

Castellari

Imola, Italia, 1976



RY100

CE



The language manual is available at: www.castellarisrl.com
 Use and maintenance manual: www.castellarisrl.com
 Manuale de uso y mantenimiento: www.castellarisrl.com
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USE & MAINTENANCE MANUAL

1. DESCRIPTION OF THE GENERAL CHARACTERISTICS OF THE HACKSAW

1.1. Purpose of the manual

This manual contains the necessary instructions for the correct and safe use of the RYNO Series electric pruner, hereinafter also referred to as the "machine", distributed by Castellari S.r.l., of Imola (BO). Before using the machine, it is important to read and carefully follow the instructions in this manual, as the regular operation and durability of the machine itself depends on the observance of the instructions given, together with correct maintenance.

NB: This manual is an integral part of the machine, it must always accompany it in every move or resale. It is recommended to store it in a safe place, of which all possible users must be informed.

1.2. Machine Identification

The machine is equipped with an identification plate on which the following data are reported:

- Name of the company responsible for the CE marking and full address;
- Product name;
- Serial number;
- Year of construction;
- Indicators for disposal, "CE" marking;
- Obligation to read the manual.
- Product Origin

1.3. Description of the machines and technical data

The RYNO series machine is designed to make pruning easier.

The cutting head consists of a bar on which the sharp-toothed chain is mounted. Sliding on the bar is possible thanks to the toothed pinion on which it is inserted and locked. The help of the integrated battery (plug-in) allows the machine to be operated.

Inside the convenient containment case there is also a first maintenance kit.

Finally, you will find the battery charger and the QUICK START sheet.

TECHNICAL DATA RY100

Feeding	Electric
Tension	14.4 V
Weight and Length	1,010 gr – 41.5 cm
Battery Weight	0,229 gr
Charger	100-240VAC 50/60HZ 0.5 A
Charging time	1.5-2 hours
Cutting capacity	80 mm
Motor power	500 Watts
Battery	2.5 Ah – 36Wh
Chain speed	7.5 m/sec
Bar Length	9 cm
Chain	1/4" 1.1mm – 29 links
Lubrication	Automatic (after filling the tank)
Sprocket grease nipple	Manual



1.4. Subject to whom the manual is addressed

This manual is the indispensable guide for all users who, for various reasons, can use or take care of the machines. The following are the possible job profiles:

User:

A person, entity or company that purchases or leases machinery and intends to use it for its intended uses. He is responsible for the machines and the training of those who work around them.

Operator:

A person trained in the use of machines.

It is able to drive the machines through the use of the controls arranged on the push-button panel, it can only intervene to make simple adjustments. It is not authorized to carry out maintenance on the electrical or mechanical system of the machines.

Mechanical Maintenance Technician:

Specialized technician able to intervene on mechanical parts and transmissions to carry out all the necessary maintenance and repairs. It is not authorized to carry out electrical maintenance on the machines.

Electrical Maintenance Technician:

Specialized technician able to operate even in the presence of voltage inside the electronic board or other electronic components.

1.5. Intended and unintended uses of machines

Intended Use: The Model RY100 cordless electric hacksaw is designed and built for pruning work in agriculture and gardening. It can be used to cut the branches of fruit trees, ornamental trees, shrubs, hedges and weeds or to cut branches with a diameter compatible with that indicated under the heading "cutting capacity" reported on the technical data.

No other use is provided.

Castellari srl, subsidiaries, importers, distributors and dealers are not responsible and will not be liable for injuries, losses or damages resulting from improper use and decline any and all responsibility for malfunctions and/or damage due to uses other than those indicated in this manual.

In addition to what is indicated, the following uses are prohibited:

- Use the electric hacksaw to cut branches with a diameter greater than the maximum diameter specified in the technical data or very dry branches in a single cut.
- Use the electric hacksaw in open places with a humid climate or in an environment with temperatures outside those expected.
- Use the electric hacksaw without having worn the appropriate PPE required by the type of work to be performed (gloves, shoes and overalls).
- Touch the electronic pruner with damp and/or wet hands.
- Use in an unstable position.

