

Chainsaw

E60CS

ANOVA

Instructions and user manual



ANOVA[®] e⁺

EN

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Anova would like to congratulate you for choosing one of our products and guarantee you the assistance and cooperation that has always distinguished our brand over time.

This machine is designed to last for many years and to be of great use if used in accordance with the instructions contained in the user manual. We therefore recommend that you read this instruction manual carefully and follow all our recommendations.

For more information or questions you can contact us through our web supports such as www.anova.es.

INFORMATION ABOUT THIS MANUAL

Please pay attention to the information provided in this manual and on the appliance for your safety and the safety of others.

- This manual contains instructions for use and maintenance.
- Take this manual with you when working with the machine.
- Contents correct at time of printing.
- We reserve the right to make changes at any time without affecting our legal responsibilities.
- This manual is considered an integral part of the product and must remain with it in case of loan or resale.
- Ask your dealer for a new manual if it is lost or damaged.

READ THIS MANUAL CAREFULLY BEFORE USING THE MACHINE



To ensure your machine provides the best results, please read the usage and safety instructions carefully before using it.

OTHER WARNINGS:

Incorrect use may cause damage to the machine or other objects.

Adaptation of the machine to new technical requirements may cause differences between the content of this manual and the purchased product.

Read and follow all instructions in this manual. Failure to follow these instructions could result in serious personal injury.

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1. SAFETY INSTRUCTIONS

1.1. General safety instructions

Important



Be sure to read and understand all safety instructions in this instruction manual, including all warning symbols, before using this tool. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

Operating any power tool can cause foreign objects to fall into your eyes, which may result in serious eye damage. Always wear safety glasses and a full-face shield when necessary before you begin using your power tool. We recommend a wide-vision safety mask to wear over eyeglasses or standard safety glasses with side shields.

Some of the dust generated by sawmilling and other machine construction activities contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Examples of these chemicals include: Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well-ventilated area and wear approved safety equipment, such as dust masks specially designed to filter out microscopic particles.

1.2. Safety symbols

This section shows and describes the safety symbols that may appear on this product. Read, understand, and follow all instructions for the machine before attempting to assemble and operate it.

	Indicates a potential risk of personal injury.
	CE marking
	To reduce the risk of injury, the user must read and understand the user manual before using this product. Failure to do so may result in serious injury to the operator and/or bystanders.
	Use appropriate, approved protective equipment for the use of the machine. Wear ear protection, head protection, safety gloves and non-slip footwear. These protective measures will help reduce possible injuries.
	Do not use the machine when it is raining. Do not expose the product to rain and do not use it in wet conditions.
	Keep other people out of the working area during operation. The distance between the machine and other people should be at least 15 meters.

	Do not use the machine when it is raining. Do not expose the product to rain and do not use it in wet conditions.
	Remove the battery from the product before any expansion, cleaning and/or maintenance work.
	Risk of kickback. Contact of the guide bar tip with any object must be avoided.
	Always operate the unit with both hands.
	Chainsaw oil fill hole.
	Wear cut-proof protective clothing.
	Any damaged or discarded electrical or electronic devices must be delivered to the appropriate collection centers. Do not dispose of power tools, rechargeable batteries/rechargeable batteries with household waste. Power tools and batteries which have reached the end of their useful life should be collected separately and returned to an environmentally friendly recycling facility. Please check with your local authority or dealer for recycling advice and collection points.

1.3. General safety instructions

Read all safety warnings, instructions, illustrations, and specifications provided with this tool. Failure to follow all instructions listed below may result in serious injury to persons and the unit.

Save all warnings and instructions for future reference.

Note: The term "power tool" in the warnings refers to your mains-powered (corded) or battery-powered (cordless) power tool.

1.3.1. Safety in the work area

- Keep the work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not use power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dusts. Power tools create sparks that can ignite dust or fumes.
- Keep children, bystanders and/or pets away while operating a power (battery-operated) tool.
- Distractions can cause you to lose control.
- Avoid hazardous environments: Do not use tools in damp or wet locations.

1.3.2. Electrical safety

- Avoid body contact with grounded surfaces such as pipes, radiators, stoves and refrigerators. There is an increased risk of electric shock if your body is grounded.
- Electrical appliance plugs must match the outlet. Never modify the plug in any way.
- Do not use any adapter plugs with grounded power tools. Unmodified plugs and compatible outlets will reduce the risk of electric shock.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord to carry, pull or unplug the power tool. Keep the cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- Do not use this product outdoors if environmental conditions are adverse.

1.3.3. Personal safety

- 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 substances that affect your control. A moment of inattention while operating power tools can result in serious personal injury.
- Always use personal protective equipment. Personal protective equipment such as eye protection, dust mask, non-skid safety shoes, hard hat and/or hearing protection used under appropriate conditions will reduce personal injury.
- Prevent unintentional starting. Make sure the switch is in the off position before connecting the battery, picking up or carrying the tool. Carrying power tools with your finger on the switch or turning on power tools with the switch on invites accidents.
- Remove any wrench or adjusting key before turning on the power tool. A wrench or spanner attached to a moving part of the power tool can cause personal injury.
- Do not overreach. Maintain proper footing and balance at all times. This allows for better control of the power tool in unexpected situations.
- Dress appropriately. Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts. Loose clothing, jewelry, or long hair can get caught in moving parts.
- Where devices for the connection of dust extraction and collection facilities are provided, ensure that they are connected and used correctly. The use of dust collection can reduce dust-related hazards.
- Don't let familiarity gained from frequent tool use allow you to become complacent and ignore tool safety principles. One careless action can result in serious injury in a fraction of a second.

1.4. Safety in the use and care of power tools

- Do not force the power tool. Use the correct power tool for your application. The right power tool will do the job better and safer at the rate for which it was designed.
- 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.
- Remove the battery pack, if detachable, from the power tool and/or activate any battery disable device before removing jammed material, making adjustments, changing accessories, cleaning, or storing power tools.

These preventive safety measures reduce the risk of accidentally starting the power tool.

- 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.
- Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts, and any other conditions that may affect the operation of the power tool. If damaged, have the power tool repaired before using it. Many accidents are caused by poorly maintained power tools and accessories.
- If present, keep cutting tools sharp and clean.
Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- Use the power tool, accessories, etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Using the power tool for operations other than those intended could result in a hazardous situation.
- Keep handles and gripping surfaces dry, clean and free of oil and grease. Slippery handles and gripping surfaces can cause unsafe handling and/or loss of control of the tool.

