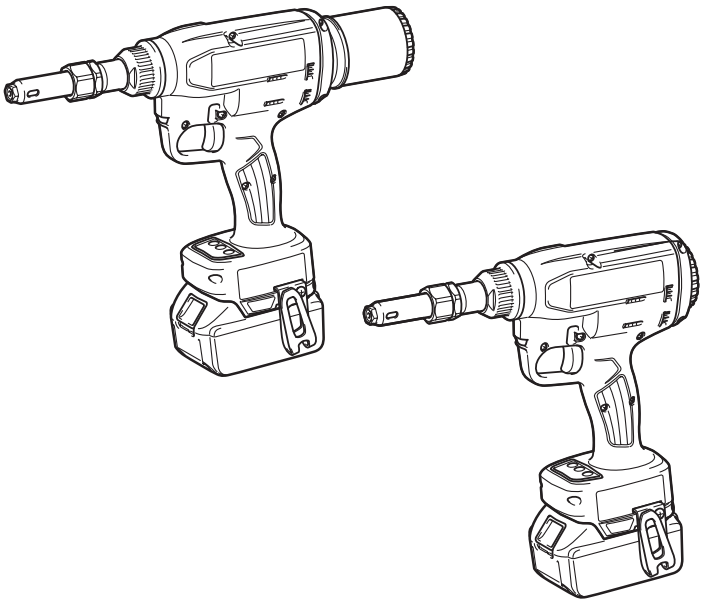
INSTRUCTION MANUAL
MANUEL D'INSTRUCTION
MANUAL DE INSTRUCCIONES

Lockbolt/Blind Rivet Installation Tool
Outil pour boulons de blocage et rivets aveugles
Herramienta de instalación para remaches de perno-collar/ remaches ciegos

BV4500-118
BV2200-118



IMPORTANT: Read Before Using.
IMPORTANT : Lire avant usage.
IMPORTANTE: Lea antes de usar.

SPECIFICATIONS

Model:	BV4500-118	BV2200-118
Pulling force	20 kN	10 kN
Stroke	30 mm (1-3/16")	
Overall length	358 mm (14-1/8")	290 mm (11-3/8")
Rated voltage	D.C. 18 V	
Net weight	2.2 - 2.5 kg (4.8 - 5.5 lbs)	2.1 - 2.4 kg (4.7 - 5.4 lbs)

- 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.

Applicable battery cartridge and charger

Battery cartridge	BL1815N / BL1820B / BL1830 / BL1830B / BL1840B / 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.

EC Declaration of Conformity

For European countries only

Manufacturer: Arconic Fastening Systems. Unit C Stafford Park 7, Telford, Shropshire, TF3 3BQ, United Kingdom. **Description of Machinery: Model Name "HUCK Rechargeable Battery Tool", Model No. "BV4500-118"**.
Relevant Provisions complied with: Council Directive related to Machine (2006/42/EC), EN 60745-1:2009+A11:2010, Hand-held motor operated electric tools – Safety – Part 1: General requirements. **Council Directive related to EMC (2014/30EU), EN55014-1:2017**, Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission. **EN 55014-2:2015**, Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2 : Immunity – Product family standard. **Council Directive related to RoHS (2011/65/EU)**, Directive 2011/65/EU of the European Parliament and of the council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
European Representative: Andrew Smith, Arconic Fastening Systems.
Authorized Signature/Date: I, the undersigned, do hereby declare that the equipment specified above conforms to the above Directive(s) and standard(s).
Signature:

Full name: Andrew Smith
Position: Engineering Manager, **Location:** Arconic Fastening Systems. Unit C Stafford Park 7, Shropshire, TF3 3BQ, United Kingdom. **Date:** 01/07/2018 (July 1, 2018)

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 ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI 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 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, clothing and gloves 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.**
   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 designated 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.**
4. **Do not modify or attempt to repair the appliance or the battery pack except as indicated in the instructions for use and care.**

Lockbolt/blind rivet installation tool safety warnings

1. **Hold the tool firmly.**
2. **Keep hands away from moving parts.**
3. **Always secure workpieces in a vise or similar hold-down device.**
4. **Always be sure you have a firm footing. Be sure no one is below when using the tool in high locations.**
5. **Never place the tool on unstable surface.** When the tool drops from high locations, it may cause an accident or injury.
6. **When operating the tool, do not block or seal the ventilation windows of the tool.**

Symbols

The followings show the symbols used for tool.

