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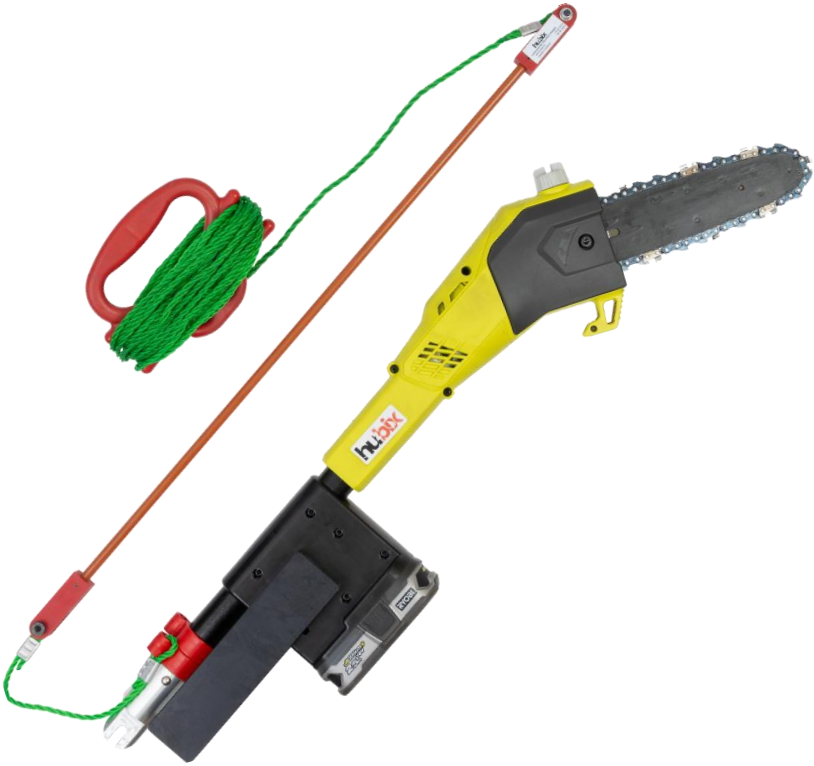
A224.0202

USER MANUAL
ELECTRIC CHAINSAW REMOTELY CONTROLLED WITH A GUY-ROPE



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SAFETY IN POWER

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INTENDED USE

The saw is intended for outdoor use only. It is designed exclusively for trimming branches and small limbs with a diameter not exceeding 15 cm near overhead power lines up to 30 kV. The saw must be used solely when mounted on insulating sticks. It is not to be used as a standard chainsaw for cutting wood, or for cutting branches, close quarter limbing and pruning of material at ground level.

TERMS OF USE OF EQUIPMENT

Equipment intended for works in the vicinity of voltage should only be used by a person authorized by the operator of electrical devices under the conditions specified in live-work instruction/procedure approved by the operator.

NOTE! A minimum of two operators are required to cut branches using a battery-powered (cordless) saw.

GENERAL SAFETY WARNINGS

Read all safety warnings and all instructions.

Failure to follow warnings and instructions may result in electric shock, short electrical circuit, fire and serious injury.

Keep all warnings and safety instructions for future reference.

The term "power tool" used in the following instructions refers to all tools powered by electricity (power corded) and tools powered by a battery that is part of the tool (cordless).

WORK AREA

- Do not operate power tools in areas where there is a risk of an explosion, e.g. near flammable liquids, gases or dust.
- Keep bystanders and children away from the work area when using power tools. According to the instructions/procedures for live working, the work area must be fenced off.

PERSONAL SAFETY

- Stay focused, watch what you are doing, and use common sense when using a power tool.
- Use personal protective equipment.
- Avoid starting accidentally the device.

POWER TOOL USE AND CARE

- Do not overload the power tool.
- Do not use a power tool with a damaged switch.
- Remove the battery before adjusting, repairing or storing.
- Store unused power tools out of the reach of children and do not allow unauthorized persons to use them.

- Electrical devices require maintenance. Check the alignment of moving parts, check for any damage, and consider all aspects that affect the operation of the device.
- Cutting elements should be sharp and clean.
- All devices, attachments, accessories, etc. should be used in accordance with the instructions provided.

ADDITIONAL GENERAL SAFETY WARNINGS

- Some regions have regulations restricting the use of the product. Check with your local authority for advice.
- Never allow children or anyone not authorized by the operator to operate this product. Local regulations may restrict the age of the operator.
- Check that all controls and safety devices are working properly before use. Do not use the product if the switch ("STOP") does not stop the motor.
- When operating a power tool, wear personal protective equipment as required by the Operator's instruction/procedure of live works.
- Beware of thrown, flying or falling objects: keep all bystanders, children and animals out of the fenced work area.
- Do not work in poor lighting conditions. The operator must have a clear view of the work area to identify potential hazards.
- Operating similar tools nearby increases both the risk of hearing injury and the potential for other people to enter your working area.
- Stand firmly and balance. Don't reach it too far. Overreaching can result in loss of balance and can increase the risk of kickback.
- Keep all parts of your body away from any moving part.
- Inspect the power tool before each use. Check that all parts of the tool are working properly. Check for loose fasteners, make sure that all guards and handles are properly and securely fastened. Replace any damaged parts before use.
- Do not modify the power tool in any way or use parts and accessories that are not recommended by the manufacturer.
- Do not allow the fact that you are familiar with this tool to reduce your caution. Never forget that a split second of inattention is enough to cause serious injury.

