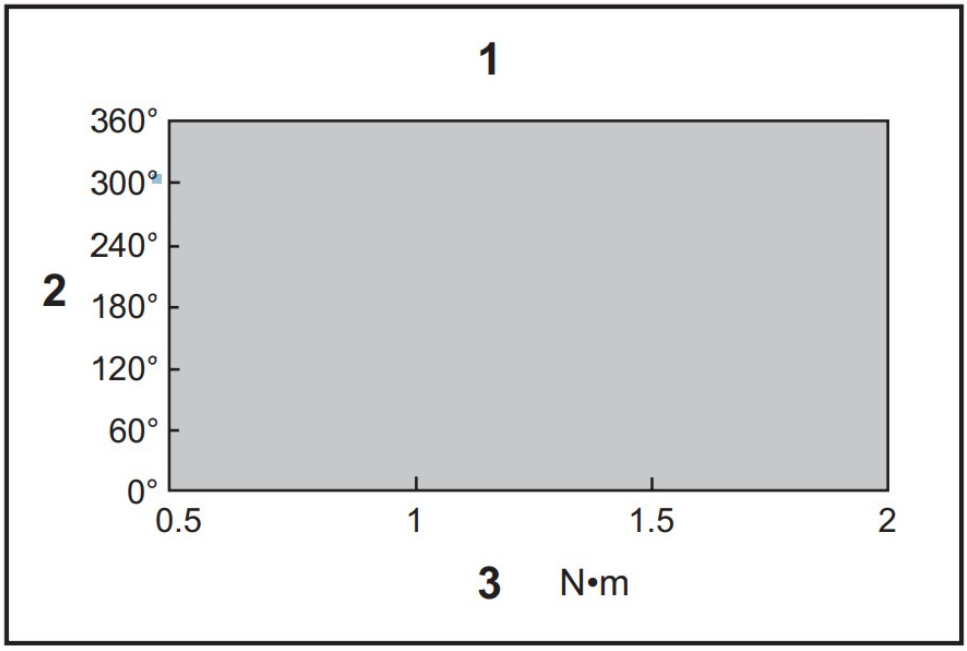
CAUTION: Make sure that the bit is inserted straight in the screw head, or the screw and/or bit may be damaged.

Place the point of the driver bit in the screw head and apply pressure to the tool. Then switch the tool on. When the clutch cuts in, the motor will stop automatically. Then release the switch trigger.

Limits of fastening capacity

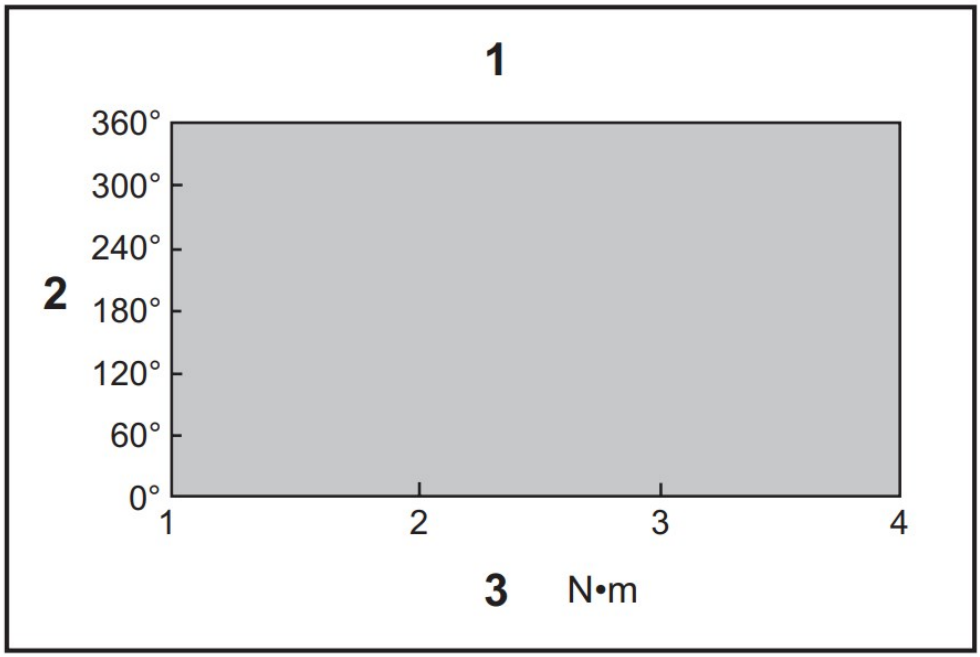
Use the tool within the limits of fastening capacity. If you use the tool beyond the limits, the clutch does not work. And the tool cannot deliver enough fastening torque.

For model DFT023F



1. Range of fastening capacity 2. Rotation angle 3. Torque

For model DFT045F



1. Range of fastening capacity 2. Rotation angle 3. Torque

NOTE: The rotation angle is the angle from the point that the bolt is tightened in 50% of desired torque to the point that the bolt is tightened in 100% torque.

NOTE: Use of a cold battery cartridge may give warning for battery capacity by LED indicator and beeper and stop the tool immediately, even if it is fully charged. In this case, the fastening capacity may be inferior to the specification on this manual.

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.

- Adjust grip
- Protector (Natural, Red, Blue, Yellow)
- Hook
- Lock nut (Red, Blue, Yellow)
- 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.

Customer Support

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Jan-Baptist Vinkstraat 2,
3070 Kortenberg, Belgium

Makita Corporation
3-11-8, Sumiyoshi-cho,
Anjo, Aichi 446-8502 Japan
http://www.makita.com

Documents / Resources

	makita DFT023F Cordless Precise Torque Screwdriver [pdf] Instruction Manual DFT023F, Cordless Precise Torque Screwdriver, Precise Torque Screwdriver, Cordless Torque Screwdriver, Torque Screwdriver, Screwdriver

References

- MAKITA Industrial Power Tools - The Leader In Cordless with 18V LXT Lithium-Ion