V	volts
⎓	direct current

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.**
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.

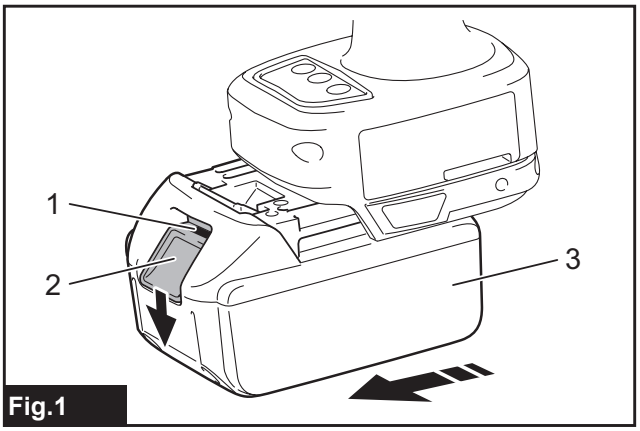


Fig.1

► **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.

Indicating the remaining battery capacity

Only for battery cartridges with the indicator

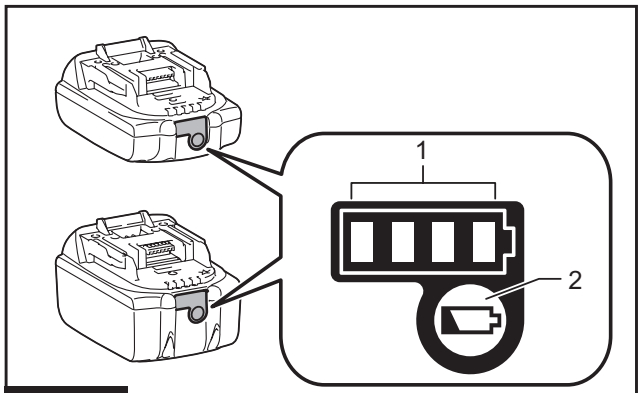


Fig.2

► **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 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 and the lamp blinks. 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 and the lamp blinks. 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.**

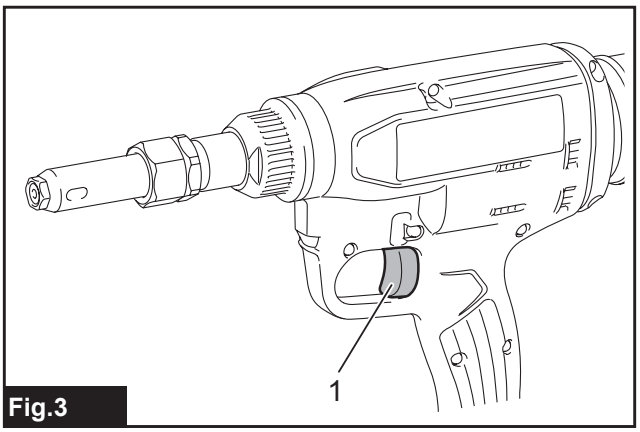


Fig.3

► **1.** Switch trigger

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

Control panel

You can adjust the pulling force of the tool or the initial position of the nose piece. You can also lock the buttons on the control panel.