DANGER:



Cut risk



Be careful not to use the machine in environments with an explosive atmosphere!
Due to the use of electrical components, do not use in bad weather or thunderstorms.



Prohibition of placing or approaching heat sources



Prohibition of exposure to the sun or hot surfaces



1.6. Protection & Safety Devices

The machines are equipped with safety devices to protect the operator from internal mechanical and electrical parts.

Body protection casing: Fixed device that prevents direct contact with moving internal parts or dangerous parts of machines. The protection can only be removed with the use of special tools. When the machine is running, the protective casing must be correctly fitted.

Engine casing: Removable device that prevents direct contact with the motor body, it can only be removed during maintenance and cleaning of the machine.

Sprocket protection casing: Protective shell that allows the correct operation of the machine while keeping the bar adherent to the machine body, assembly and disassembly take place through a ring nut above the sprocket protection casing through the internal thread on the bar pin, removal is allowed only and exclusively for cleaning pruning residues and greasing the sprocket.

Handguard: Safety device to protect hands against bumps and pruning cuts.

Chain cover bar: Safety device superior to the chain bar, protects against pruning cuts and prevents accidents in case of kickback. Its removal is strictly forbidden

Bar cover: anti-cut bar protection for when the machine is not in operation.

Electronic ignition device: Allows the machine to be switched on only after two seconds of pressing.

1.7. Risks arising from the use of machines

1.7.1. Noise risk

The sound level was measured by measuring the emission with machines in motion in accordance with the UNI EN ISO 11201: 2010 standard.

The sound level was measured by measuring the emission with the machine running in accordance with the UNI EN ISO 11201: 2010 standard. The following values were collected:



Mean sound pressure LpA (A) dB 87.2

From the values found, it can be concluded that the operation of the machine involves a high level of noise.



During the use of the machine, it is therefore mandatory for operators to use hearing protectors such as earmuffs or earplugs, to avoid damage to the hearing system over time.

1.7.2. Vibration risk

The vibration level was measured with machines in motion, in compliance with the UNI EN ISO 5349-2 2015 standard for the evaluation of vibrations transmitted to the HAND-ARM system.

The following value has been collected:

Hand-to-arm vibration level: 2.23 m/s²

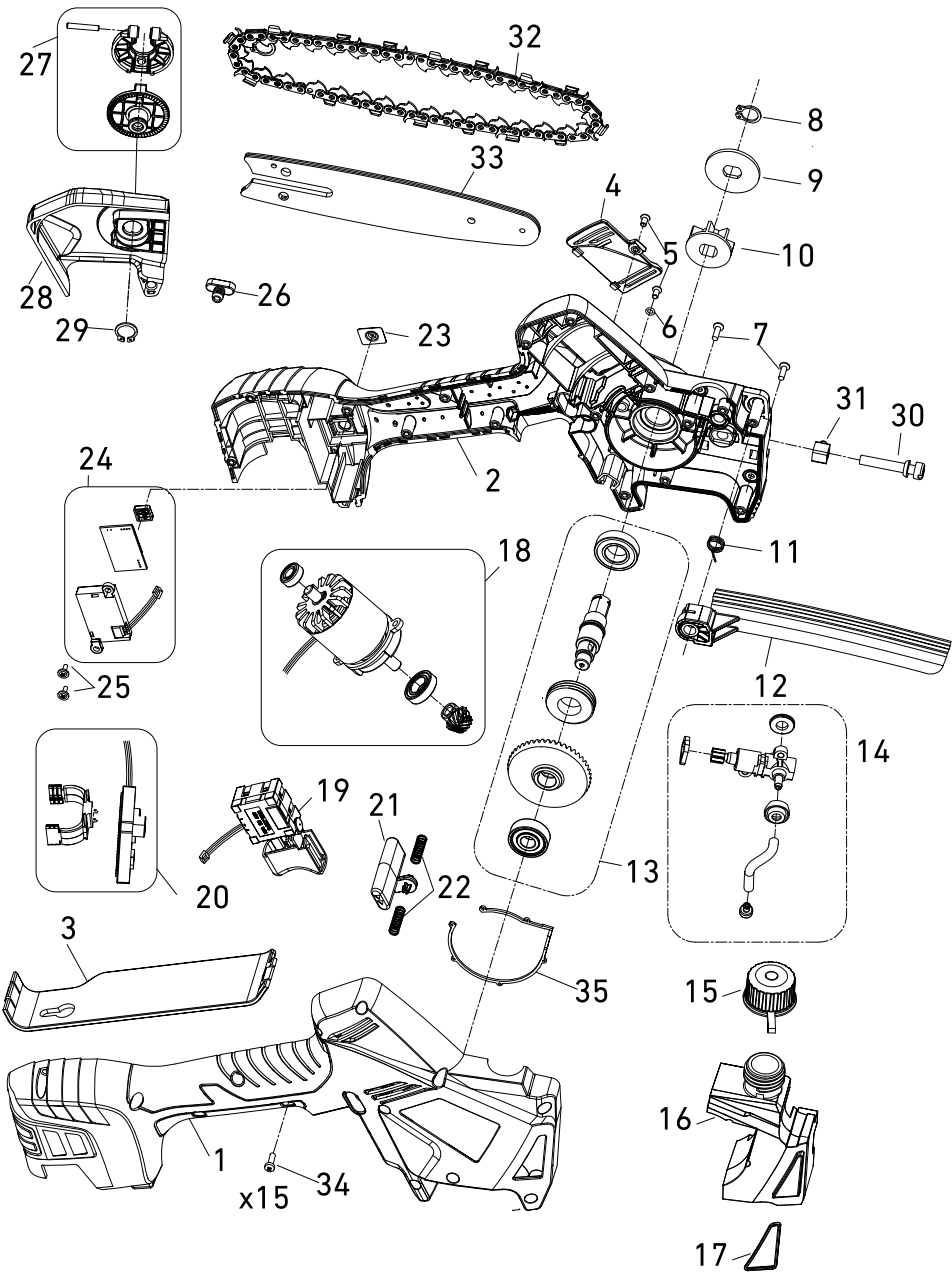
1.7.3. Cut risk



Cut hazard

Despite the fact that all safety regulations have been applied to the construction, it has not been possible to eliminate the risk of cutting.

1.8. RY100 Components



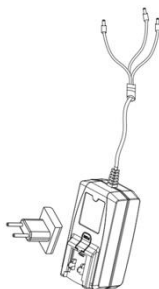


POS.	COD.	DESCRIPTION	QUANTITY
1		Right cover	1
2		Left cover	1
3		Hand guard	1
4		Motor cover	1
5		M3*5 screw	2
6		O ring	1
7		ST2.9*13 self-tapping screw	2
8		Circlips	1
9		Sprocket pressure plate	1
10		7 Gear Sprocket	1
11		Torsional spring	1
12		Chain guard	1
13		6901 Deep Groove Ball Bearing	1
		Flat key	1
		output shaft	1
		worm	1
		Big bevel-pinion	1
14		608 Deep Groove Ball Bearing	1
		Oil pump seal ring 1	1
		Oil pump	1
		Oil tank gasket	1
		Oil pump seal ring 2	1
		Silicone tube	1
15		Oil inlet	1
16		Oil tank cap	1
17		Oil tank	1
18		Oil tank seal ring 2	1
19		Small bevel-pinion	1
		6800 deep groove ball bearing	1
		Motor	1
		686 Deep Groove Ball Bearing	1
20		Trigger	1
21		PCBA	1
		Battery connector	1
22		Safety lock	1
23		Pressure Spring	2
24		Switch button sticker	1
		Power switch	1
		Display screen	1
25		Display screen support	1
26		ST2*8 screw	2
27		Oil outlet	1
		cylinder pin	1
		Chain cover knob	1
28		Chain cover knob seat	1
29		Chain cover	1
30		axle Circlips	1
31		Tightening screw	1
32		Tightening nut	1
33		29 Link Chains	1
34		4 inch Chain bar	1
35		ST3*12 screw	15
36		Gearbox seal ring	1



