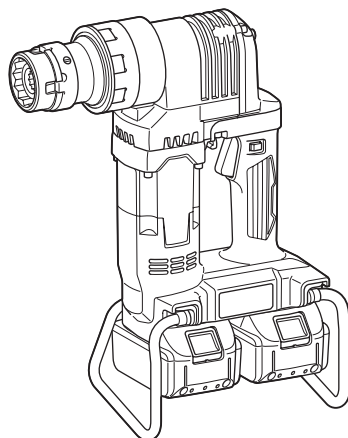


INSTRUCTION MANUAL



Cordless Shear Wrench

DWT310



Read before use.

SPECIFICATIONS

Model:	DWT310
Bolt size	M16, M20, M22
Maximum torque	804 N•m
No load speed (RPM)	14 min ⁻¹
Overall length	296 mm
Rated voltage	D.C. 36 V
Net weight	6.5 - 7.1 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 combinations, according to EPTA-Procedure 01/2014, are shown in the table.

Applicable battery cartridge and charger

Battery cartridge	BL1815N / BL1820 / BL1820B / BL1830 / BL1830B / BL1840 / BL1840B / BL1850 / BL1850B / BL1860B
Charger	DC18RC / DC18RD / DC18RE / DC18SD / DC18SE / DC18SF

- 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.

Symbols

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



Read instruction manual.



Ni-MH
Li-ion

Only for EU countries
Do not dispose of electric equipment or battery pack together with household waste material!
In observance of the European Directives, on Waste Electric and Electronic Equipment and Batteries and Accumulators and Waste Batteries and Accumulators and their implementation in accordance with national laws, electric equipment and batteries and battery pack(s) that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

Intended use

The tool is intended for fastening "tor-shear type" high tensile bolts.

Noise

The typical A-weighted noise level determined according to EN62841-2-2:

Sound pressure level (L_{pA}) : 83 dB(A)

Sound power level (L_{WA}) : 94 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 EN62841-2-2:

Work mode: screwdriving without impact

Vibration emission (a_h) : 2.5 m/s² or less

Uncertainty (K) : 1.5 m/s²

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.

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.

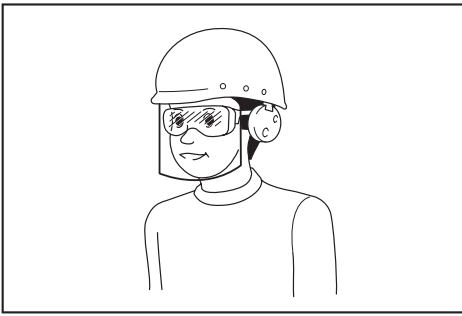
Electrical safety

1. **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.
2. **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.
3. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

4. **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.
5. **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.
6. **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.
7. **Power tools can produce electromagnetic fields (EMF) that are not harmful to the user.** However, users of pacemakers and other similar medical devices should contact the maker of their device and/or doctor for advice before operating this power tool.

Personal safety

1. **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.
2. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
3. **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.
4. **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.
5. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
6. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
7. **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.
8. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.
9. **Always wear protective goggles to protect your eyes from injury when using power tools. The goggles must comply with ANSI Z87.1 in the USA, EN 166 in Europe, or AS/NZS 1336 in Australia/New Zealand. In Australia/New Zealand, it is legally required to wear a face shield to protect your face, too.**



It is an employer's responsibility to enforce the use of appropriate safety protective equipments by the tool operators and by other persons in the immediate working area.

Power tool use and care

1. **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.
2. **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.
3. **Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.
4. **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.
5. **Maintain power tools and accessories. 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.
6. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
7. **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.
8. **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
9. **When using the tool, do not wear cloth work gloves which may be entangled.** The entanglement of cloth work gloves in the moving parts may result in personal injury.

Battery tool use and care

1. **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.