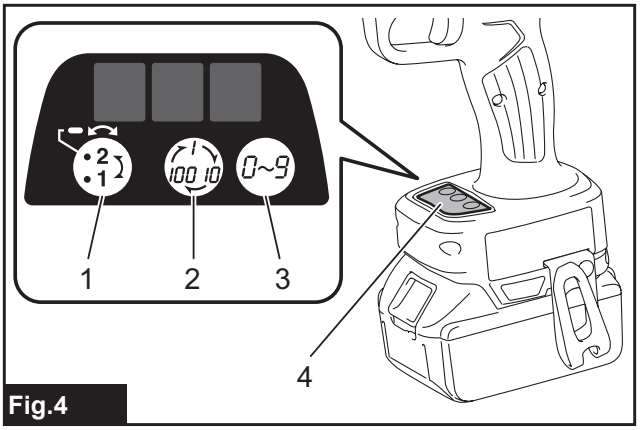


Fig.4

► **(1)** Button A **(2)** Button B **(3)** Button C **(4)** Control panel

Pulling force adjustment

To change the pulling force, follow the steps below.

1. Press button A for a few seconds.

2. Enter the value for the pulling force.

To change the value, press button C. To change the digit, press button B. To set the value, press button A for a few seconds. The value can be set between "0" and "999".

NOTICE:
For BV4500-118

To break off a mandrel, set the value to "900" or higher. When operating the tool without breaking off a mandrel, set the value appropriate for the operation.

Adjustment for initial position of nose piece

You can adjust the initial position of the nose piece. To adjust the initial position, follow the steps below.

1. Pull the switch trigger until the motor stops.

2. Press button A for a few seconds while pulling the switch trigger.

3. Enter the value for the initial position while pulling the switch trigger.

To change the value, press button C. To change the digit, press button B. To set the value, press button A for a few seconds. The value can be set between "-99" and "0".

NOTE: The larger the value becomes, the tighter the nose piece becomes. The smaller the value becomes, the looser the nose piece becomes. (The value "0" is the tightest and the value "-99" is the loosest.)

4. Release the switch trigger.

Locking the buttons

To lock the buttons on the control panel, press button A and button C for a few seconds. To unlock the buttons, press button A and button C for a few seconds again.

NOTE: When the buttons are locked, "hyphen (-)" is displayed instead of digit.

Lighting up the front lamp

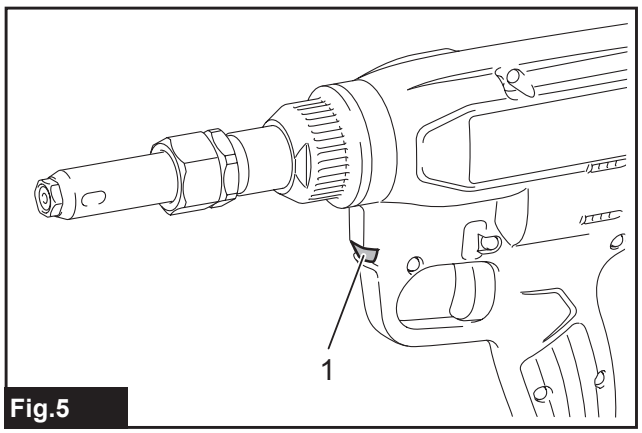


Fig.5

► **1.** Lamp

***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: When the remaining amount of the battery becomes low, the lamp blinks a few times. In this case, charge the battery or replace the battery with a charged one.

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.

Electric brake

This tool is equipped with an electric brake. If the tool consistently fails to quickly stop after the switch trigger is released, have the tool serviced at a Makita service center.

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 the pulling unit (nose assembly)

To remove the pulling unit (nose assembly), follow the steps below.