 **WARNING**
If the tool is dropped, subjected to a strong impact or if abnormal vibrations occur, stop the power tool immediately and check for damage or determine the cause of the vibration. Ana damaged parts must be properly repaired or replaced.

SAFETY WARNINGS FOR CHAIN SAW

- Do not use the product when there is a risk of thunderstorms or lightning. Store the product in a safe place indoors.
- Ensure that all guards and handles are properly fitted and in good condition.
- Do not start using the product until the work area is well prepared, the operator is in a secure position and has determined the escape route in case of branches or limbs falling.
- Be careful of the emission of lubricant mist and wood dust.
- Do not modify the product in any way or use it to power other equipment.
- Before starting the tool, make sure that the saw chain is not touching any object.
- An incorrectly tensioned chain can jump off the guide bar and could cause serious injury or death. The chain, especially a new one, should be checked before each use.
- To reduce the risk of personal injury due to contact with rotating parts, always stop the tool, disconnect it from the power source and check that all moving parts have stopped.
- Kickback may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut.
- Pinching the saw chain at the top of the guide bar can cause the guide bar to be kicked back suddenly. This can cause loss of control of the tool. The user of a chainsaw should take many appropriate steps to eliminate the risk of accidents or personal injury while cutting. Kickback is the result of misuse and/or incorrect operating procedures or conditions and can be avoided by taking the following precautions:
  - Make sure that the area in which you are using the chain saw is free from obstructions. Do not let the tip of the guide bar contact a branch, limb, or any other object when operating the product.
  - Don't reach too far. This helps prevent unintended tip contact and enables better control of the product in unexpected situations.
  - Only use bars and chains specified by the manufacturer. Incorrect replacement bars and chains may cause chain breakage and/or kickbacks.
  - Sharpening a chain safely requires practice. The manufacturer therefore strongly recommends that a worn or dull chain be replaced with a new one.
- Do not use the power tool while standing on a ladder or an unstable surface. Always have a firm footing on your feet when cutting. This will prevent you from losing your balance during the operation.
- Beware of falling branches or those which rebound after hitting the ground.

- If the cutting efficiency decreases over time, check that the chain teeth are sharp and clean. If necessary, replace the original chain.
- If the chain or guide bar becomes pinched at a great height, use a stick with hook to bend the branch being cut and safely release the blade.

WARNING

Before each use and at regular intervals, check that the saw blade is properly secured to the splined stick head.

PERSONAL PROTECTIVE EQUIPMENT

When cutting branches and small limbs near overhead power lines with voltage of up to 30 kV, use PPE in accordance with the requirements specified in the instruction/procedure for live working approved by the Operator. When handling this product, the following personal protective equipment should be worn:

Electrically insulating safety helmet with face shield
- helmet should comply with EN 397 and EN 50365
- face shield should comply with EN 166 and GS-ET 29

Flame-retardant work clothing
- clothing should comply with EN ISO 11611 and EN ISO 11612

Electrically insulating gloves
- gloves should comply with EN 60903

Protective gloves
- gloves should comply with EN ISO 21420 and EN 388

Work shoes
- shoes should comply with EN ISO 20345

WARNING

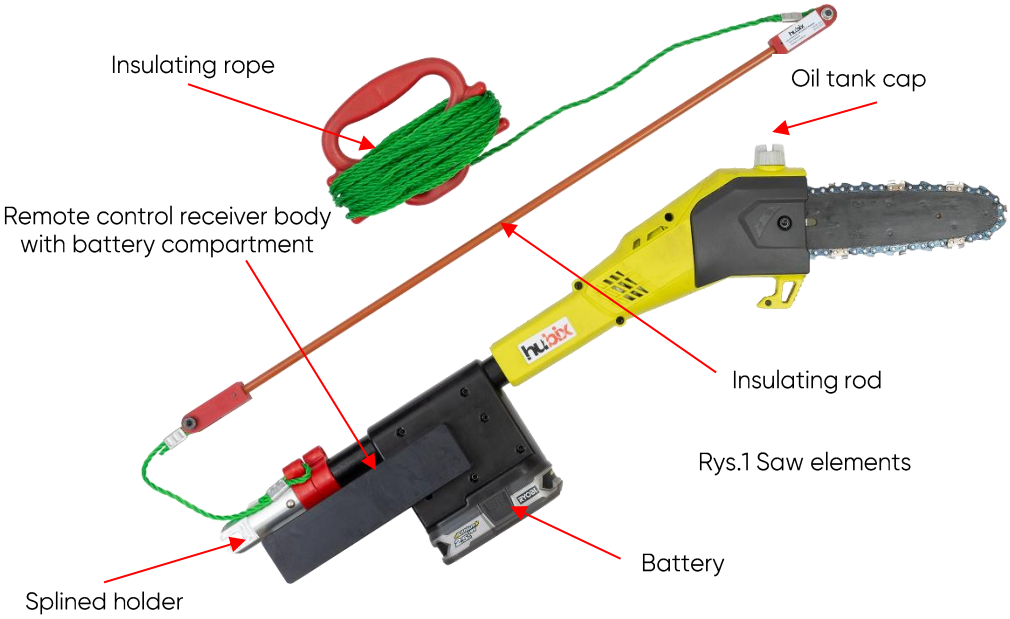
To avoid the risk of fire, injury or product damage due to short circuit, do not immerse the tool, battery pack or charger in liquids and ensure that no liquids enter the tools or batteries. Corrosive or conductive liquids such as seawater, certain chemicals and bleach or products containing bleach can cause a short circuit.