2. **Use power tools only with specifically designed battery packs.** Use of any other battery packs may create a risk of injury and fire.
3. **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.
4. **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.
5. **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
6. **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C may cause explosion.
7. **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

Service

1. **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.
2. **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.
3. **Follow instruction for lubricating and changing accessories.**

Cordless Shear Wrench 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. **Before using power tool, make sure that the outer sleeve smoothly turns by hand. When it does not smoothly turn, never use it and ask Makita Authorized Service Center for check and repair.**
3. **When sheared bolt tip falls without pulling the eject lever, never use the tool and ask Makita Authorized Service Center for check and repair.**
4. **Always be sure you maintain good balance and firm footing. Be sure no one is below when using the tool in high or elevated locations.**
5. **Hold the tool firmly.**
6. **Use care and common sense when disposing of sheared bolt tips.** Dropping tips from high locations or scattered tips may cause severe injury.
7. **Do not attach the tool to your cloth or safety harness at high locations.**

⚠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. When disposing the battery cartridge, remove it from the tool and dispose of it in a safe place. 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.
13. If the tool is not used for a long period of time, the battery must be removed from the tool.

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.
4. Charge the battery cartridge if you do not use it for a long period (more than six months).

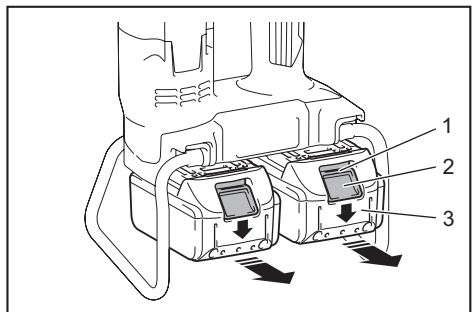
FUNCTIONAL DESCRIPTION

⚠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.



► 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.

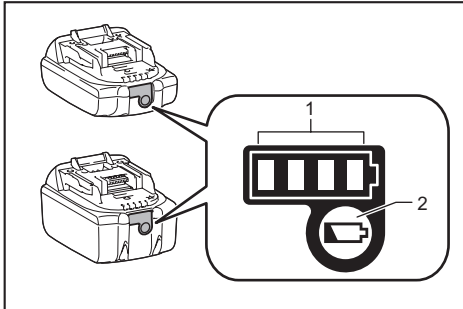
To install the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Insert it all the way until it locks in place with a little click. If you can see the red indicator on the upper side of the button, it is not locked completely.

⚠ 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.

Indicating the remaining battery capacity

Only for battery cartridges with the indicator



► 1. Indicator lamps 2. Check button

Press the check button on the battery cartridge to indicate the remaining battery capacity. The indicator lamps light up for a few seconds.

Indicator lamps			Remaining capacity
Lighted	Off	Blinking	
■	□	▧	75% to 100%
■ ■ ■ ■	□ □ □ □		
■ ■ ■ ■	□ □ □ □		50% to 75%
■ ■ ■ ■	□ □ □ □		25% to 50%
■ ■ ■ ■	□ □ □ □		0% to 25%
▧	□ □ □ □		Charge the battery.
■ ■ ■ ■	□ □ □ □		The battery may have malfunctioned.
□ □ □ □	■ ■ ■ ■	↑ ↓	

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

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 or battery is operated in a manner that causes it to draw an abnormally high current, the tool automatically stops without any indication. 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 or battery is overheated, the tool stops automatically. In this case, let the tool and battery cool before turning the tool on again.

Overdischarge protection

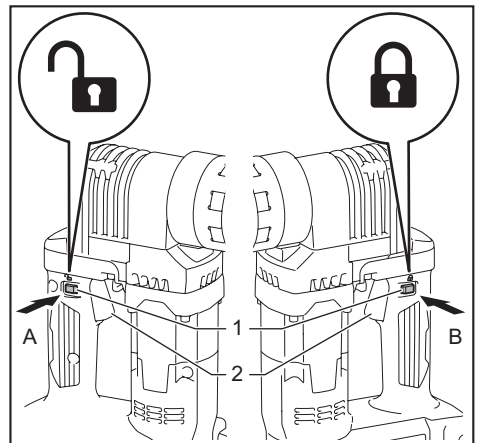
When the battery capacity is not enough, the tool stops automatically. In this case, remove the battery from the tool and charge the battery.