1. Loosen the nut of the anvil holder, and then remove the anvil holder.

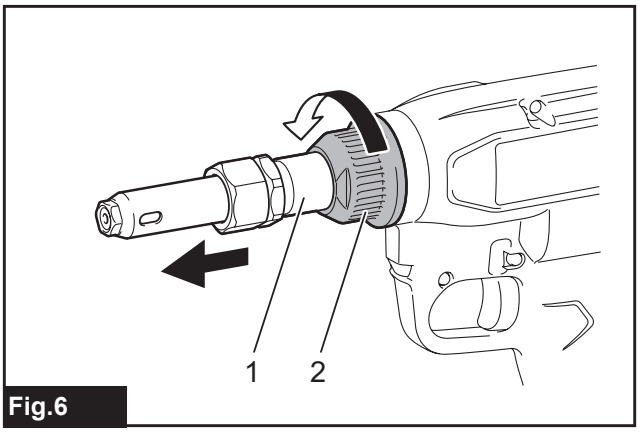


Fig.6

► **1.** Anvil holder **2.** Nut

2. Loosen nut A and nut B with two wrenches.

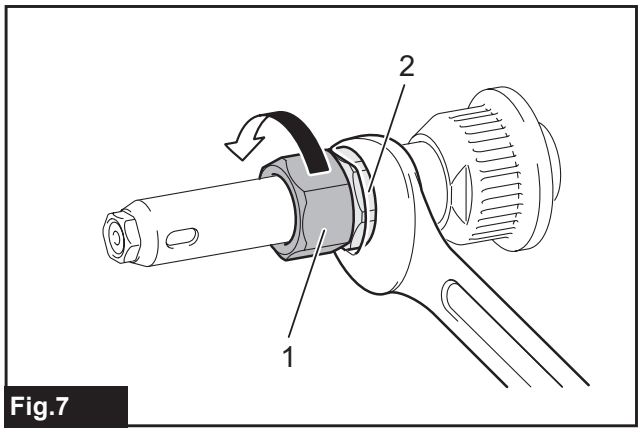


Fig.7

► **(1)** Nut A **(2)** Nut B

***NOTICE:* When installing the pulling unit (nose assembly), tighten nut A firmly at first, and then tighten nut B firmly.**

3. Loosen nut A with a wrench while holding the nose adapter with another wrench.

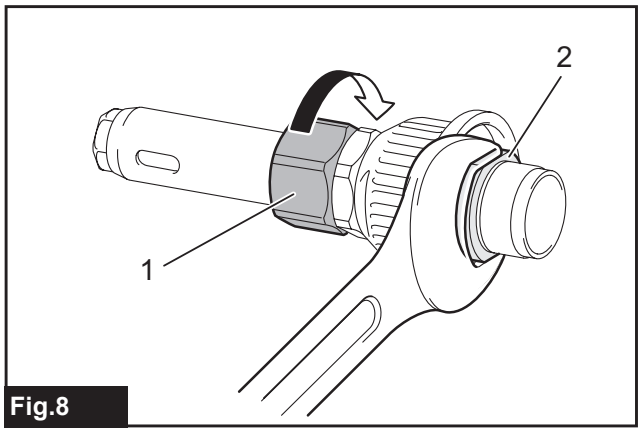


Fig.8

► **(1)** Nut A **(2)** Nose adapter

4. Loosen the collet assembly with a wrench while holding the joint with another wrench.

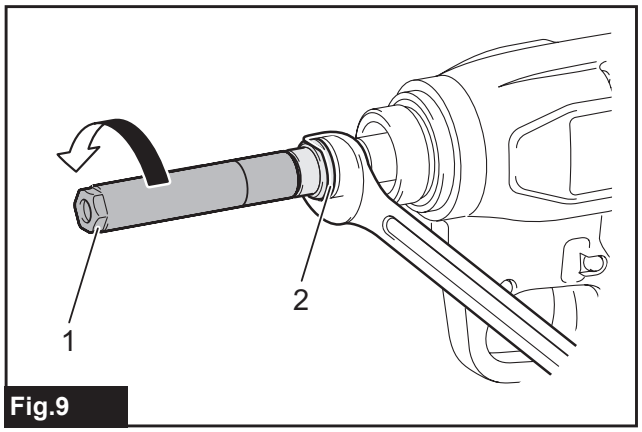


Fig.9

► **1.** Collet assembly **2.** Joint

To install the pulling unit (nose assembly), perform the removal procedure in reverse. Be sure to tighten the nuts and collet assembly with two wrenches firmly.

Hook

⚠***CAUTION:*** **Always remove the battery when hanging the tool with the hook.**

⚠***CAUTION:*** **Never hook the tool at high location or on potentially unstable surface.**

⚠***CAUTION:*** **When hanging the tool with the hook, hang it carefully.** Otherwise, the tool may drop and cause an injury.