NOTE! Before using the battery and before connecting the charger to an electrical outlet, first check that the device has no visible damage (eg cracked housing, damaged power cord, corroded contacts, etc.)
- Only use a battery and charger that is identical to the original.
- Always keep the battery away from a heat source. Do not expose it to high temperatures for a long time, i.e. places where the temperature may exceed 40 °C, as this may cause it to explode.
- Avoid charging the battery at temperatures below 0 °C and in conditions of increased humidity.

– Do not short-circuit the positive and negative contacts of the battery by contacting them with conductive materials.

1. CONSTRUCTION

A chainsaw with a drive placed in a plastic housing, terminated with a fiberglass-epoxy tube with a battery container attached to it, a remote-control receiver and a splined holder, adapted for mounting on the head of insulating sticks made according to IEC 60832 -2:2010. An insulating stick with a polypropylene rope is attached to the handle, securing the stick with the saw from falling when cutting a branch. The saw guide with the cutting chain is protected by a cover made of polyethylene. The saw has a chain tension adjustment and a 40 ml tank for lubricating oil for the guide.



Rys.1 Saw elements

The remote-control system consists of a receiver placed in the body, directly at the chainsaw and a transmitter with buttons to control the saw engagement. The transmitter consists of a module with buttons and a radio transmitter module with an encoder and a coding processor, which transmits data to the remote-control receiver. The transmitter has a key switch that turns on the power supply and a safety STOP button, which sends a STOP signal to the receiver. The transmitter is powered by two NiMH 1900 mAh batteries, type R6.

The transmitter turns off automatically after approximately 3 minutes (this time can be changed by the service) if no action is performed during this time.

Fig. 2 Remote control transmitter

The receiver consists of a radio receiver module and decoder, relay modules and a stabilized power supply. The receiver receives data from the transmitter, decodes it and controls the output relays. Its main task is to receive the RF signal, properly decode the received signal and send the control signal to the relay module. The module is characterized by a high degree of amplification, high selectivity and low noise level. Additionally, the device is equipped with a special system controlling the gluing of the contacts of the K1 and K2 relays controlling the main contactor. In addition, the control elements of the K1 and K2 relays ensure correct operation even in conditions of high electromagnetic interference.

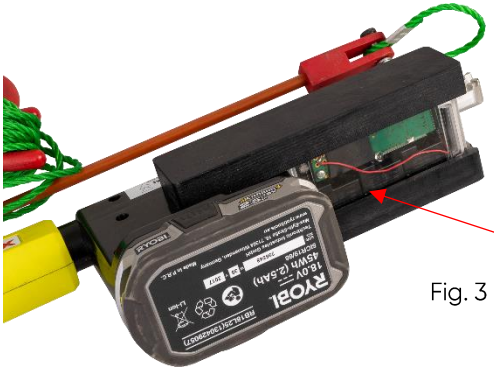


Fig. 3 Remote control receiver

For user safety, after arming the system the receiver emits an acoustic warning signal approximately every 2 seconds.

2. PREPARATION FOR WORK

Before each use, inspect the saw

2.1. Before starting

- check if the tool has no visible defects (damage to the housing, battery container, signs of overheating, completeness of screws, etc.)
- Remove the guide bar cover and check the condition of the guide bar and the direction of the teeth, correct tension and sharpness of the chain