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 prevent the switch trigger from accidentally pulled, the trigger-lock button is provided.

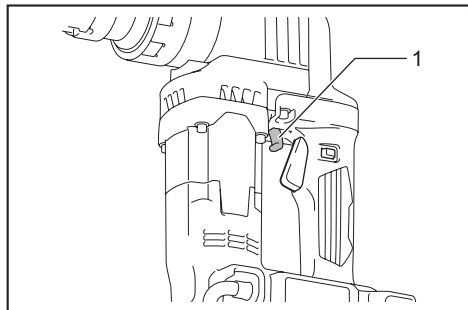
To start the tool, depress the trigger-lock button from A side and pull the switch trigger. Release the switch trigger to stop. After use, press in the trigger-lock button from B side.



► 1. Trigger-lock button 2. Switch trigger

NOTE: The tool automatically stops if you keep pulling the switch trigger for about 6 minutes.

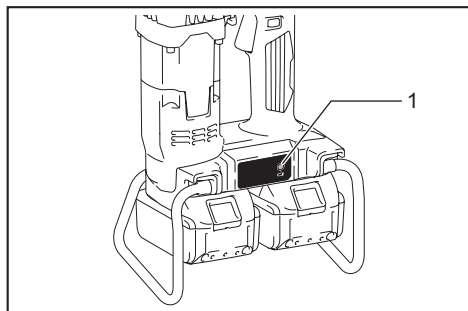
When you pull the eject lever, the bolt tip is ejected from the tool.



► 1. Eject lever

Battery power lamp

When the remaining battery capacity becomes low, the battery power lamp blinks. Charge the battery or replace the battery with fully charged one. When the remaining battery capacity becomes much lower, the tool stops and the battery power lamp lights up.



► 1. Battery power lamp

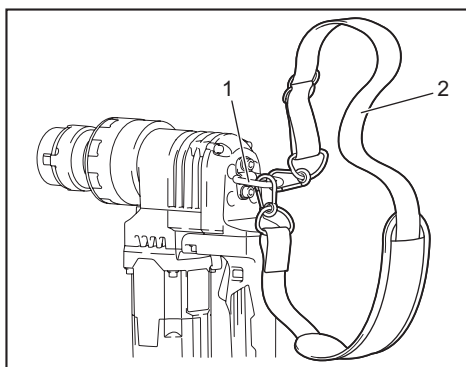
Hook

CAUTION: Be sure to attach the shoulder belt included in the tool as the standard accessory. Use the shoulder belt for carrying the tool, and never use the hook for other purposes such as the fall prevention at high location. If the hook is used for other purposes, excessive load may break them and cause serious injury to the operator and person around/underneath the operator.

CAUTION: When you attach the shoulder belt to the hook, be sure to attach it securely. If it is attached incompletely, the tool may come off and cause an injury.

CAUTION: When carrying the tool using the shoulder belt, be careful not to entangle the shoulder belt with your body or objects and not to hit objects with the tool. Failure to do so may cause an accident.

CAUTION: Remove the shoulder belt from the hook before operating the tool. Failure to do so may lose your balance at operation and cause an accident.



► 1. Hook 2. Shoulder belt

Attach the shoulder belt included in the tool as the standard accessory to the hook for carrying the tool. Remove the shoulder belt from the hook before operating the tool.