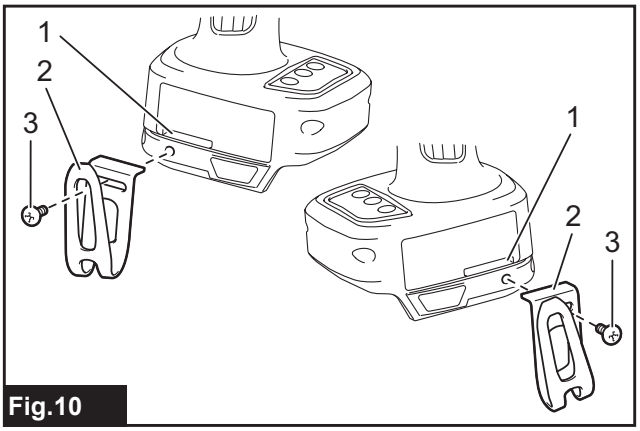


Fig.10

► **1.** Groove **2.** Hook **3.** Screw

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.

Installing or removing the mandrel container

For BV4500-118

NOTICE: **Be sure to install the mandrel container or the cap to the tool before operating the tool. If the mandrel container or the cap is not installed to the tool, the tool will not operate.**

To remove the mandrel container, rotate it counter clockwise.

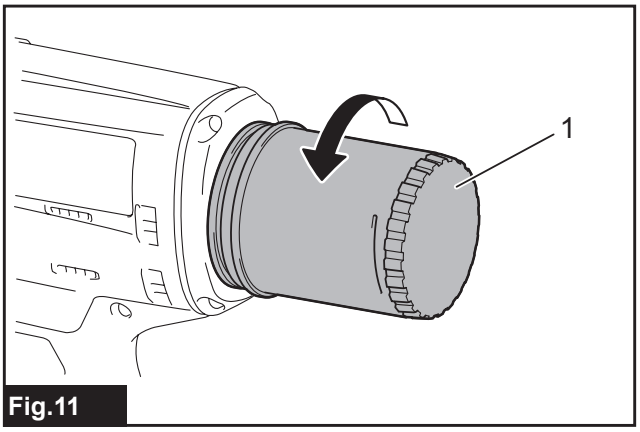


Fig.11

► **1.** Mandrel container

You can install the cap instead of the mandrel container.

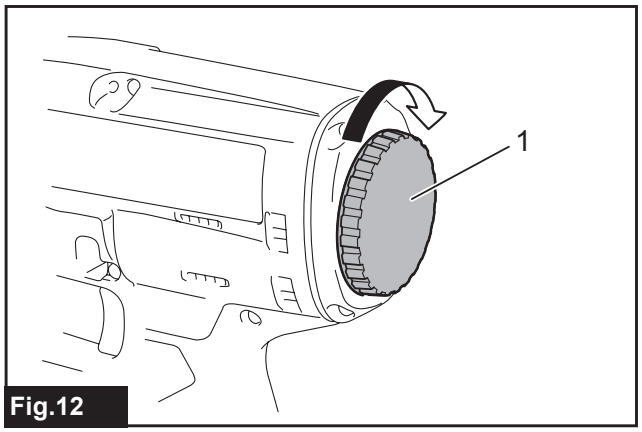


Fig.12

► **1.** Cap

NOTICE: **When the cap is attached to the tool, use the tool only for operations that do not break off mandrel.** If the tool is used for operations that break off mandrels, the broken off mandrels may cause malfunction of the tool.

OPERATION

⚠***CAUTION:*** **Never bring your hand or face to the moving parts while operating the tool.** Otherwise, you may be injured.

NOTICE:
For BV2200-118

Use the tool only for operations that do not break off mandrel. If the tool is used for operations that break off mandrels, the broken off mandrels may cause malfunction of the tool.