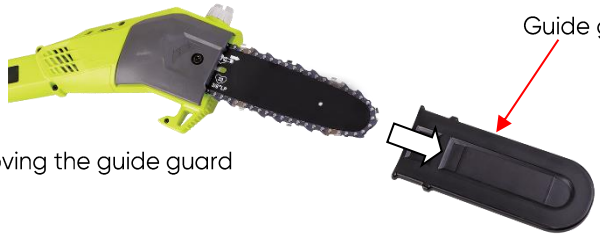


Fig. 4 Removing the guide guard

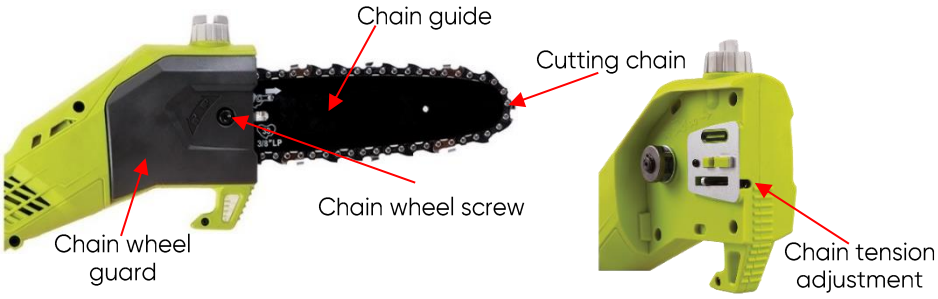


Fig. 5 Drive and chain adjustment elements

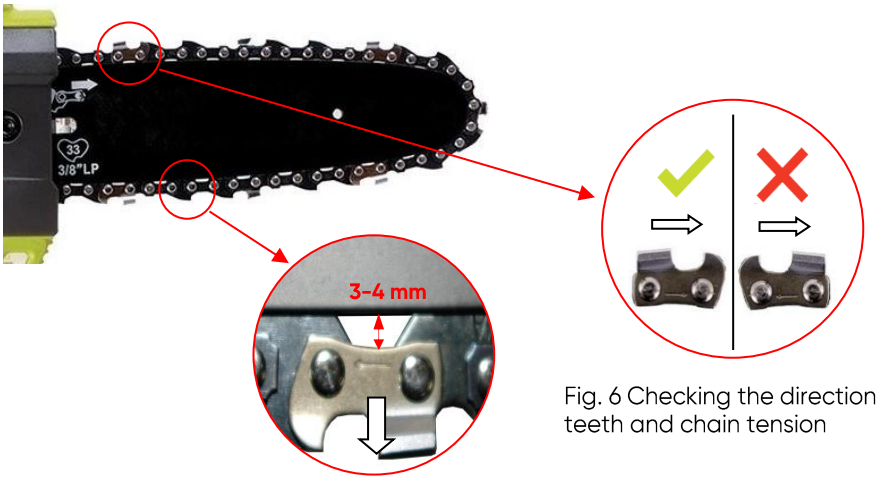


Fig. 6 Checking the direction of teeth and chain tension

Fig. 7 Loosen the screw of the chain-wheel guard

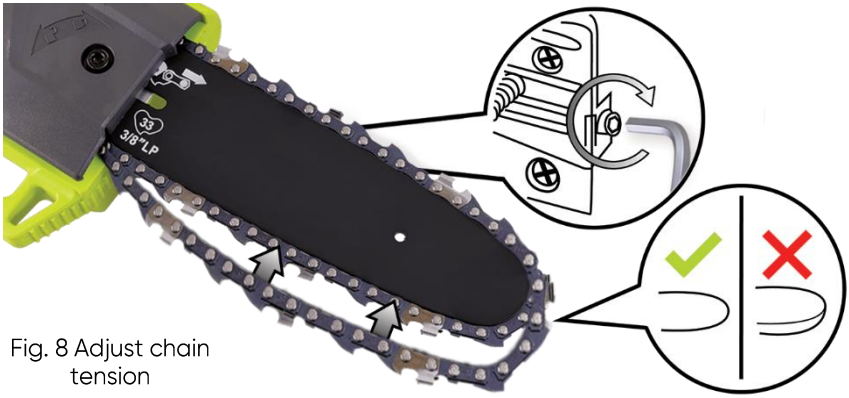


Fig. 8 Adjust chain tension

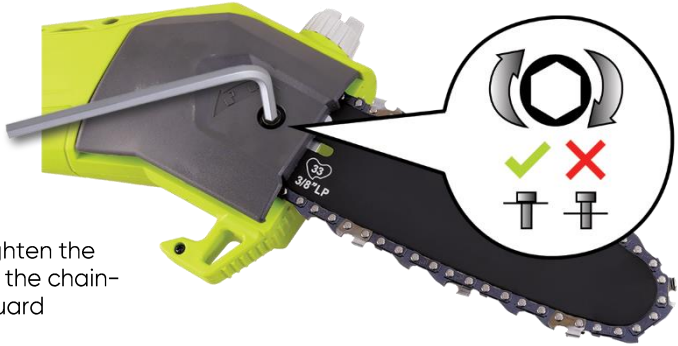


Fig. 9 Tighten the screw of the chain-wheel guard

- Pour lubricating oil into the oil reservoir

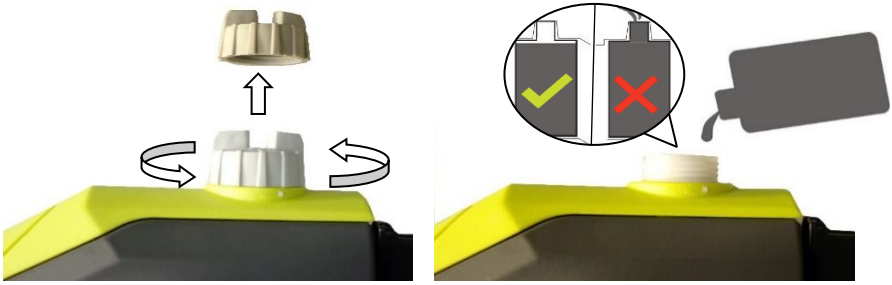


Fig. 10 Replenishing the lubricating oil

- Check the condition of the splined handle
- Check the condition of the insulating rod: The surface of the rod should be clean, without visible traces resulting from contamination that may conduct electricity. Check the validity of periodic inspections
- Check the condition of the safety rope: no abrasions, fraying
- Check the condition of the sealing covers of the switches and buttons on the transmitter.

