Operating instructions

Petrol Brushcutter with Wheels

64746

Illustration similar, may vary depending on model

Please read and follow the operating instructions and safety information prior to initial operation.

Technical changes reserved!
Illustrations, functional steps, and technical data may deviate insignificantly due to continuous further developments.

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Introduction

Thank you for choosing to purchase this quality product. To minimise the risk of injury, we ask you to always take some basic safety precautions when using this product. Please read this operating manual carefully and make sure that you understand it.
Keep these operation instructions in a safe place.

This instruction manual contains information about the operation of the appliance and the safety precautions to be taken. Thoroughly read all safety warnings and instructions contained within this operation manual.

Warning! Always use the device strictly in accordance with the information and instructions in this manual. Failure to do so may result in property damage, serious injury, or even death.

Please note that this manual cannot cover all possible circumstances that may arise while working with the device. Therefore, be careful and attentive at all times and use the device appliance with common sense.

Keep this manual in a safe place for future reference. This manual contains important information about the safety, operation, maintenance, and storage of this device. Read all information carefully and familiarise yourself with the device before using it, otherwise its use may result in property damage, serious injury, or even death.

Upon receipt, take the device and its individual parts out of the box and check that they are complete and undamaged.

Under no circumstances may the device be modified without the manufacturer's consent. Only use spare parts identical in construction to the original parts for repair. Contact your nearest dealer for spare parts. Unauthorised modifications and/or accessories could result in serious injury or death to the operator or others. The warranty may not cover damage or liability caused by the use of non-approved accessories or non-approved spare parts.

Before using the product, please make sure that local laws and regulations do not impose restrictions on this type of product, or that the product meets the requirements of local laws and regulations.

Proper use

This device is designed exclusively **to trim and cut back shrubbery and hedges, prune branches, and trim and cut back grass and thin weeds** with the appropriate attachment. Any other use may cause damage to the device and its surroundings and also serious injury.

This device must not be used by children and other persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge. Young persons over the age of 16 may use the device if they have been instructed in its correct use by a person familiar with its use and responsible for their safety, and if they are supervised by that person when using the device. Children should be supervised to ensure that they do not play with the device.

General safety instructions

Warning symbols

Some of the following symbols may be on or near the device. Please take note of them and learn their meaning. Knowing the meaning of these icons will help you operate the device better and more safely. – As a trimmer is a fast-cutting tool, special safety precautions must be taken to reduce the risk of injury. Read this manual carefully. Familiarise yourself thoroughly with the controls and proper use of the device. You need to know how to turn off the device and how to quickly unbuckle a device hanging on the strap.

Symbol	Name	Meaning
	Danger warning	Indicates danger, warns, or urges caution. Attention! It is about your safety!
	Read instructions	Read the operating instructions and follow all warnings and safety instructions.
	Ricochet	Ricochet alert
	Keep bystanders away	Keep all bystanders at least 15 m (50 ft) away and maintain a sufficient safety distance between the cutter handle and power lines.
	—	Do not use serrated cutting blades.
	Inertia of blade	The blade continues to move in cutting direction when leaving the wood
	Solid shoes	Wear non-slip safety footwear when using the device.
	Gloves	Wear non-slip work gloves.
	Do not smoke.	Do not smoke when mixing or refilling fuel.
	Fuel	Use unleaded petrol intended for use in motor vehicles and having an octane rating of 91 ([R+M]/2) or higher.
	Oil	Use engine oil for air-cooled two-stroke engines.
	Mix petrol and oil	Shake the mixture well. Shake each time before pouring in the mixture.
	—	Press the primer button all the way down 5 times and release it again.
	—	All relevant directives that apply to CE marking and the product are fulfilled.

	—	Wear eye, ear, and head protection when operating this device.
	—	To reduce the risk of injury or damage, avoid contact with any hot surface.
	—	Guaranteed sound power level
	Speed sticker	Rotational direction and max. speed of the shaft for cutting attachment
	—	Danger from fire/flammable materials
	Throttle lever	throttle closed, throttle open
	Ignition switch	—

Exhaust fumes contain chemicals that can cause cancer, birth defects, or other reproductive harm.