1.5. Safety in the use and care of battery-powered tools

- Recharge only with the manufacturer's approved charger.
A charger suitable for one type of battery may create a risk of fire when used with another battery. Use only with the correct battery packs and chargers.
- Use power tools only with specifically designated battery packs. Use of any other battery packs may result in risk of injury and fire.
- When the battery is not in use, keep it away from other metal objects such as paper clips, coins, keys, nails, screws or other small metal objects that may establish a connection from one terminal to another.
A short circuit between the battery terminals can cause burns or a fire.
- Under abusive conditions, battery fluid may escape; avoid contact. If accidental contact occurs, rinse with water. If fluid comes into contact with eyes, additionally seek medical attention. Battery fluid may cause irritation or burns.
- Do not use a battery or tool that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion, or risk of injury.
- Do not expose a battery or tool to fire or excessive temperatures.
Exposure to fire or temperatures above 212°F (100°C) may cause explosion.
- Follow all charging instructions and do not charge the battery or tool outside the temperature range specified in the instructions. Charging incorrectly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

1.6. Service and maintenance

- Have your power tool/battery serviced by a qualified technician using only manufacturer-approved replacement parts. This will ensure that the safety of the tool is maintained.
- Never service damaged battery packs.
- Battery pack service should only be performed by the manufacturer or authorized service providers.

1.7. Chainsaw Safety Instructions

- Keep all parts of your body away from the chain when the chainsaw is in operation. Before starting the chainsaw, make sure that the chain is not touching anything. A moment of inattention while operating the chainsaw can result in your clothing or body becoming entangled in the chain.
- Always hold the chainsaw with your right hand on the rear handle and your left hand on the front handle. Holding the chainsaw with your hand reversed increases the risk of personal injury.
- Hold the chain saw only by insulated gripping surfaces, as the chain may contact hidden wiring. Chains that contact a "live" wire may cause exposed metal parts of the chain saw to become "live" and could shock the operator.
- Wear eye protection. Additional protective equipment for ears, head, hands, legs and feet is recommended. Proper protective equipment will reduce personal injury from flying debris or accidental contact with the chain.
- Do not use a chainsaw on a ladder, from a roof or any unstable support. Operating a chainsaw in this manner could result in serious personal injury.
- Always maintain proper footing and operate the chainsaw only when standing on a firm, secure, level surface. Slippery or unstable surfaces may cause you to lose balance or control of the chainsaw.
- When cutting a branch that is under tension, be alert for kickback. When tension in the wood fibers is released, the branch can strike the operator and/or cause the chainsaw to lose control.
- Be very careful when cutting brush and young trees. Thin material can get caught in the saw chain and be thrown toward you or cause you to lose your balance.
- Carry the chainsaw by the front handle with the chainsaw turned off (battery removed) and away from your body. Always attach the bar sheath when transporting or storing the chainsaw. Proper handling of the chainsaw will reduce the likelihood of accidental contact with the moving chain.
- Follow the instructions for lubricating, tensioning the chain, changing the bar and chain. An improperly tensioned or lubricated chain may break or increase the possibility of kickback.
- Cut wood only. Do not use the chainsaw for purposes other than those intended. Using the chainsaw for operations other than those intended could result in a hazardous situation and will void the warranty.
- This chainsaw is not designed for felling trees. Using the chainsaw for operations other than those intended could result in serious injury to the operator or bystanders.
- Follow all instructions when removing jammed material, storing or servicing the chain saw. Make sure the switch is off and the battery is removed. Unexpected operation of the chain saw while removing jammed material or performing maintenance can result in serious personal injury.
- Do not use a chainsaw in a tree unless you have been specifically trained to do so. Operating a chainsaw in a tree without proper training could increase the risk of serious personal injury.

1.8. Causes and prevention of kickback

Kickback can occur when the tip of the bar touches an object, or when the wood closes in and pinches the chain in the cut. In some cases, tip contact can cause a sudden reverse reaction, causing the bar to rise and return toward the operator.

Tightening the chain along the top of the bar can push the bar quickly towards the operator.

Any of these reactions can cause you to lose control of the tool, which could result in serious personal injury. Do not rely exclusively on the safety devices built into your machine. As a chainsaw user, you must take several steps to keep your cutting jobs free from accidents or injuries.

- Maintain a firm grip, with thumbs and fingers encircling the chainsaw handles, with both hands on the machine and position your body and arm to allow you to resist kickback forces. Kickback forces can be controlled by the operator if proper precautions are taken. Do not let go of the chainsaw.
- Do not overreach or cut above shoulder height. This helps prevent unintentional tip contact and allows for better control of the chainsaw in unexpected situations.
- Use only bars and chains approved by the manufacturer. Incorrect replacement may result in chain breakage and/or kickback.
- Follow the chain manufacturer's sharpening and maintenance instructions. Decreasing the depth gauge height may result in increased kickback.

1.8.1. Kickback Safety Precautions

- In some cases, tip contact can cause an ultra-rapid reverse reaction, pushing the bar up and back toward the operator (this is called rotational kickback). Tightening the chain along the top of the bar can push the bar rapidly back toward the operator (this is called linear kickback) (Fig. 1).

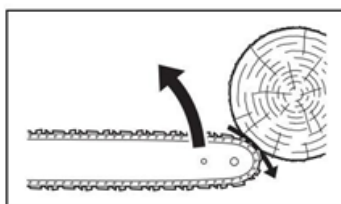


Fig 1

- Any of these reactions can cause you to lose control of the machine and come into contact with the moving chain, which could result in serious personal injury. As a chainsaw user, you must take several steps to keep your cutting jobs free of accidents or injuries (Fig. 2).

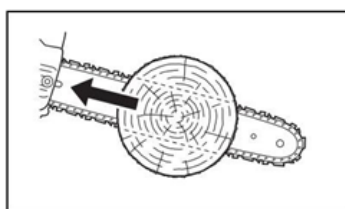


Fig 2

- With a basic understanding of kickback, you can reduce the element of surprise. Sudden surprise contributes to accidents. Understand that rotational kickback can be prevented by keeping the tip of an unprotected sword from touching an object or the ground.
- Do not operate a chainsaw with one hand. One-handed operation can result in serious injury to the operator, helpers, or bystanders. For proper control, always use two hands when operating a chainsaw, with one hand operating the trigger. Otherwise, the chainsaw may "slip," which could result in personal injury due to loss of control.
- Maintain a firm grip on the machine with both hands (Fig. 3), with your right hand on the rear handle and your left hand on the front handle, when the unit is in operation. Use a firm grip with your thumbs and fingers encircling the chainsaw handles. A firm

grip will help reduce kickback and maintain control of the machine. Both hands should be used to control the machine at all times.

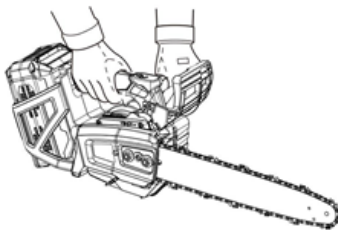


Fig 3

- Make sure the area you are cutting is free of obstructions. Do not allow the tip of the bar to come into contact with a log, branch or any other obstruction that could be hit while using the tool.
- Cutting at high speeds can reduce the likelihood of kickback. But cutting at partial or low speed may be preferable to control the chainsaw in difficult situations and may also reduce the likelihood of kickback.