2.2 Correct operation

mount the saw in the splined head of the insulating stick

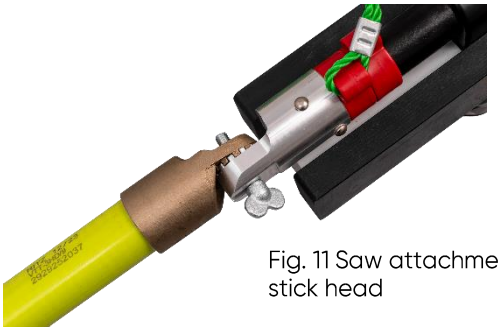


Fig. 11 Saw attachment in the stick head

- Before installing the battery, make sure the power switch is in the OFF position

Fig. 12 OFF position

- Insert the battery into the container

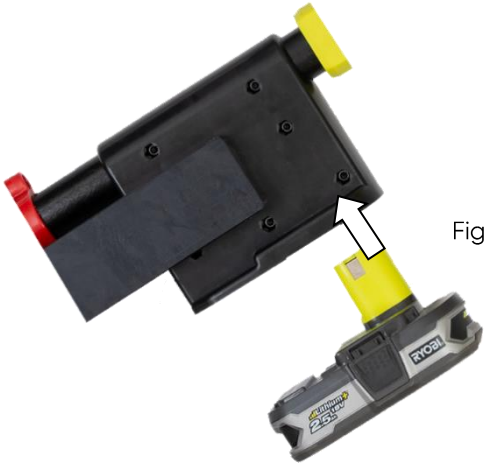
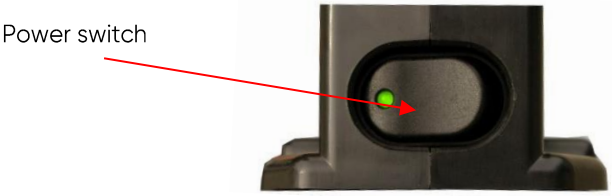


Fig. 13 Battery installation

- Set the power switch to the ON position (the diode on the switch will light up)



ig. 14 ON position

- Make sure that the saw chain is not touching any object and that the area in which the saw will be operated is free from any obstacles
- Set the key switch on the transmitter to position 2

Fig. 15 Key switch positions

- Pull the red STOP button

Fig. 16 STOP button

- Press the system arming button on the transmitter briefly. The green LED will start flashing, indicating that the transmitter is powered on. A yellow or red LED indicates that the batteries are discharged.

Fig. 17 Arming the system

- After switching on the transmitter power supply, press the system arming button again. The receiver will automatically find the correct frequency, check the compatibility of the encoded factory numbers and switch on the main relays, signaling this with a sound signal emitted at 2-second intervals. This sound means that the system is armed, and the saw is ready for use.
- Press and hold either of the saw start buttons. The saw motor will start and run until the button is released.

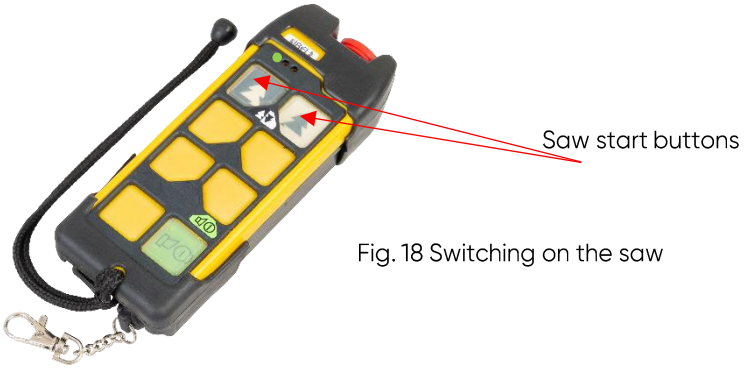


Fig. 18 Switching on the saw

- After confirming the correct operation, turn off the saw by releasing the saw start button on the transmitter, then press the STOP button and set the key switch to position 1 (Fig. 15)
- Set the power switch to the OFF position (the diode on the switch will go out). (Fig. 12)

2.3 Preparation for use

ATTENTION! Before starting work, check the condition of the tree and branches. Damaged or rotten branches are very unstable. Pruned branches do not always fall flush to the ground. They can easily be caught or bent by other branches. A suitable safety zone must be provided for the cutting operation. If this is not possible, the branch should be cut in sections and, if necessary, an insulating stick with the A224.0101 hook attached should be used to support and push the branches.

It must be ensured that a falling branch does not pose a hazard to operators or bystanders.

3. METHOD OF USE

- Set the stick in a vertical position on the ground
- Attach the saw to the splined head of the stick and check that it is properly attached

NOTE! The saw can be mounted to the stick at an angle of no more than 45° from its axis.

- Take off guide cover
- Put the battery into the container
- Set the power switch to the ON position (the green LED on the switch will light up) (Fig. 14)
- Extend the stick segments one by one, starting from the upper segment, while securing them with a polypropylene rope
- Regardless of the number of stick segments currently in use, slide out the individual segments until you hear a click, which indicates that the locking mechanism has been activated

ATTENTION!