Installing a blind rivet or lockbolt (with breaking off a mandrel)

For BV4500-118

⚠***CAUTION:*** **Before the mandrel container becomes full, empty it regularly by removing the mandrel container.** Otherwise, the tool may be damaged, and the damaged parts may cause an injury.

⚠***CAUTION:*** **When inserting a blind rivet or lockbolt into the nose piece, be sure to switch off the tool.** Otherwise, you may be injured with the tool tip.

⚠***CAUTION:*** **Be careful not to drop the broken off mandrel from high locations.** Doing so may cause an accident or injury.

1. Insert the blind rivet or lockbolt into the nose piece.

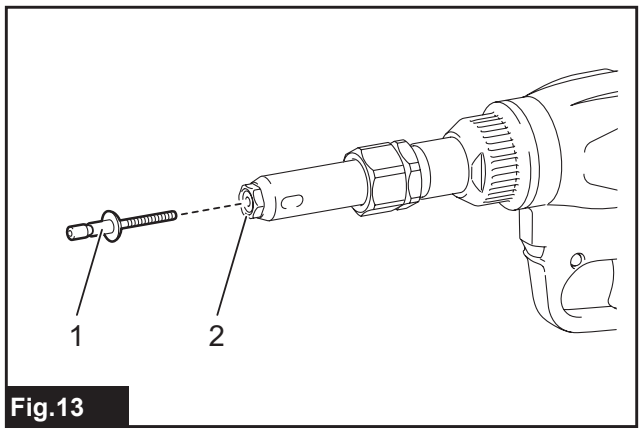


Fig.13

► **1.** Blind rivet **2.** Nose piece

2. Press the tool tip against the workpiece, and then pull the switch trigger. After the mandrel is broken off, release the switch trigger.

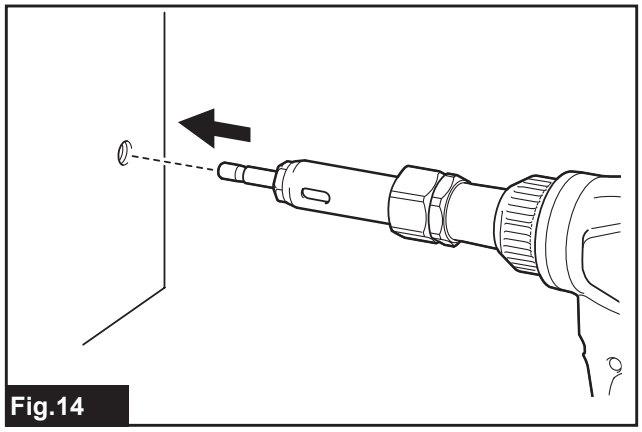


Fig.14

Before the mandrel container becomes full, empty it regularly by removing the mandrel container.

Installing a lockbolt (without breaking off a mandrel)

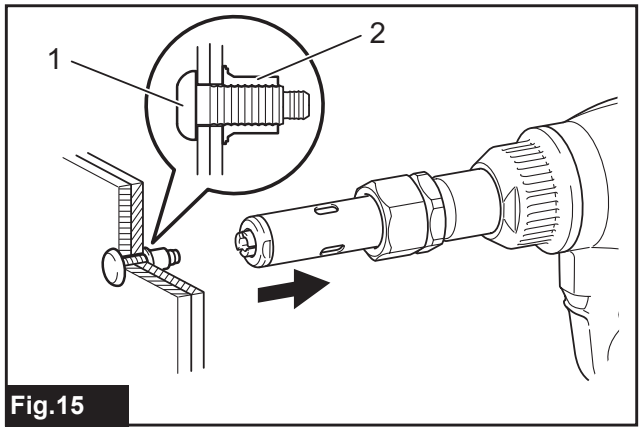


Fig.15

► **1.** Pin **2.** Collar

1. Insert the pin into the hole. Attach the collar to the pin.

2. Fit the hole of the nose piece on the pin, and then press the tool against the collar. Pull the switch trigger. The tool stops automatically after the collar is tightened with the specified force.

3. Release the switch trigger and withdraw the tool.

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.

- Nose assembly
- 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.