1.9. Other important safety instructions

- If the power tool starts to vibrate abnormally or make noise, stop the motor and check the cause immediately. Abnormal noise is usually a warning of trouble.
- Make sure all appropriate guards and other safety devices are properly and securely in place before using this product. Do not use without guards in place.
- Do not charge the battery in the rain or in humid places.
- Do not dispose of the battery in a fire. Cells may explode. Check local codes for possible special disposal instructions.
- Do not open or break the battery. Released electrolyte is corrosive and may cause damage to eyes or skin. May be toxic if swallowed.
- Battery-powered tools do not need to be plugged into an electrical outlet, so they are always in working order. Be aware of potential hazards even when the tool is not in operation. Use caution when performing maintenance or service.
- Do not wash the product with a hose. Avoid getting water into the motor and electrical connections.
- If situations occur that are not covered in this manual, please use caution and good judgment. Contact your authorized dealer for assistance and/or advice.
- Save these instructions. Refer to this manual frequently and use it to instruct others who may use this tool. If you loan this tool to someone else, loan these instructions to prevent misuse of the product and possible injury.

1.10. Residual risks

⚠ Important

Even if the equipment complies with the relevant product safety regulations, there may be residual risks given the characteristics of the equipment and the work for which it has been designed.

Failure to follow the instructions contained in the instruction manual may result in other residual risks arising from improper use.

Residual risks can be minimized by following the safety instructions.

- Following these instructions and being careful will reduce the risk of personal injury and equipment damage.
- Failure to follow these safety instructions may result in injury to the operator or property damage.
- Lack of care, incorrect use or failure to comply with safety regulations can result in injuries to hands and fingers.
- There is a risk of electrocution if you use non-approved electrical connections.
- There is a risk of hearing loss when working with the machine without protection for long periods.

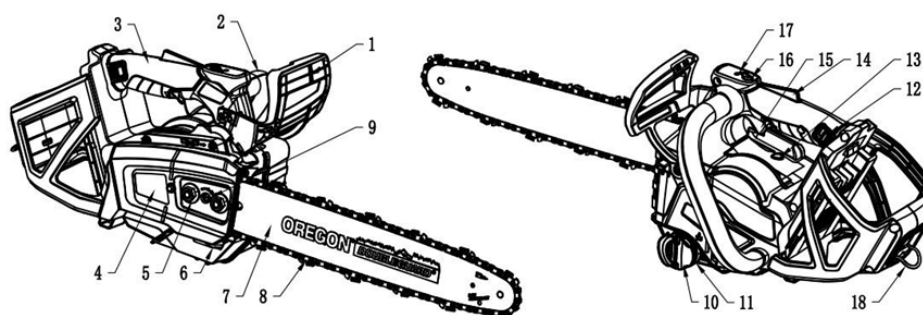
Note: Even if you take preventive measures, there may be residual risks that are not obvious.

⚠ Warning

This power tool generates a magnetic field during operation. Under certain circumstances, this field may interfere with the operation of active or passive medical implants. To reduce the risk of serious injury or death, we recommend that individuals with a medical implant consult a physician and the manufacturer of the medical implant before using the device.

2. PRODUCT DESCRIPTION

2.1. Machine parts



- | | |
|-----------------------------|----------------------------|
| 1. Front protector | 10. Oil tank cap |
| 2. Front handle (left hand) | 11. Oil tank |
| 3. Rear handle (right hand) | 12. Battery release button |
| 4. Sprocket cover | 13. Oil pump |
| 5. Sprocket cover nut | 14. Trigger switch lock |
| 6. Chain receiver | 15. Trigger |
| 7. Sword | 16. Power button (ON/OFF) |
| 8. Chain | 17. LED power indicator |
| 9. Chain tension adjuster | 18. Hook |

Note: Due to technical product updates, this document is subject to change without notice.

2.2. Meet the machine

⚠ Warning

Never use the tool without the guard being firmly in place. The guard must always be on the tool to protect the user.

Trigger switch lock

Helps prevent accidental activation of the variable speed trigger. Must be pressed before the speed trigger can be activated.

On/Off switch

Turning the ON/OFF switch to the “Off” position locks the speed trigger to prevent the saw from being activated unintentionally.

Front protector

It serves as a lever to activate the chain brake. It also provides protection from overhanging branches and helps prevent the left hand from touching the chain if it comes off the front handle.

Front handle

For holding, controlling and transporting the chainsaw.

Rear handle

To operate, hold and control the chainsaw.

Oil tank cover

Seal the oil tank.

Chain tension adjustment

It is used to adjust the chain tension.

Sprocket cover nut

Holds the chain cover and bar in place.

Hook

To hang the machine from the harness.

Chain receiver

Reduces the risk of the operator coming into contact with the chain if it comes off the bar or breaks.

Note: Never carry or use the tool without the guard being firmly in place. The guard must always be on the tool to protect the user.

3. TECHNICAL SPECIFICATIONS

Technical specifications	
Voltage	60V
Power	1800W (max.)
Cutting length	14" – 350mm
Chain/sword type	Oregon
Chain step	3/8" /9.525mm
Chain speed	20m/s

Note: Due to technical product updates, this document is subject to change without notice.

4. INSTALLATION AND OPERATION

4.1. Unpacking

After unpacking the product, check the contents of the box:

- This product requires assembly.
- Carefully remove the product and all accessories from the box. Make sure all items are included.

Attention

Make sure that you have all the materials listed. Check that the tool has not been damaged in transit. Do not discard the packing material until you have carefully inspected and used the tool satisfactorily.

Please inform the dealer or supplier immediately of any damage or missing parts, as claims submitted after this date will not be recognised.

4.1. Mounting

Warning

If any part is damaged or missing, do not use this product until the part is replaced. Using this product with damaged or missing parts could result in serious personal injury.

Do not attempt to modify this product or create accessories not recommended for use with this product. Any such alteration or modification constitutes improper use and could result in a hazardous condition that could result in serious personal injury and void the warranty.

To prevent accidental starting which could cause serious personal injury, always remove plug/battery pack from tool when assembling parts, making adjustments, cleaning, or when not in use.

All adjustments must be made when cold. Always wear gloves when working with a chain. Otherwise personal injury may occur.

4.1.1. Mounting the bar and chain

Warning

Always wear gloves when assembling or replacing any machine components. Take special care with cutting parts.

1. Loosen the two sprocket cover nuts (A) (Fig. 5).
2. Remove the pinion cover (B) (Fig. 5).

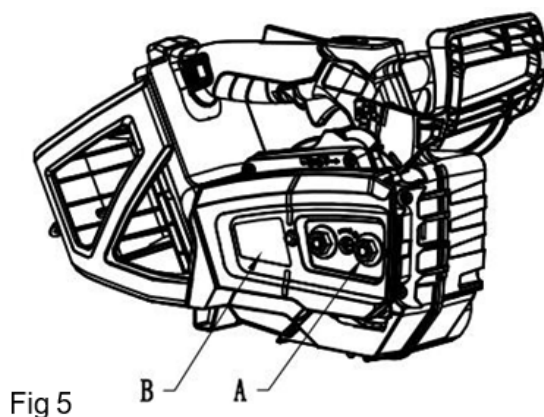


Fig 5

Note: Move the chain brake lever (front hand guard) fully rearward to remove or install the bar cover on the chainsaw.