– It is forbidden to lift the bar from the ground to a vertical position or lower it with the segments spread apart (Fig. 19)

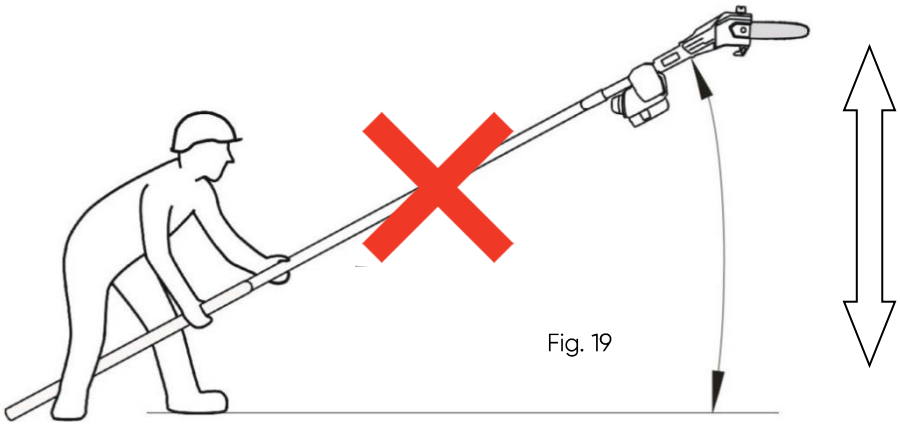


Fig. 19

– It is forbidden to deflect the stick from the vertical by an angle greater than 15° during lifting (Fig. 20).

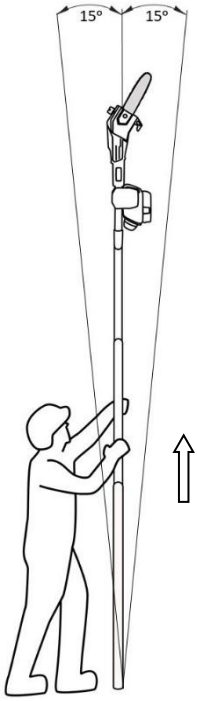
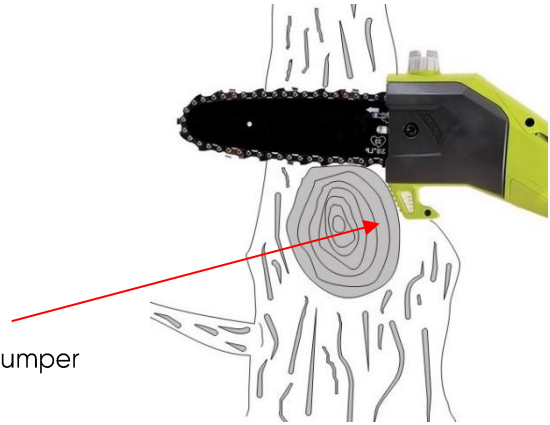


Fig. 20

- Extend the number of stick segments required to cut off the branch to the desired height
- Rest the guide bar on the branch to be cut, no closer than 10 cm away from the trunk and press it lightly so that the ribbed bumper also touches the branch (Fig. 21)



Ribbed bumper

Fig. 21

- While resting the saw guide against the branch, move away from the danger zone of injuries caused by the falling branch
- When moving away from the danger zone, cushion the pole with the saw with a polypropylene rope, securing the set against falling (Fig. 22)

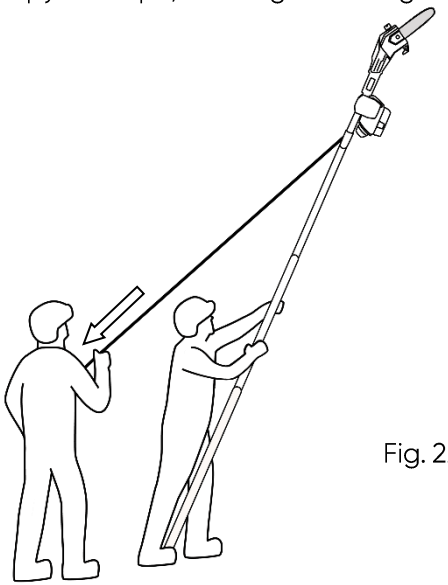


Fig. 22

- After taking a safe position, make sure that the saw guide is in the right place on the branch and the shock-absorbing rope is properly tensioned and will protect the set from falling when cutting the branch
- Set the key switch to position 2 (Fig. 15)
- Pull the STOP switch on the transmitter (Fig. 16)

- briefly press the system arming button on the transmitter (Fig. 17)
- If the green LED on the transmitter flashes, briefly press the system arming button on the transmitter again (Fig. 17)
- If the receiver emits acoustic sounds every 2 seconds, it indicates that the remote-control system is armed
- Press and hold any (depending on your convenience) saw start button, which will start the saw engine (Fig. 18)
- After cutting the branch, turn off the saw by releasing the button on the remote control
- After the branch falls to the ground, raise the stick with the saw to the vertical using a safety rope
- Press the STOP button on the transmitter
- Set the key switch to position 1 (Fig. 15)
- Fold the stick segments one by one, starting from the lower segment, and at the same time roll up the safety rope
- After assembling all segments, set the power switch to the off position (the green LED on the switch will turn off) (Fig. 12)

- Continue cutting the next branch in the same way or, if the work has been completed, dismantle the saw from the splined head of the stick
- Remove the battery from the container
- Put on the guide cover
- The oil remaining in the saw reservoir should be poured into a bottle.