1.9. RY100 Component Specification

- 1 Pruner
- 2 Bar cover
- 3 Battery x 2
- 4 Custody
- 5 Maintenance Kits
- 6 Quick Start Manual
- 7 Charger
- 8 Charger plug
- 9 Triple-output AC outlet for charging
- 10 Scabbard



2. SAFETY AND PREVENTION

It is very important to read this manual carefully in order to minimize the risks due to careless or incorrect use of the machine covered by the manual. The user must instruct the operator on the risks involved in the use of the machine, on the safety devices and on the general accident prevention rules provided for by the directives and legislation of the country in which the machine is used.

2.1. Safety signs (pictograms)

Dangerous situations related to the use of the machine are indicated in the manual by using the following symbol:



The same symbol is used on the battery to highlight potential residual risks which, despite the adoption of all possible safety regulations in the construction of the machine, it has not been possible to completely eliminate for certain conditions of use.

N.B.: It is important to keep the signs on the machine clean at all times, therefore clearly visible, in order to allow users to quickly identify possible risk situations during use.

2.2. General safety rules

The staff is committed to:

- always use the personal protective equipment required by the legislation, at the same time as the intended uses of the electronic pruner, and follow the instructions in this manual,
- follow all the hazard and caution instructions marked on the machines,
- not to carry out operations or interventions on the machines on their own initiative, which are not within their competence,
- report any problem or dangerous situation that may arise to your superior.
- Recommended operating temperatures -5°C $+40^{\circ}\text{C}$
- use the electric hacksaw to cut branches, which are not too dry, and whose diameter does not exceed the maximum (technical data RY100)
- Do not touch the hacksaw with damp or wet hands
- Do not modify and/or tamper with any part
- Do not put your hands near the chain when the machine is running.
- Affix the bar cover whenever the machine is not in use and during each transport

Machines may only be used for the purpose for which they were designed.

The machines must not be operated with the guards disassembled and the casings must not be removed or disengaged.



2.3. Safety in use and maintenance

2.3.1. Safety in use and in the working environment

- Before putting the machine into operation, make sure that all its parts, batteries and chargers are in perfect condition and are in perfect condition. Also, check that the chain is not in contact with foreign objects, that the tightening screws are screwed in correctly, that the bar is mounted correctly and that the chain is properly tensioned, not least that the oil tank is full.
- Before charging, make sure the environment is dry and clean.
- The area in which the machines are used is to be considered a "Danger Zone", i.e. an area in the vicinity of which the presence of an exposed person constitutes a risk to the health and safety of that person. This applies in particular in the presence of persons who are not trained in the use of machines.
- The area surrounding the operating area of the machines must always be clean and kept clear of any obstacles. Make sure that there are no people or animals in the work area.
- When a person is "exposed" or in a "danger zone", the operator must immediately intervene by stopping the machines and possibly removing the person in question.
- During the operation of the machines, the operator must maintain a position that allows him full control, so that he can intervene at any time and for any eventuality.
- Before storing the machine in the sheath or case, make sure that the chain is stopped, switch off the machine and attach the bar cover.
- Periodically check the integrity and that the parts are not worn.
- Check that all protective devices are always tightened, secured and interlocked
- Do not place the machine on damp ground or leave it unattended.
- Do not put the machine down until it has come to a complete stop.
- Do not cut material other than wood.
- Do not face the pruner at people.
- Keep children out of the door.
- Keep out of reach of unauthorized personnel.
-

2.3.2. INSTRUCTIONS FOR CORRECT CUTTING

- Before cutting, slide the chain for a few seconds when empty to allow proper lubrication.
- Only make cuts from top to bottom.
- If you cut an object that is too hard and the hacksaw gets stuck, switch off the machine immediately.
- Hold the pruner firmly.
- Operate the hacksaw in accordance with the instructions in the manual.
- Hold the side of the cut opposite the user.
- Cut only when the chain reaches full speed.
- Use the crankcase support as a fulcrum to have a firm cutting position.