3. Assemble the chain (D) and bar (C) as shown in Fig. 6. (Make sure the teeth point in the correct direction.)

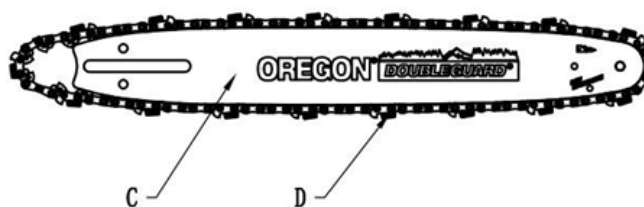


Fig 6

4. Adjust the chain tension adjuster (E) and assemble the bar (C) and chain (D) as shown in Fig. 7.

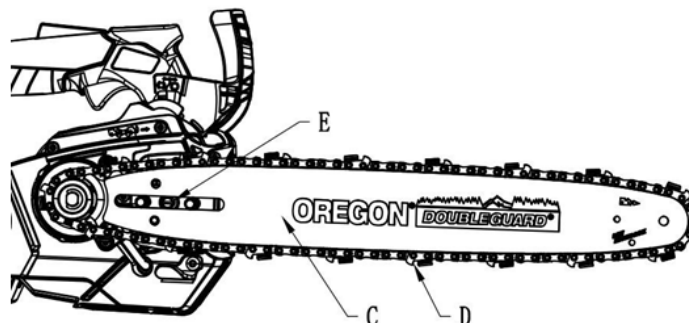


Fig 7

5. Tighten the chain sprocket cover nut (A) to install the chain sprocket cover (B) (Fig. 8).

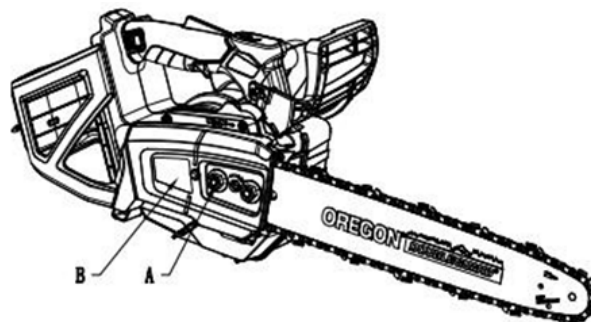


Fig 8

6. Hold the tip of the bar up and turn the adjuster (E) clockwise until the chain fits snugly against the bottom of the bar.

Then tighten the sprocket cover nut (A) to secure the sprocket cover (Fig. 9).

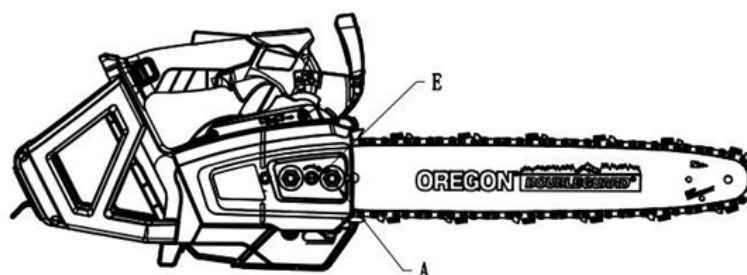


Fig 9

7. Carefully and slowly pull the chain around the bar by hand. Loosen the adjustment if you feel any tight spots (Fig. 10).

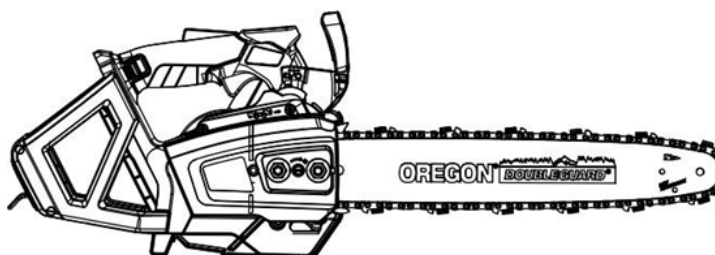


Fig 10

4.1.2. Chain lubricant

Proper chain lubrication while in operation minimizes friction between the chain, bar and sprocket.

- Use manufacturer-approved chain oil for proper lubrication. These oils contain bonding, anti-aging and anti-oxidant agents.
- Consult your official Anova dealer for the appropriate chain oil.
- Never use used or reclaimed oil to avoid malfunctions. Lubrication problems caused by the use of improper oil will void the warranty. (Fig. 11).
- For proper lubrication, please contact your official Anova distributor if you have any questions or queries.

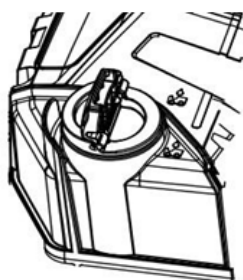


Fig 11

4.2. Start-up and operating instructions

⚠ Warning

Always wear eye protection that is marked to meet applicable safety standards. Failure to do so may result in objects being thrown into the eyes and other possible serious injuries.

Do not use any accessories not recommended by the manufacturer of this product. Use of non-recommended accessories may result in serious personal injury and will void the product warranty.

To avoid serious personal injury, remove the battery plug from the tool before performing maintenance, cleaning, changing accessories, or removing material from the unit.

Do not allow familiarity with this product to make you careless. Remember that a fraction of a second of carelessness is enough to cause serious injury.

Make sure the bar and chain are in the correct position before operation.

Intended use

Do not use this product for any other activity than it is intended for. You can use this product for purposes such as pruning, cutting small firewood and garden cleaning.

4.2.1. Connecting and disconnecting the battery

This machine has a quick-insert battery pack connection. Use with the correct battery and battery tool charger.

NOTE: Fully charge the battery before first use. Battery and charger sold separately.

1. Insert the battery pack into the socket until you hear a clear "click" sound (Fig. 12).

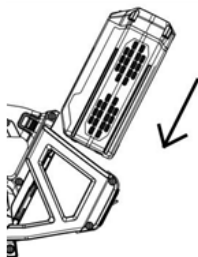


Fig 12

2. To disconnect the battery:
 - a. Pull the battery lock button on the handle toward the guide bar, then remove the battery pack from the socket (Fig. 13).

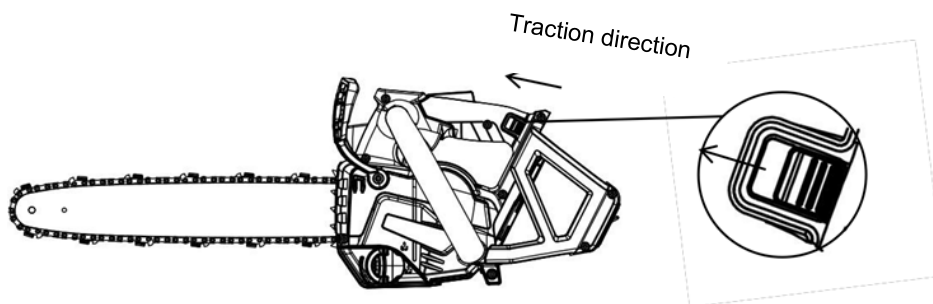


Fig 13

4.2.2. Holding and using the chainsaw

⚠ Warning

Dress appropriately to reduce the risk of injury when using this tool. Do not wear loose clothing or jewelry. Use eye and ear protection. Wear approved pants, boots, and gloves. Do not wear shorts, sandals, or go barefoot. Use a respirator or dust mask in dusty locations.