4. WORN OR DAMAGE PROCEDURE

A damaged or heavily worn saw (damage to the linkage, damage to the casing, battery container, signs of overheating, mechanical damage to the splined end or saw teeth, damage to the switch) cannot be used to cut branches. The manufacturer is not responsible for introducing changes to the equipment without consulting the manufacturer, individual adjustment of working elements not adapted to removing branches. The manufacturer guarantees full service of the equipment offered.

5. SAW MAINTENANCE

The chainsaw should be cleaned after each use!

Before starting maintenance or cleaning work, turn the saw off and remove the battery!

- The user may only perform adjustments and repairs described in this manual. For other repairs, contact the manufacturer
- For lubrication, checking and adjusting the chain tension, follow the instructions in the manual.
- The saw should be cleaned with the included brush A114.0401 and soft, dry cloth. Dirt and plant sap can be removed with a cloth

soaked in isopropyl alcohol. The manufacturer recommends using ASOREL for cleaning
- Regularly check that the guide is not worn or damaged.
- To ensure extended service life, the guide can be reversed to achieve even wear
- Regularly check the sharpness and condition of the chain
- Regularly check that all nuts, bolts and screws are complete and properly tightened

WARNING!

Always wear protective gloves when cleaning and maintaining the blade to avoid injury.

6. REMOTE CONTROL SYSTEM MAINTENANCE

- To remove dirt and moisture, clean the transmitter with a dry cloth.

7. SAFETY RULES

While working, there is a risk of injury caused by falling branches.

ALWAYS USE PERSONAL PROTECTIVE EQUIPMENT!

IF THERE IS A RISK OF INJURY OR OF A BRANCH FALLING ONTO A POWER LINE, ABSOLUTELY AVOID CUTTING WITH A BATTERY-POWERED SAW AND USE ANOTHER TECHNOLOGY.

- When cutting large branches, be careful not to stand in the area where the branch will fall.
- Do not use the saw in strong winds. Gusts of wind can cause problems with keeping the pole with the saw in the vertical position and damage the set if it falls to the ground. The risk of injury from falling branches is also increased.
- Do not use a chainsaw while standing in a tree, ladder or unstable structure.
- Do not operate the saw in areas where there is a risk of explosion, such as in the presence of flammable liquids, gases or dust. The electrical device can create sparks which may ignite dust or fumes.
- Do not expose the chainsaw to rain or water.
- Before turning on the power, remove any tools from the saw, such as chain tension adjustment keys.
- Avoid accidentally starting the saw. Before inserting the battery, make sure the power switch is in the OFF position.
- Stay focused, watch what you are doing, and use common sense when operating the saw. Do not use the device when tired or under the influence of medication, alcohol or drugs.
- In the case of using a maximum of 3 pole segments, the decision on the need to use a polypropylene safety tape is made by the team leader.

8. PERIODIC INSPECTION AND INSPECTION

Before each start of work, the saw should be inspected, and its correct operation should be checked. The inspection includes checking:

- Condition of the insulating rod and the validity of its periodic inspections
- Condition of the safety rope
- No visible damage to the saw
- No visible damage to the transmitter
- Oil level, chain tension and sharpness
- Correct mounting of the battery in the container
- Correct mounting of the saw on the stick.
- Correct operation of the STOP button in the transmitter
- Correct operation of the remote-control system

Periodic inspection of the insulating rod

The insulating rod is subject to periodic inspections. Below are the manufacturer's recommendations for periodic inspection of the technical condition of the rod. Periodic inspections should be carried out according to the instructions contained in the manual at least once a year. These recommendations constitute minimum requirements, which, depending on the conditions and intensity of use of the equipment, may be modified by the user.

Preparing the rod for testing

The tendon subject to testing should be cleaned of dirt and dry. It is recommended to wipe the tendon surface with a dry cloth. Tendons intended for testing should be kept for at least 4 hours in the conditions in which the test will be performed.

Inspection

Before electrical testing, the rod should be inspected. The rod surface should be clean, with no visible traces of contamination that could conduct electricity.

Electrical testing

A test voltage of 100 kV/50 Hz rms should be applied to electrodes 5 mm wide and spaced 300 mm apart. The test time is 1 min after obtaining the required test voltage value.

The insulating rod passed the tests if:

- No visible damage to the tendon is found
- No surface flashovers in the air or breakdowns occur
- No discharges or damage to the tendon surface are found
- No noticeable increase in the tendon temperature occurs.

A periodic inspection consisting of visual inspection and electrical tests should be carried out once a year.

9. STORAGE AND TRANSPORT

The saw and accessories (charger, batteries, etc.) should be stored in a case in a way that protects them from movement and mechanical damage. Store

the felling set in dry rooms, away from heat sources, in a chemically non-aggressive atmosphere. Protect from sunlight.