Work area safety

- Always ensure that the work area is clean and adequately lit. Untidy or insufficiently lit work areas increase the risk of accidents.
- Do not operate the device in explosive environments or near flammable substances, liquids, gases, or dusts. When using the device, sparks may occur which may ignite gases or dusts.
- Bystanders must stay clear of the work area when the device is operated, as distractions can cause loss of control. Keep all bystanders, especially children, at least 15 m (50 ft) away from the work area.
- Persons within the danger zone should wear safety goggles. If the device must be used where unprotected persons are present, it should be operated at the lowest possible speed to minimise the risk of objects being thrown out.
- The device may only be operated if the stop switch is in perfect condition. Check the functionality of the stop switch when the device is idling. Also check regularly that the cutting attachment stops rotating when the device idling.

Personal safety

- Always be alert and do not use the device when being tired or under the influence of alcohol, drugs, or medicine.
- Take all necessary safety precautions to prevent the device from starting unintentionally. Do not press the switch when wearing the device and make sure that it is switched off before connecting it to the power supply. Any loss of control use can lead to material damage and/or serious injury.
- **WARNING!** Long-term exposure to noise can lead to permanent hearing damage. Therefore, always use approved hearing protection. Also, always wear appropriate protective equipment, including but not limited to safety glasses, work gloves, and non-slip safety shoes when operating the device.
- **WARNING!** Listen for warning signals or shouts when wearing hearing protection. Always remove your hearing protection as soon as the engine stops.
- Make sure that all adjustment tools or wrenches have been removed from the device before switching it on. These tools can be caught by moving parts and cause damage to the device and serious injury.
- Do not reach out too far and always maintain a firm footing.

- Always handle the device with care, keep it clean, sharp, and in pristine condition by servicing it regularly; this will prevent its function from being impaired. Operating sharpened and cleaned tools is easier and safer; poorly maintained or unmaintained tools increase the risk of accidents.
- Before operating the device, make sure that its moving parts cannot be obstructed in their movement.
- Have damaged parts repaired or replaced by a qualified electrician and do not use the device until it is in perfect condition again.
- Only use tools for their intended use and at the appropriate speed. It affects the performance of a tool and increases the risk of accidents when force is applied to the tool.
- Wear clothes made of sturdy fabric and avoid loose clothing that can get caught on twigs and branches. Always wear heavy, long trousers. Do not wear jewellery, short sandals; do not go barefoot. Tie your hair up at shoulder length.
- Always have a first-aid kit at hand.
- Always wear goggles to protect your eyes. Wear appropriately; do not wear loose clothing or jewellery that could get caught in moving parts. You should always wear safe, sturdy, and non-slip footwear. Long hair should be tied back. It is recommended to cover legs and feet to protect them from flying parts during operation.
- Use only recommended spare parts. Serious injury to the operator or bystanders and damage to the device could result.
- Inspect the entire device for loose parts (nuts, bolts, screws, etc.) and possible damage. Repair or replace damage as necessary before using the device.
- Pay particular attention to operation in the rain or shortly after rain, as the ground can be slippery. If you slip or fall on the ground or in a hole, release the throttle immediately.
- Be careful not to drop the machine or hit it against obstacles.
- Never touch hot parts such as the muffler, high-voltage cable, or spark plug when starting or during operation of the engine.
- After the engine has been switched off, the muffler is still hot. Never place the device where there are flammable materials (dry grass, etc.), flammable gases, or flammable liquids.
- Never use the device when you are tired, under the influence of alcohol or medication. Your vision, judgement, or coordination may be affected.
- Never use the device in extreme weather conditions such as severe cold, very hot, and/or humid climates.
- Never use a defective device. Carry out the inspection, maintenance, and service instructions described in this manual. Some maintenance and servicing must be carried out by trained personnel.
- All covers and guards must be in place before take-off.
- Make sure that the spark-plug cap and the ignition cable are undamaged to avoid the risk of electric shock.
- **WARNING!** This machine generates an electromagnetic field when in operation. This field can affect the functioning of active or passive medical implants under certain conditions. To reduce the risk of serious injury or death, we recommend that persons with medical implants consult their physician and the medical implant manufacturer before operating this device.
- **WARNING!** Operating an engine in a confined or poorly ventilated area can result in death by suffocation or carbon monoxide poisoning.
- **WARNING!** Never allow children to use the device or be near it. Since it can be started with low speed and force on the starter handle, even small children may be able to muster the necessary strength to start it. This may result in a risk of serious injury. Therefore, remove the spark-plug connector when the machine is not under supervision.
- **WARNING!** Defective knives can increase the risk of accidents.