- Before working with the machine, look around to ensure a safe work area free of other people and animals.
- Remove all objects such as rocks, broken glass, nails, wires or ropes.
- Dust may be generated during operation: Dust generated may damage the respiratory tract and cause allergic reactions. If dust is generated: Wear a dust respirator.
- Make sure you have eye protection, appropriate clothing and a balanced stance. There may still be a risk to bystanders from thrown objects. Bystanders should be encouraged to wear eye protection. If anyone approaches them, stop the engine immediately.
- Use non-slip gloves for maximum grip and protection.
- Hold and control the chainsaw with your left hand on the front handle and your right hand on the rear handle; wrap your thumb around the handles (Fig. 14).

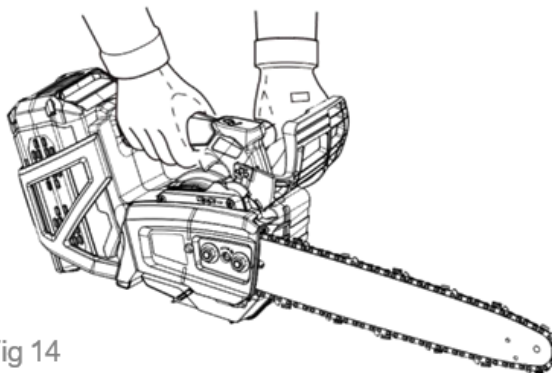


Fig 14

4.2.3. Start/stop the tool

1. Press the power button “” on the multi-control display unit to illuminate the screen (Fig. 15).
2. Pull the front hand guard towards the front handle (Fig.16).
3. Squeeze the trigger lock and trigger at the same time to start the chainsaw (Fig.16).



Fig 15

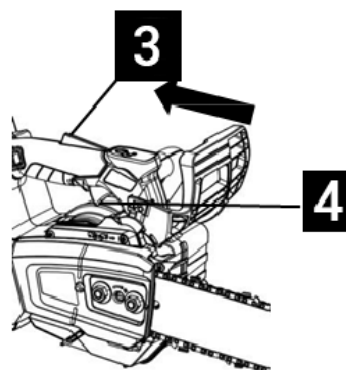


Fig 16

1. LED power indicator 2. Button 3. Trigger lock 4. Switch

Turn off the tool

1. Release the trigger lock and trigger switch.
2. Push the front hand guard forward to the brake position.
3. Press the power button on MCDU to turn off the tool and prevent accidental starting.

⚠ Warning

Always remove the battery from the tool during breaks in work and after finishing work.

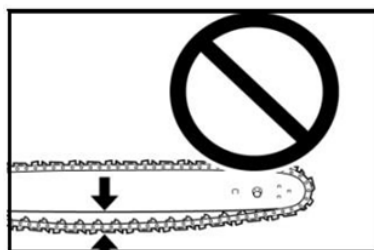
Make sure the screen is off before next use to avoid serious personal injury.

4.2.4. Before useChecking chain tension

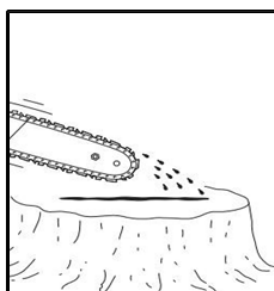
**Note: Always remember to remove the battery from the unit when checking the chain tension.*

Always loosen the sprocket cover nut before turning the chain tensioner, otherwise damage to the sprocket cover and tensioner may occur.

1. The chain tension should be checked frequently during work and adjusted if necessary.
2. Tension the chain correctly so that it can still be easily pulled by hand along the guide bar.

Chain lubrication test

Hold the chain just above a dry surface and open the throttle to half speed for 30 seconds. You should see a thin line of oil “thrown” onto the dry surface.

Pre-Operation Cutting Test

- Familiarize yourself with your chainsaw before you begin cutting.
 - For this purpose, it may be advisable to practice cutting some small logs or branches several times on a sawhorse or stand.
 - Do not allow people or animals into the work area.
- If there are multiple operators, maintain a safe distance between two or more operators when working together simultaneously.

4.2.5. Chain brake

Correct use of the chain brake

⚠ Warning

Kickback is very dangerous. If the tip of the sword touches wood or something similar, the sword instantly recoils. The chain brake reduces the possibility of injury due to kickback.

Always check that the chain brake is working properly before use. Failure to do so may result in serious personal injury.

Be sure to properly install a bar and chain when performing a chain brake test.

Remember:

- To practice, while cutting a small tree, push the front hand guard forward to activate the brake.
- Always confirm that the brake is working properly before each task.
- If the chain brake is clogged with wood chips, the brake function will be impaired. Always keep the device clean. Do not use it incorrectly.
- Do not increase engine speed while the chain brake is engaged.
- Never test the brake in an area where gasoline fumes are present.

Chain brake function and important warnings

- The function of the chain brake is to stop the rotation of the chain after a kickback.
- Does not prevent or reduce kickback.
- Do not rely on the chain brake to protect against kickback.
- Even with a chain brake, rely on good judgment and proper cutting methods as if there were no chain brake.
- Even with normal use and proper maintenance, brake response time may be longer.
- The following may interfere with the brake's ability to protect the operator:
 - The machine was held too close to the operator's body. This is incorrect. The recoil time may be too fast for even a perfectly maintained brake to operate in time.
 - The operator's hand may not be in a position to make contact with the front hand guard. The brake will not activate.
 - Lack of proper maintenance lengthens the brake downtime, making it less effective.
 - The ingress of dirt, grease, oil, etc. into the working parts of the mechanism can lengthen the downtime.
 - Brake activation spring wear and fatigue and brake drum/brake brake wear and pivot points can lengthen brake stopping time.
 - A damaged front hand guard can cause the brake to not work.

Checking brake operation

1. Place the chainsaw on the ground.
 2. Hold the handle with both hands and accelerate the engine to high speed using the trigger.
 3. Activate the chain brake by rotating your left wrist against the front hand guard while maintaining your grip.
 4. The chain should stop immediately.
 5. Release the trigger switch.
- If the chain does not stop immediately, do not use the chainsaw. It must be repaired. Contact your authorized dealer.

Release the chain brake

- When the hand guard is pulled fully back, the chain brake is released (Fig. 17).