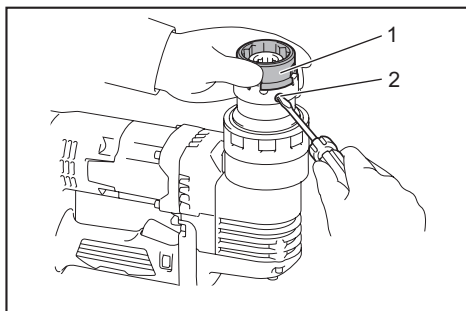
ASSEMBLY

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

Removing the outer and inner sleeves

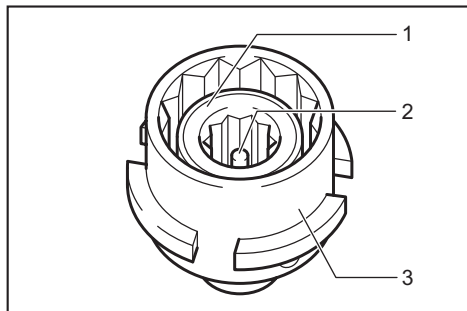
CAUTION: Be careful not to allow foreign matter to enter the insides of the tool when removing or installing the outer and inner sleeves.

1. Loosen the two screws while holding the outer sleeve. The outer and inner sleeves will be pushed up by the springs built into the tool.



► 1. Outer sleeve 2. Screw

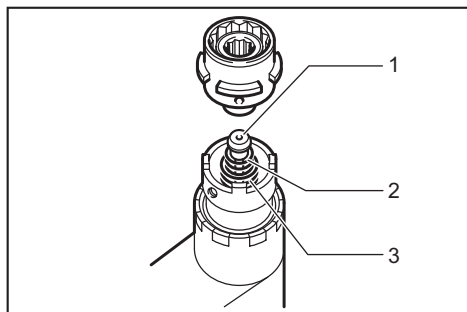
- Press the pin down to remove the inner sleeve from the outer sleeve.



► 1. Inner sleeve 2. Pin 3. Outer sleeve

NOTICE: Be careful not to drop the inner sleeve when removing it.

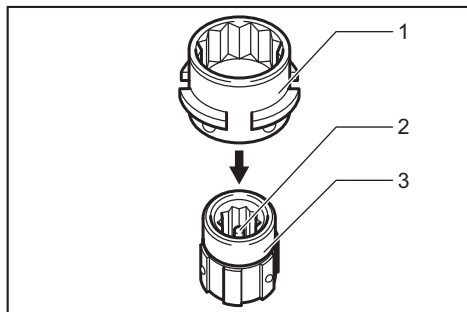
NOTICE: Do not remove the tip rod, tip rod spring, and inner sleeve spring from the tool.



► 1. Tip rod 2. Tip rod spring 3. Inner sleeve spring

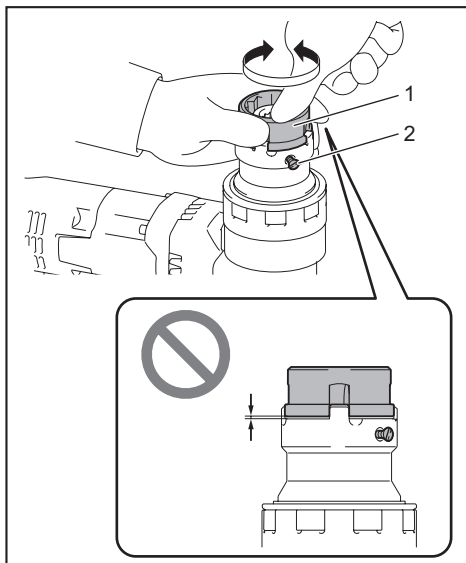
Installing the outer and inner sleeves

Place the inner sleeve with the pin facing upward. Attach the outer sleeve to the inner sleeve securely while pressing the pin of the inner sleeve.



► 1. Outer sleeve 2. Pin 3. Inner sleeve

Insert the outer and inner sleeves into the tool while rotating the inner sleeve clockwise and counterclockwise until the outer sleeve touches the tool. Tighten the two screws firmly.



► 1. Outer sleeve 2. Screw

NOTICE: Make sure that there is no gap between the outer sleeve and the tool.