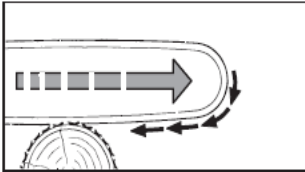


2.3.3. TRACTION WARNING INSTRUCTIONS



WARNING: During cutting, the pulling force of the chain will be opposite to the machine, causing the machine to "move away" from the user.

- Make sure you have a firm grip on the handle.
 - Always use the pruner as described in the manual.
 - Hold the cutter bar down.
- Remember to make the cut once the chain has reached full speed.



2.3.4. Safety for kickback.

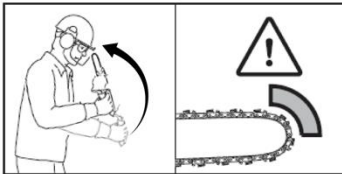


The following notes indicate the cases in which kickback may occur:

- When the moving machine head comes into contact with objects that are too hard.
- When making cuts with the tip area of the chain bar.
- When the cut wood gets crushed during cutting.
- When cutting a branch thicker than that stated in the manual, you risk being blocked by the wood and consequently causing kickback.



CAUTION: NEVER MAKE CUTS DIRECTLY WITH THE TIP OF THE BAR.



2.3.5. Safety in maintenance

- Before carrying out any maintenance work on the machines, make sure that the battery is not inserted into the housing of the machine.
- Maintenance operations must always be carried out by qualified personnel for these specific functions.
- At the end of the maintenance and repair operations, before restarting the machine, the technical manager must ensure that the work is completed, the safety devices are restored and that the guards have been refitted.
- During maintenance or repair operations, the use of suitable protective clothing is mandatory, such as:

Hearing
Gloves



Protector



Protective goggles Helmet



Non-slip shoes
and anti-crush



Adjustments, with safety devices disengaged or without a casing, must be made by a single operator; During these operations, access to the machine is forbidden to non-employees. Avoid dust deposits on the machine, especially on the electric motor and electrical parts.



2.3.6. Electrical safety

- The charger socket must be compatible with the wall outlet.
- Do not cut the cord or replace the outlet.
- Check the integrity of the cable.
- Do not use in humid environments and/or in rainy weather or thunderstorms.



NB: Do not direct jets of water against the machine (e.g. for cleaning), they could generate a short circuit!

2.4. Ecology and pollution

2.4.1. Waste management

The use and maintenance of the machines generates waste products that must be disposed of in accordance with the laws in force in the country where the machine is used. The user of the machines is obliged to comply with any manufacturer's recommendations regarding the use of the products for the normal operation, cleaning and maintenance of the machines.

Any special waste must be disposed of by contacting specialized and authorized companies for this purpose. Make sure that the waste is disposed of correctly by requesting a receipt of "disposal has been completed". If the machine is dismantled, see section 4.3

2.4.2. Information to users



The crossed-out wheeled bin symbol on the appliance indicates that the product at the end of its useful life must be collected separately from other waste and cannot be disposed of in the same way as household waste.

The user who will/wants to dispose of this machine may refer to a person authorized to collect and recover such equipment or, alternatively, contact the manufacturer of the equipment that manages its end-of-life and follow the system indicated by him to allow its separate collection. If disposal in a foreign country, please contact the competent local authority. Professional users will have to agree on the disposal of the product at the end of its life. Also refer to the www.registroaee.it



The bin symbol WITHOUT bar on the battery indicates that the product at the end of its useful life must be collected separately from other waste and cannot be disposed of in the same way as household waste.

The user who will/wants to dispose of this machine may refer to a person authorized to collect and recover such equipment or, alternatively, contact the manufacturer of the equipment that manages its end-of-life and follow the system indicated by him to allow its separate collection. If disposal in a foreign country, please contact the competent local authority.

Professional users will have to agree on the disposal of the product at the end of its life. Also refer to the site www.registropile.it

3. USE

3.1. Handling & Transportation

The machines are easily transportable as they are equipped with a carrying case.