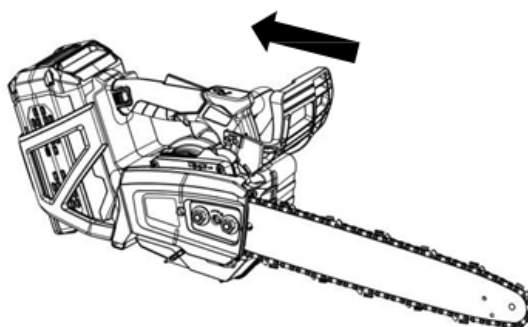


Fig 17

4.2.6. Using a chainsaw on a tree

An analysis of accidents involving these machines during tree service operations shows that the main cause of such accidents is one-handed operation of the machine. In the vast majority of accidents, operators do not adopt a safe working position that allows them to hold both handles of the chainsaw.

This results in an increased risk of injury due to:

- Not having a firm grip on the saw if it kicks back.
- A lack of control of the machine such that it is more likely to come into contact with the climbing lines and the operator's body (particularly the left hand and arm).
- Loss of control due to an unsafe working position resulting in contact with the machine (unexpected movement during saw operation).

5. MAINTENANCE

5.1. Maintenance

⚠ Warning

When performing maintenance, use only manufacturer-approved replacement parts. Use of any other parts may create a hazard or cause damage to the product. To ensure safety and reliability, all repairs must be performed by an authorized dealer.

Always wear heavy gloves when performing any maintenance on the saw chain. Be careful with the saw chain and protect your hands to avoid injury from the saw chain.

To avoid serious personal injury from accidental starting of the machine, disconnect the battery from the product when cleaning or performing any maintenance.

All maintenance, except for the most basic tasks, must be carried out by your authorized dealer. If in doubt, do not carry out any maintenance without first consulting your dealer.

Never allow brake fluids, gasoline, petroleum-based products, penetrating oils, etc. to come into contact with plastic parts. Chemicals can damage, weaken, or destroy plastic, which may result in serious personal injury.

5.1.1. Service Guidelines

Necessary maintenance	Action
Daily or before use	
Chain saw	Inspect / Sharpen / Replace / Clean
Battery / Battery Compartment	Inspect / Clean / Load
Sword	Inspect / Clean
Cooling system/air filter	Inspect / Clean / Replace
Chain brake	Inspect / Clean / Replace
Screws / Nuts / Bolts	Inspect / Tighten / Replace
Monthly	
Oil filter/oil tank	Inspect / Clean / Replace
Pine nuts	Inspect/Replace

5.1.2. Chain maintenance

- A properly sharpened chain cuts wood effortlessly. Never use a dull or damaged chain. This causes increased physical strain, increased vibration load, unsatisfactory cutting results and increased wear on the machine.
- For smooth and fast cutting, the chain must be properly maintained.
- When maintaining your chain, consider the following:
 - o An improper filing angle of the side plate can increase the risk of serious kickback.
 - o Depth gauge clearance. Too low increases kickback potential. Not low enough decreases cutting capacity.
 - o If the chain teeth have hit hard objects such as nails and stones, or have been worn down by mud or sand on the wood, contact your dealer.

Attention

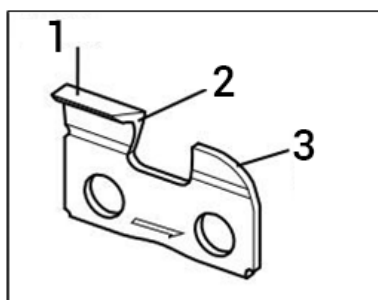
Inspect the sprocket, clutch and chain brake for wear or damage when replacing the chain.

If there are signs of wear or damage in the indicated areas, have a qualified service technician replace the necessary parts. Do not operate the machine without proper maintenance.

5.1.3. How to sharpen the chain

Be careful to file the chain at the specified angles and to the same length, as a fast cut can only be obtained when all the teeth are uniform.

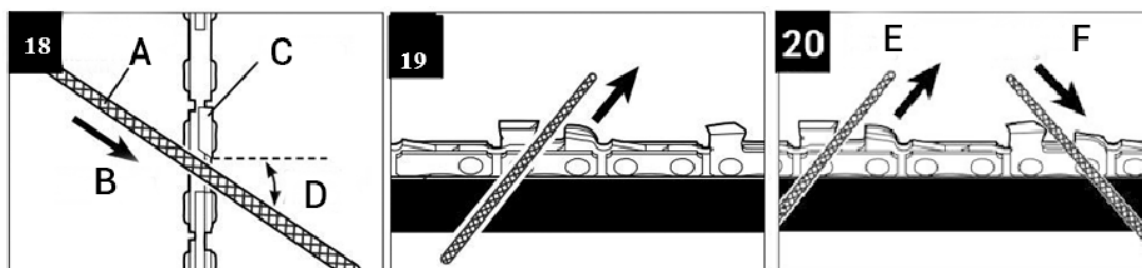
1. Disconnect the battery before performing any maintenance. Wear safety gloves for protection.
2. Make sure the chain is properly mounted, the bar nut is fully tightened and the chain is properly tensioned.
3. Use a 5/32" (4.0 mm) diameter round file and file holder. Perform all filing in the middle position of the bar to achieve perfect balance.



1. Top plate 2. Side plate 3. Depth gauge

4. Keep the file level with the top plate of the tooth. Do not let the file sink or rock.
5. Maintain a correct sharpening angle of 30° between the file and the chain (fig. 18 and 19). Always use a file holder when sharpening chains by hand. File holders have markings for the sharpening angle.
6. Using light but firm pressure, rub toward the front corner of the tooth. Lift the file away from the steel with each return stroke.
7. Make a few firm strokes on each tooth. File all the teeth on the left side in one direction. Then move to the other side and file the teeth on the right in the opposite direction. Occasionally remove debris with a wire brush (Fig. 20).

Note: Tools required to perform this maintenance are sold separately.



A. Round file

B. Filing direction

C. Tooth

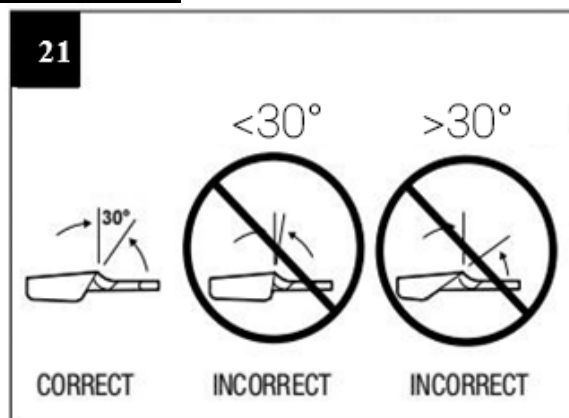
D. Sharpening (30°) E. Left hand

F. Right hand

⚠ Danger

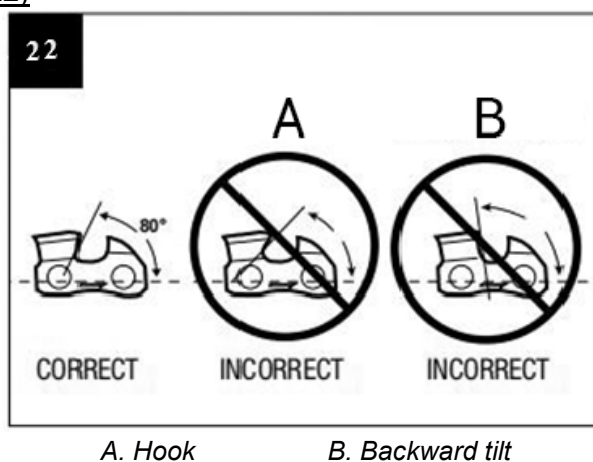
- A dull or poorly sharpened chain can cause excessive engine speed while cutting, which can lead to serious engine damage.
- Improper chain sharpening increases the possibility of kickback.
- Failure to replace a damaged chain can cause serious injury.