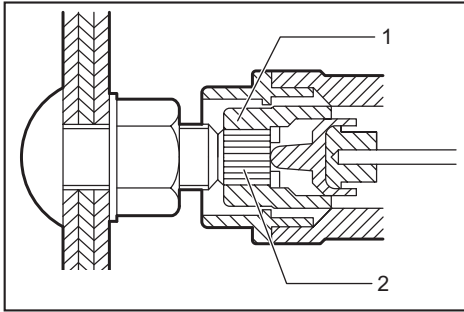
OPERATION

CAUTION: Always insert the battery cartridge all the way until it locks in place. If you can see the red indicator on the upper side of the button, it is not locked completely. Insert 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.

CAUTION: Keep the bolt tips off of the ground, floor, walkways, etc. to prevent injury from tripping or falling.

- Tighten bolts preliminarily by using a hand wrench.

2. Hold the tool firmly and place the inner sleeve over the bolt so that the inner sleeve completely covers the bolt tip.

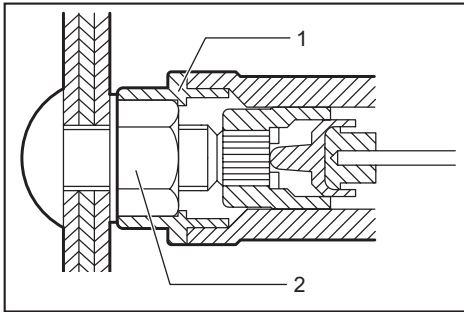


► 1. Inner sleeve 2. Bolt tip

NOTICE: Be careful when fitting the sleeve onto the bolt tip. Striking the tip can damage it so that it will no longer fit inside the sleeve properly.

3. Push the tool lightly until the outer sleeve completely hold the nut. If the outer sleeve fails to hold the nut, rotate the tool clockwise or counterclockwise while pushing the tool lightly.

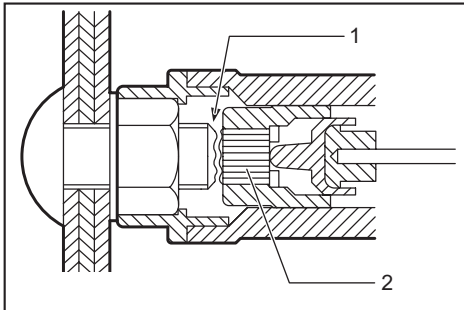
4. Press the trigger-lock button, and then pull the switch trigger. The outer sleeve rotates to tighten the nut.



► 1. Outer sleeve 2. Nut

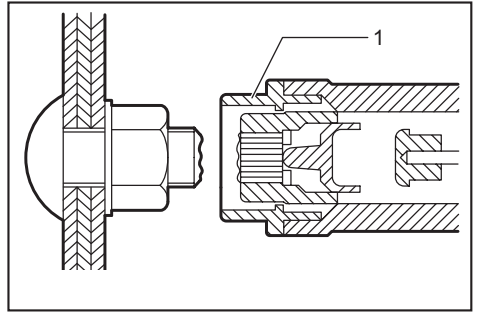
NOTICE: Do not force the tool down excessively. Apply the downward force to the degree needed to stabilize the tool.

5. When the specified torque is attained, the bolt tip will be sheared at its notched portion. The bolt tip remains inside the inner sleeve.