Maintenance

- All maintenance and repair work on the device requires special training. This applies in particular to the safety equipment of the device. If the device fails any of the tests described below, you must contact your service partner.
- **WARNING!** Never use a machine with defective safety equipment.

- Do not clean your machine with a high-pressure cleaner. The strong water jet can damage parts of the machine.
- Store the device in a dry place in a high place or under lock and key and out of the reach of children.
- Before storing the machine for more than a few days, always empty the fuel tank. Store fuel and the chain oil only in approved and properly labelled safety canisters. Be careful when handling petrol, avoid direct contact with the skin, and avoid inhaling fuel vapours!

Handle

- Keep the handles free from oil and fuel. Always use the right handles and the shoulder strap when cutting.
- Always hold the device by both parts of the handle during operation. The device may only be operated when it is held with both hands.

Dangers associated with the use of fuel

- Use high-quality unleaded brand petrol with 89 octane or more.
- Never start the machine,
  - if you have spilt fuel on it. Wipe up the spilled fuel and allow the remaining fuel to evaporate.
  - if you have spilt fuel on yourself or your clothes. Change your clothes. Wash all parts of the body with soap and water that have come into contact with the fuel.
  - if fuel is leaking from the machine. Check regularly for leaks in the fuel-filler cap and fuel lines.
- Store and transport the device and fuel in such a way that there is no risk of escaping liquids or vapours coming into contact with sparks or open flames, e.g., from electrical machines, electric motors, electrical relays/switches, or boilers.
- Always use the designated, approved containers for storing and transporting fuel.
- If you store the machine for a longer period of time, the fuel tank must be emptied. Contact your local petrol station to find out where you can dispose of excess fuel.
- Make sure that the device is cleaned and fully serviced before long-term storage.
- The transport lock must always be attached to the cutting tool when transporting or storing the device.
- Secure the device during transport. To prevent accidental starting of the engine, the spark-plug cap must always be removed during long-term storage, when the device is not under close supervision, and when you perform any maintenance.
- **WARNING!** Use caution when handling fuel. Remember the danger of fire, explosion, and inhalation of vapours.
- **WARNING!** Fuel and fuel vapours are highly flammable and can cause serious injury if inhaled or in contact with skin. Therefore, be especially careful when handling fuel and ensure adequate ventilation.
- **WARNING!** If you observe the following precautions, you will reduce the risk of fire:
  - Do not smoke or place hot objects near the fuel.
  - Always switch off the engine before refuelling and let it cool down for a few minutes before adding fuel.
  - When refuelling, open the fuel filler cap slowly so that the excess pressure does not escapes abruptly.
  - Carefully close the tank again with the cap after refuelling.
  - Always remove the machine from the tank area before starting.
- Clean the area around the fuel filler cap. Contaminants in the tank can lead to operating faults.
- Make sure that the fuel is well mixed by shaking it before filling the tank.
- **WARNING!** The catalytic-converter silencer becomes very hot during and after use. This also applies to the idle speed. Be aware of fire hazards, especially when working near flammable substances and/or vapours.

Dangers associated with vibrations

The so-called Raynaud's phenomenon, which attacks the fingers of certain people, is generally believed to be triggered by vibrations and cold. Exposure to vibrations and cold can cause tingling and burning sensations, followed by discolouration and numbness of the fingers. Certain precautions are strongly recommended as the minimum exposure that can cause the disease is not known.