Top plate sharpening angles (Fig. 21)



CORRECT 30°	This optimum angle can be obtained only when the specified files and proper settings are used. The file holders are marked with guide marks to align the file correctly and produce the correct angle of the top plate.
LESS THAN 30°	The tooth is too dull to cut.
MORE THAN 30°	The cutting tooth edge quickly dulls and fades.

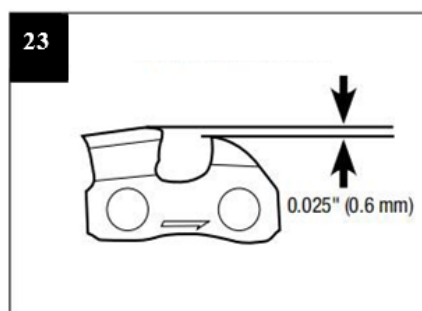
Side plate angle (Fig. 22)



CORRECT 80°	The optimum angle can be produced automatically if the file of the correct diameter is used in the file holder.
HOOK	“Catching” and dulling quickly. Increases the potential for kickback. Resulting from using a file with too small a diameter or a file that is too shallow.
BACKWARD SLOPE	Too much feed pressure is required, which causes excessive wear on the bar and chain. This is caused by using a file with too large a diameter or a file positioned too high.

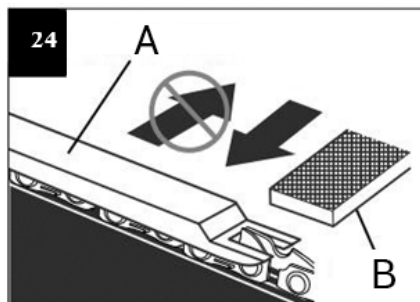
5.1.4. Depth gauge clearance

- The depth gauge should be held at a distance of 0.025" (0.6 mm), as shown in Fig. 23. Use a depth measuring tool to check the depth gauge clearances.



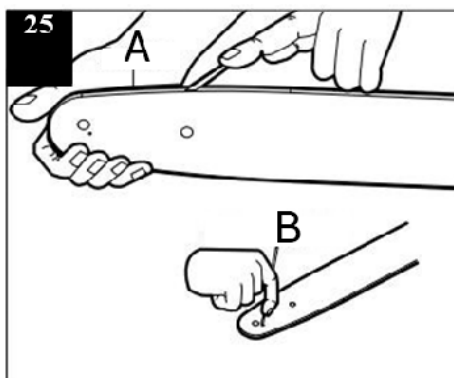
Depth gauge clearance

2. Check the depth gauge clearance every time the chain is filed. Use a flat file and depth gauge joint to lower all gauges evenly (Fig. 24). Depth gauge joints are available from .020" to .035" (0.5 mm to .9 mm). Use a .025" (0.6 mm) flat file to join depth gauge.



A. Depth gauge joint B. Flat file

3. Depth gauges should be adjusted with the flat file in the same direction as the adjacent tooth was filed with the round file. Be careful not to contact the face of the tooth with the flat file when adjusting the depth gauges. The bar should be cleaned (including the bar rails and lubrication hole) every day of use and inspected for wear and damage (Fig. 25).



A. Sword rail B. Lubrication hole

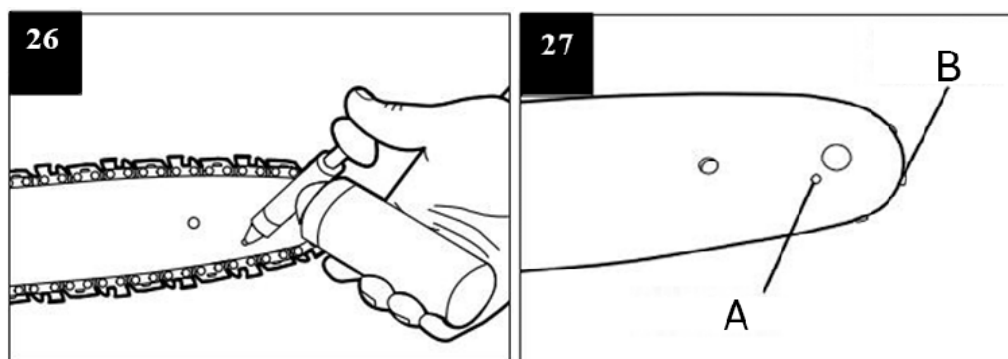
Fading or burrs on the bar rails are a normal part of bar wear. These faults should be corrected with a file as soon as they occur. A bar with any of the following faults should be replaced.

- Wear inside the bar rails, allowing the chain to slide to the side.
- Bent sword.
- Cracked or broken rails.
- Span of rails.

The bar has a pinion/sprocket at its tip which should be regularly lubricated with a grease syringe to extend the life of the bar (Fig. 26 and 27).

- Rotate the nose sprocket while pumping translucent yellow, translucent red, or colorless translucent grease into the lubrication hole until the entire sprocket has new grease. Do not push dirt into the hole.

Note: Tools required to perform this maintenance are sold separately.



A. Lubrication hole B. Sprocket at tip of sword

5.2. Cleaning

- After each use, clean residue from the chain and bar with a soft brush. Clean the surface of the chainsaw with a clean cloth moistened with a mild soap solution.
- For deep cleaning, remove the side cover assembly, lower the bar and chain, then use a soft brush to thoroughly remove debris from the bar, chain and drive sprocket.
- Always clean wood chips, sawdust and dirt from the bar groove when replacing the chain.

⚠ Warning

- Never use water to clean your tool. Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents. Use a clean cloth to remove dirt, dust, oil, grease, etc.

5.3. Transport and storage

- Do not store or transport the chainsaw when it is running. Always disconnect the battery before storing or transporting.
- Always place the bar cover over the bar and chain before storing or transporting the chainsaw. Be careful to avoid sharp teeth on the chain.
- Clean the chainsaw thoroughly before storing it. Store the chainsaw indoors, in a dry, locked and/or inaccessible place for children.
- Keep it away from corrosive agents such as garden chemicals and de-icing salts.

6. TROUBLESHOOTING

⚠ Danger

Insufficient maintenance and care can lead to accidents and unforeseen injuries. Repairs and work required for the correct use of the machine must be carried out by qualified and authorised personnel. For more extensive maintenance or repairs, hand the machine over to your authorised dealer. Repairs to power tools must be carried out by a specialist service.

Note: If you have any questions or problems persist, please contact your official distributor.