Before Use

Before putting the machines into operation, the operator must have read and understood all parts of this manual and in particular what is reported in Chapter 2 dedicated to safety.

Before using the machines for the first time:

- familiarize yourself with the control devices and their functions,
- Check that all machine components subject to wear or deterioration are in an intact state.
- Check that the fixed casings are in the correct position: body guard, engine guard, sprocket guard, handguard, chain bar.
- Check that the power button is intact and the display is off.

FILLING THE LUBRICATION TANK

- Before using the machine, make sure the oil tank is full.
- If to be filled, make sure that the cap and filling area are clean of impurities, to prevent pruning residues or dust from entering the tank.
- During the start of the machine, the oil automatically comes out of the tank, lubricating the chain.
- Once you have run out of oil in the tank, turn off the machine before filling.



- Biodegradable chain lubricating oil greater than 85% is recommended, with viscosity 100 measured at 40 ° (ASTM D445 method)
- NB: use only clean, non-recovered oil for filling the tank. Recovery oil can damage the lubrication pump.



CHECKING THE CHAIN LINK TENSION

Attention!!!! Before each operation, it is ALWAYS necessary to check that the chain is under tension and not loose.

- Make sure the machine is turned off and the battery is unplugged.
- In case you have just used the machine, wait a few minutes for it to cool down before proceeding to adjust the voltage.
- Loosen the bar guard (picture 1).
- Wearing protective gloves, try to move the chain through a link, at the bottom of the bar; If the tension is correct, you should see the guide teeth of the stitch up to the middle, pulling the stitch downwards.
- If the chain is too tight, it can be adjusted using the screw located on the side opposite the front protective casing of the machine. Turning counterclockwise will loosen the chain. (image 2).
- If it is loose, to tighten it, use the screw located on the front of the machine. Turning the screw clockwise will pull the chain.
- Tighten the protective casing and start the machine (image 3).
- When the tool is tightened, the link must come out halfway out of the chain bar



3.2. Preparing for use

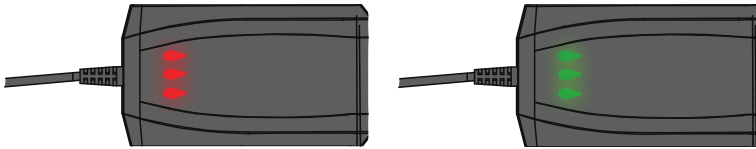
Before use:

- 1 Fully charge the batteries;
- 2 Insert the battery into the slot;
- 3 Remove the bar cover;
- 4 Press and hold the power button until the display turns on. The machine will emit two sounds, the first starting, the second to signal that the machine is ready for work.
- 5 The machine is equipped with a safety button to be pressed at the same time as the chain link start trigger, once started, release the safety button.



3.3. Using the Battery Charger and Charging the Battery:

- Pay attention to the charging phase.
- The first use should only be done when the battery is fully charged.
- Once the charger is connected to the battery, insert the plug into the power outlet in the wall.
- The charger will glow red. While it is charging, DO NOT unplug until the light turns green.



3.4. Use of machines

Directions for use:

- The wear and tear of the mechanical and electronic components of the machine is closely related to the way in which the machine is used. In order not to cause a mechanical and thermal overload of the components that could cause the machines to block, avoid insisting on cutting the branch if it is too demanding.
- The use of discharged or deteriorated batteries is not recommended.
- It is not recommended to use batteries and chargers with signs of damage.
- Make sure that when not in use the electric saw is switched off.
- Make sure to attach the bar cover immediately after switching off.
- After use, always store the electric saw inside the case, always removing the battery.
- Always follow the instructions in this manual.
- It is forbidden to use power supplies other than the battery provided.
- It is forbidden to use a battery charger other than the one supplied

4. MAINTENANCE & CLEANING

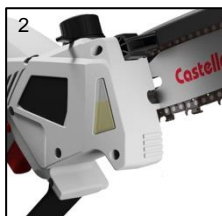
4.1. Routine Maintenance

The long service life of the machines and the lower operating costs depend on compliance with this standard.