Before storing or transporting, remove the battery and wait for it to cool down.
Remove any contamination from the product.
Secure the saw guide with a chain guard to protect the user from injury.
If storing the saw for a long time (longer than a month), lightly lubricate the chain to prevent rust.
It is recommended to wipe the surface of the rod with a special cloth soaked in a silicone preparation intended for the regeneration of insulating elements.
NOTE! During storage or transport, the battery must be removed from the container!

10. CHAINSAW TECHNICAL DATA

- Guide bar length: 200 mm
- Chain working speed (no load): 5.5 mm/s
- Graduation: 3/8"
- Power supply: 18V DC / 2.5Ah
- Weight: 3.8 kg (with battery)

11. REMOTE CONTROL MODULE TECHNICAL DATA

- Frequency range 433.05 MHz - 434.79 MHz
- Frequency stabilization PLL - synthesis
- Canal width 25 kHz 69 canals on band
- Operating temperature range: from -20 °C to + 55 °C
- Identification code: 65536 combinations, CRC checksum 16
- IP 65 protection class
- Housing material: transmitter - glass fiber reinforced polyamide, receiver - PC polycarbonate
- Transmitter power supply, 2 NiMH batteries, 1900 mAh, type R6

12. EQUIPMENT LIST

The set includes:

Name	Product code	Quantity in set	
Chainsaw Remotely Controlled with a Guy-rope	A224.0202	1 pc.	
Charger	A443.01L1	1 pc.	
Battery	A443.01A2	2 pcs.	
Transmitter battery charger	A443.01N1	1 pc.	
Transmitter battery	A443.01B1	2 pcs.	
Wheel cover and tension adjustment key	-	1 pc.	
Insulating Hook Pike	A224.0101	1 pc.	optional
Brush	A114.0401	1 pc.	for shavings
Oil	K551.2005	1 liter	
Brush	A224.0105	1 pc.	optional
Funnel	-	1 pc.	
Transport case	J113.0901	1 pc.	

13. REQUIREMENTS

The requirements for the cordless saw were developed on the basis of the following standards.

EN 62841-1:2015-11 Electric motor-operated hand-held, transportable tools and lawn and garden machinery - Safety - Part 1: General requirements

EN ISO 11680-1:2022-04 Machinery for forestry - Safety requirements and testing for pole-mounted powered pruners - Part 1: Machines fitted with an integral combustion engine

EN ISO 12100:2011 Safety of machinery – General principles for design – Risk assessment and risk reduction

EN IEC 55014-1:2021-08 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission

EN IEC 55014-2:2021-08 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard

ETSI EN 300 220 -2 Electromagnetic compatibility and Radio spectrum Matters (ERM) - Short-range devices (SRD) - Radio equipment operating in the frequency range from 25 MHz to 1 000 MHz with power levels up to 500 mW .

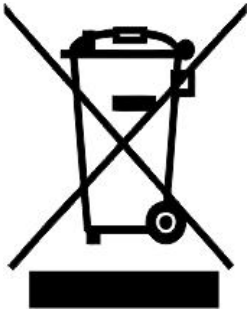
ETSI EN 301 489 -3 Electromagnetic compatibility and Radio spectrum Matters (ERM) - Electromagnetic compatibility (EMC) standard for radio

equipment and services - Part 3: Specific conditions for Short Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz
EN 60950-1 Information technology equipment - Safety - Part 1: Basic requirements
EN 62061 – Safety of machinery - Functional safety of safety-related electrical, Electronic and programmable electronic control systems -design of electrical safety systems – safety level of STOP relay circuits SIL3

EN 60832-2:2010 Live working - Insulating sticks and attachable devices - Part 2: Attachable devices
EN 62193:2004 Live working - Telescopic sticks and telescopic measuring sticks
EN 60855-1:2017-04 Live working - Insulating foam-filled tubes and solid rods - Part 1: Tubes and rods of a circular cross-section

14. ENVIRONMENTAL PROTECTION

The device is subject to the WEEE Directive 2012/19/EU. The symbol below indicates that the product must be disposed of separately and should be returned to the supplier for recycling.
It should not be disposed of with other waste.
Recycle raw materials instead of disposing of as waste. The machine, accessories and packaging should be sorted for environmentally friendly recycling.



Batteries and rechargeable batteries contain heavy metals (lead, cadmium, nickel, zinc, mercury) and harmful substances (lithium and manganese). All of these substances are highly toxic to the environment. Every year we consume 240 billion disposable batteries - this is a very big amount. Disposing them with other waste plays with human health and the environment. By recycling batteries and rechargeable batteries, we are able to retrieve these rare and valuable metals and substances to use them again. Therefore, we only use good quality Ni-MH batteries in our devices, which can be recharged multiple times and last much longer than popular batteries.

However, if the battery parameters deteriorate to the point where they need to be replaced, please segregate them and throw them into containers for used batteries or send them back to our company. We guarantee that they will be sent to a recycling company.
For more information, please contact your company representative or local waste management authorities.

Symbol on the product

Safety alert

Electric shock hazard

Electric arc hazard

Hazard Related to Falling Objects

Read and understand all instructions

Wear face and head protection
when operating this equipment

Wear non-slip, heavy- duty protective
gloves when handling the pole saw and
the blade

Wear slip- resistant footwear