Problem/Symptom	Possible cause	Possible solution
The chainsaw does not work	The battery is not installed correctly	Check the battery installation
The unit does not work when turned on	Battery discharged Battery out of acceptable temperature range.	Remove the battery and let it cool.
The execution time is too short	Battery out of acceptable temperature range	Remove the battery and let it cool.
	Drive electronics too hot Battery discharged	Turn off the unit and let it cool down. Charge the battery
	Dirty cutting attachment	Clean the cutting attachment
	Chain tension too high	Readjust the chain tension
No chain oil comes out	There is no oil in the oil tank	Fill the chain oil
	Clogged chain oil line or oil filter	Clean the chain oil pipe and oil filter.
	Failure in the oil passage	Consult your dealer
The unit vibrates excessively	Internal parts failure	Consult your dealer
Mistake*	Possible cause	Possible solution
1	MOS failure	Release the switch and restart in the correct way. Please contact your official dealer.
2	Wiring/battery short circuit	Contact your dealer.
3	Abnormal communication	Take out the battery and then slide it to reset. If the problem persists, please contact your official dealer.
4	Hardware overcurrent, maximum overcurrent, average overcurrent	Release the trigger and then restart the machine.
5	Controller undervoltage, controller overvoltage, battery pack undervoltage	Restart the tool after the machine voltage is normal.
6	High temperature MOS Low temperature MOS High battery temperature	Release the trigger, wait for the machine/battery temperature to cool down to normal, then restart
7	Contact your official distributor	
8	Low speed protection, motor lock.	Release the trigger and then restart the machine.
9	Others (on)	Release the trigger and then restart the machine.
10	Fast flashing light, 0.15s on, 0.15s off	Release the trigger and then restart the machine.

*(Light flash times: 0.3s on, 0.3s off)

7. WARRANTY

If your product suffers from a manufacturing defect during the established warranty period, please contact or go to your point of sale directly with the necessary documentation.

Your purchase invoice should be retained as proof of the date of purchase. Your tool must be returned to your dealer in an acceptable, clean condition, in its original molded box, if applicable to the unit, accompanied by your appropriate proof of purchase.

7.1. Warranty period

The legal warranty period for the product begins on the original date of purchase by the first initial buyer and its duration will be that established by the Royal Decree-Law on the protection of consumers and users against situations of social and economic vulnerability of the year corresponding to the time of acquisition of the product.

Some countries do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or country to country.

7.2. Exclusions

This warranty does not cover product damage or performance problems caused by:

- Natural wear and tear.
- Misuse, neglect, careless operation or lack of maintenance.
- Defects caused by incorrect use, damage caused by manipulations carried out by personnel not authorised by Anova or use of non-original spare parts.
- Defects in normal wear parts such as bearings, brushes, cables, plugs or accessories such as drills, bits, saw blades, etc.
- Damage or defects resulting from abuse, accidents or alterations.
- Incorrect use and storage (explicit reference that the rules described in the operating instructions have not been complied with).
- Customer-caused wear (e.g. broken saw blades, worn carbon brushes, etc.).
- Wear and secondary damage due to lack of maintenance, repair, lubricants (e.g. overheating damage due to blocked cooling slots, bearing damage as a result of dirt, frost damage, etc.)
- Damage as an obvious result of overuse/overloading.
- Damage caused by inappropriate supplies (e.g. incorrect fuel)
- Load-induced breakage of housing components or accessories due to abnormal stress
- Load-induced deformation of housing components or accessories due to abnormal stress.
- Damage resulting from the operation of supplies that are overfilled or leak due to improper storage, inappropriate cleaning agents, or other damaging chemical components.
- Damage due to improper exposure to extreme temperatures (e.g. freeze fractures, thermal deformation of components, etc.)
- Damage from permanent exposure to ultraviolet radiation.
- Damage caused by inadequate maintenance.

- Any damage caused by failure to comply with the instruction manual
- Any product that has been attempted to be repaired by an unqualified professional.
- Any product connected to an inadequate power source (amps, voltage, frequency).
- Any damage caused by external influences (water, chemicals, physics, shocks) or foreign substances.
- Use of unsuitable accessories or parts.
- It does not include defects in normal wear parts, nor does it cover damage or defects resulting from abuse, accidents or alterations, nor transportation costs.

The warranty is also void if the product has been altered or modified, or if the trademark/serial number on the machine has been defaced or removed.

Routine maintenance, tune-ups, adjustments or normal wear and tear are not covered under this warranty.

This manual does not cover all possible situations regarding warranty exclusions, for more information please contact your nearest Anova dealer.

7.3. In case of incident

The warranty must be correctly completed with all the requested information and accompanied by the purchase invoice.

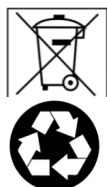
Anova reserves the right to reject any claim where the purchase cannot be verified or where it is clear that the product was not properly maintained (maintenance, ventilation slots cleaned, lubrication, carbon brushes regularly maintained, cleaning, storage, etc.).

Private use means personal household use by an end consumer. Commercial use means all other uses, including uses for business, income-generating or rental purposes. Once the product has been used for commercial use, it will henceforth be considered a commercial product for the purposes of this warranty.

These are our standard warranty terms, but occasionally there may be additional warranty coverage not determined at the time of publication. For more information, please contact your nearest official Anova dealer or visit www.millasur.com.

Warranty service is only available through official Anova dealers. You can locate your nearest dealer on our dealer map at www.anova.es.

8. ENVIRONMENT



Protect the environment. Recycle the oil used by this machine by taking it to a recycling center. Do not pour used oil into drains, soil, rivers, lakes or oceans.

Dispose of your machine in an environmentally friendly manner. Machines should not be disposed of with household waste. Their plastic and metal components can be sorted according to their nature and recycled. The materials used to package this machine are recyclable. Please do not throw the packaging into your household waste. Dispose of this packaging at an official waste collection point. Batteries and other electrical components should not be thrown into the trash. At the end of your machine's life, batteries or chargers should be removed from the equipment and disposed of separately and correctly.

9. CE CERTIFICATE

DISTRIBUTION COMPANY

MILLASUR, SL

RUA EDUARDO PONDAL, Nº 23 PISIGÜEIRO

15688 OROSO - A CORUNA

SPAIN



EC DECLARATION OF CONFORMITY

In compliance with the various EC directives, it is hereby confirmed that, due to its design and construction, and according to the CE mark printed on it by the manufacturer, the machine identified in this document complies with the relevant and essential health and safety requirements of the aforementioned EC directives. This declaration validates the product to display the CE symbol.

In the event that the machine is modified and this modification is not approved by the manufacturer and communicated to the distributor, this declaration will lose its value and validity.

Name of the machine: BATTERY-POWERED CHAINSAW

Model: **E60CS**

Recognized and approved standard to which it complies:

Directive 2006/42/EC
2014/30/EU

Tested according to regulations:

EN IEC 55014-1:2021
EN IEC 55014-2:2021
EN 62841-1:2015+A11:2022
EN 62841-4-1:2020
EN ISO 11681-2:2022

Company stamp

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08/19/2024