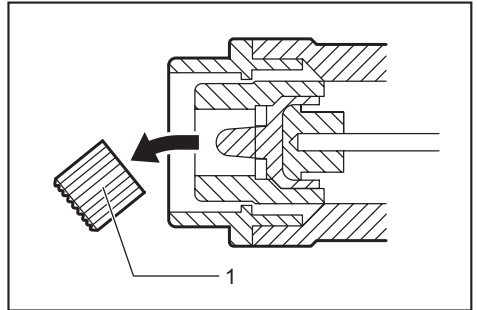
► 1. Notched portion 2. Bolt tip

6. Release the switch trigger and withdraw the tool in a straight line.



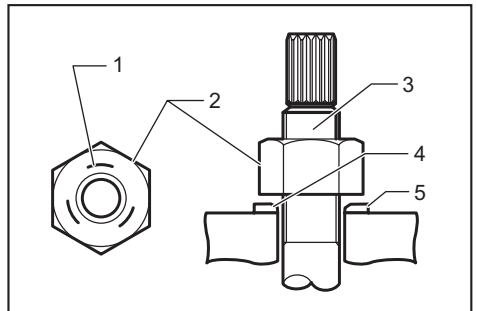
► 1. Outer sleeve

7. Pull the eject lever to eject the bolt tip from the tool. Catch the sheared bolt tips to prevent them from falling.



► 1. Bolt tip

NOTICE: Washer and nut have head and tail. Head has identification mark for nut and chamfer for washer. When placing them, be careful not to place in reverse.



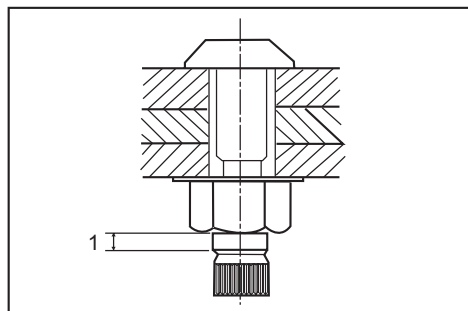
► 1. Identification mark 2. Nut 3. Bolt 4. Chamfered 5. Washer

NOTICE: Replace nut, bolt and washer all together at one time when these rotate together, nut rotates excessively or a bolt protrude from nut surface too much or less.

NOTICE: Do not reuse used nut, bolt and washer.

The range for the remaining length of bolts after cutting off the bolt tips are determined by bolt size. Refer to the table below and choose shear bolts according to the thickness of workpiece to be fastened.

Bolt size	Maximum remaining length	Minimum remaining length
M16	20 mm	4.5 mm
M20	15 mm	5.5 mm
M22	14 mm	7 mm



► 1. Remaining length

NOTICE: Use bolts with the remaining length within the range shown in the table above as bolts with different size have different maximum and minimum remaining length.

NOTICE: Be careful not to use bolts beyond the specified range which may cause the tool malfunction.

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, benzene, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

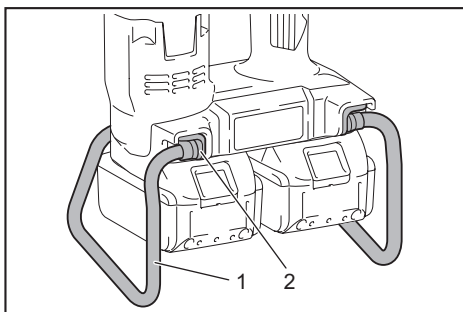
To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

Battery guard

WARNING: Do not remove the battery guard. Do not use the tool with the battery guard removed or damaged. Direct impact to the battery cartridge may cause battery malfunction and result in injury and/or fire. If the battery guard is deformed or damaged, contact your authorized service center for repairs.

CAUTION: Do not attach a strap to the battery guard for hanging the tool.

CAUTION: Do not attach the shoulder belt to the battery guard.



► 1. Battery guard 2. Battery guard holder

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.

Bolt size	Sleeve	Length
M16	Outer sleeve	35 mm
	Inner sleeve	36 mm
M20	Outer sleeve	37 mm
	Inner sleeve	38 mm
M22	Outer sleeve	39 mm
	Inner sleeve	39 mm
M22	Outer sleeve	85 mm
	Inner sleeve	85 mm
5/8"	Outer sleeve	35 mm
	Inner sleeve	36 mm
3/4"	Outer sleeve	37 mm
	Inner sleeve	38 mm
3/4"	Outer sleeve	83 mm
	Inner sleeve	84 mm

• 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.

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