Periodic checks to be carried out:

1) Daily:

- 1 It is recommended to check the tension of the chain.
- 2 Check the oil level.
- 3 At the end of the working day, clean the chain and check its sharpness. Clean the bar including the pin by disassembling the sprocket protective casing and closing it again, clean the oil tank cap area.
- 4 Disassemble the casing located above the engine and clean the screen, also check the engine compartment and if dirty use compressed air to remove dirt and cutting residues and dust



The intervention times shown are to be considered indicative and are defined considering normal conditions of use of the machine. They may vary depending on the way the machine is used and in relation to the characteristics of the environment in which it is used, e.g.: humidity level, air cleanliness (presence of dust). Under heavy use, it may be necessary to increase the number of maintenance visits.



Before proceeding with any operation, make sure that the machine is switched off and the battery is disconnected.



For lubrication, follow the instructions in the safety data sheets of the products used

4.2. Set-aside

In the event that a long period of rest of the machines is foreseen, the following operations must be carried out:

- disconnect the battery from the machine;
- Clean the machine, freeing it from any dirt residues deposited under the bar and motor guard, including other parts.
- carry out a check and replace the parts damaged/worn by use at a specialized Castellari service center;



During long periods of non-use, remember to recharge the battery every 3 months. Then repeat the operations described above for set-aside

Carry out the maintenance operations described above with care.

4.3. Dismantling of machines

Hand over your decommissioned machines to an official material recycling centre. You actively contribute to the protection of the environment by applying disposal and recovery methods also in relation to the packaging materials with which the packaging of the machine is made. Your local authority will be able to inform you about the most effective ways and possibilities to carry out the disposal of the old instrument, in an environmentally friendly way.



Waste must be collected separately and cannot be treated as household waste

5. ERROR ENCODING

Error Code Meanings	The LED flashes x times	No. of sounds	Error code
No errors	0	0	E00
Manual cut protection	1	1	E01
Current Sensor Error	2	6	E02
Damage to the MOS pipe	3	6	E03
Current Surge Current/Average Protection	5	5	E05
Start Locked/Rotor Stuck	6	3	E06
Phase Loss	7	4	E07
Energized/Overvoltage	8	1	E08
MOS/chip over-temperature	9	6	E09
EEPROM Error	11	6	E11
Phase Detection Error	12	4	E12
Programming error	13	6	E13
The motherboard cannot communicate with the battery.	17	10	E17

5.1. Spare parts

In order to ensure the safety and long life of the product, we recommend the use of only original spare parts. Repairs or specialist maintenance must be carried out by specialized and authorized Castellari personnel.

6. WARRANTY CONDITIONS

Castellari srl guarantees the brand new product for a period of 24 (twenty-four) months from the date of purchase.

NB: At the time of purchase, check that the machine is intact and complete in its components. Any complaints must be submitted within 7 days of receipt of the machines. The warranty involves the repair or replacement of defective parts free of charge.

To activate your warranty, please visit the www.castellarisrl.com/registra-prodotto page

NB: Replacement or repair of parts under warranty does not in any way extend the term of the same. The purchaser will only be able to assert his rights if he has complied with the conditions of the warranty.

**6.1. Disclaimer of Warranty**

The warranty is void in the following cases:

- A manoeuvring error is attributable to the operator,
- The damage is attributable to insufficient or incorrect maintenance,
- Damage caused by the installation of non-original parts or as a result of repairs carried out by the user without the manufacturer's consent,
- If you do not follow the instructions detailed in this manual.

7. Declaration of Conformity

Directive 2006/42/EC of the European Parliament and of the Council.

I, the undersigned Castellari Enrico, president of Castellari S.r.l., "Construction of scissors for agriculture", Via Lasie 15/a – 40026 IMOLA (BO) ITALY, declare under my sole responsibility that the RY100 hacksaw comply with the essential safety and health protection requirements of Directive 2006/42/EC of the European Parliament and of the Council.



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