- Operation at low speed can reduce noise and vibrations.
- To reduce noise pollution, the device should be operated in an open environment.
- The vibrations can be reduced if you grip the handle tightly.
- To avoid disturbing others, the device should only be operated during the day.
- Put on personal protective equipment, e.g., gloves and ear protection, during the operation.
- The device is not suitable for professional work and not for continuous operation.
- To preserve the user's health and prolong the life of the device, do not use the device for more than 2 hours a day and do not use it for more than 10 min at a time. Change your working position often.
- Keep your body warm, especially your head, neck, feet, ankles, hands, and wrists.
- Ensure good blood circulation by doing vigorous arm exercises during frequent work breaks and by not smoking.
- Limit the working hours.
- If you notice discomfort, redness, and swelling on your fingers, followed by whitening and loss of sensation, you should consult your doctor before further exposure to cold and vibration.

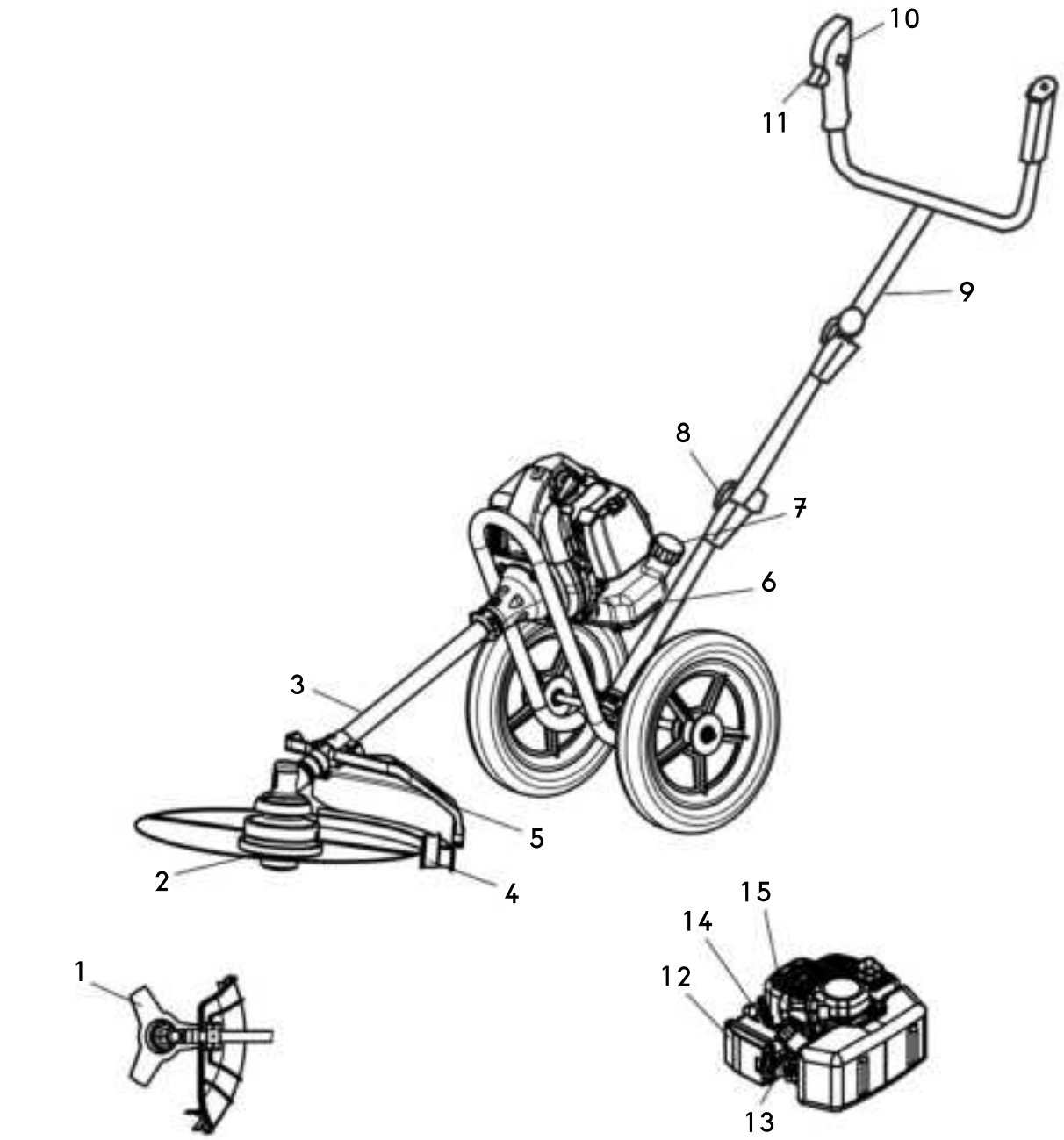
Residual risks

Even if the device is used according to the instructions in this manual, certain residual dangers may remain. The following dangers may occur depending on the design and characteristics of the device:

- Operating the unit without a dust mask or protective mask can affect the lungs.
- Operating the device without hearing protection may damage hearing.
- Operating the device for a long period of time without a break can be harmful to health due to vibrations; furthermore, a poorly maintained or incorrectly operated device can be harmful to health.

Overview of the main components of the entire device

№	Name	№	Name	№	Name
1	Blade	**6**	Fuel tank	**11**	Throttle lever
2	Nylon cutting head	**7**	Fuel-tank cap	**12**	Air filter cover
3	Drive-shaft assembly	**8**	Locking screw	**13**	Purge bulb
4	Knife	**9**	L-shaped handle	**14**	Throttle
5	Protective shield	**10**	Ignition switch	**15**	Starter handle



Tools: socket spanner (19); hexagon spanner (4/5), open spanner (8–10)

Information on individual components

- Blade **(1):** Disc blade for cutting back grass, weeds, or bushes. Shield and handle must be attached for operation!
- Nylon cutting-thread head **(2):** contains a replaceable nylon thread that moves forward when the head touches the ground at normal working speed.
- Drive-shaft assembly **(3):** contains a specially designed flexible drive shaft with bushing.
- Blade **(4):** cuts the nylon thread to the correct length (approx. 18 cm or 7″) if the cutting head is tapped lightly on the floor during operation so that more nylon thread is dispensed; operation without the blade causes the nylon thread to be too long, the speed to be reduced, and the device to overheat or be damaged.
- Protective shield **(5):** is placed directly above the cutting tool; protects the operator by keeping off the pieces produced during cutting. – Do not operate the device without a protective shield!
- Fuel tank **(6):** contains fuel and fuel filter.

- Locking screw **(8):** attach the handle in such a way that it can be held comfortably, then lock it with the screw.
- L-shaped handle **(9):** can be adjusted as desired for more comfortable operation.
- Ignition switch **(10):** slide switch mounted on top of the throttle lever housing; move the switch to the RIGHT to STOP, to the LEFT to START.
- Throttle lever **(11):** device returns to idle mode when lever is set to the right. To accelerate, move it slowly to the left.
- Air filter cover **(12):** contains a replaceable felt element.
- Purge bulb **(13):** press 7–10 times before starting; pressing removes air and stale fuel from fuel and feeds fresh fuel to carburettor.
- Choke **(14):** located on the filter cover; pull up the lever to close choke for COLD START, press down to RUN.
- Starter handle **(15):** pull until the engine starts, then let return slowly and with care. DO NOT let go, otherwise, the starter is damaged.

Technical specifications

	Model	**ST430**	**ST520**
Main device	**Drive type**	Automatic centrifugal clutch; spiral bevel gear; drive shaft	
	Max. Speed of the gearbox/motor (rpm)	8500/10,500	
	Idle speed (rpm)	2350–2900	
	Vibration value at each handle (m/s²)	≤ 7.5	
	Noise pressure level L_{PA} (dB (A))	≤ 104	
	Sound power level L_{WA} (dB (A))	≤ 120	
	Reduction	22:17	
	Direction of rotation of the blade	Counter-clockwise (seen from above)	
	Empty weight (kg)	12.8	
Motor	**Motor designation**	1E40F-E	1E44F-E
	Type	Air-cooled 2-stroke petrol engine with vertical piston valve	
	Displacement (mℓ)	42.7	51.7
	Max. power (kW / min)	1.25 / 7500	1.4 / 7000
	Tank volume (ℓ)	1.2	
	Empty weight (kg)	4.2	
	Carburettor	Diaphragm	
	Ignition	Contact-free electronic ignition	
	Starting procedure	Pull starter	
	Fuel	Petrol-oil mixture (30:1)	

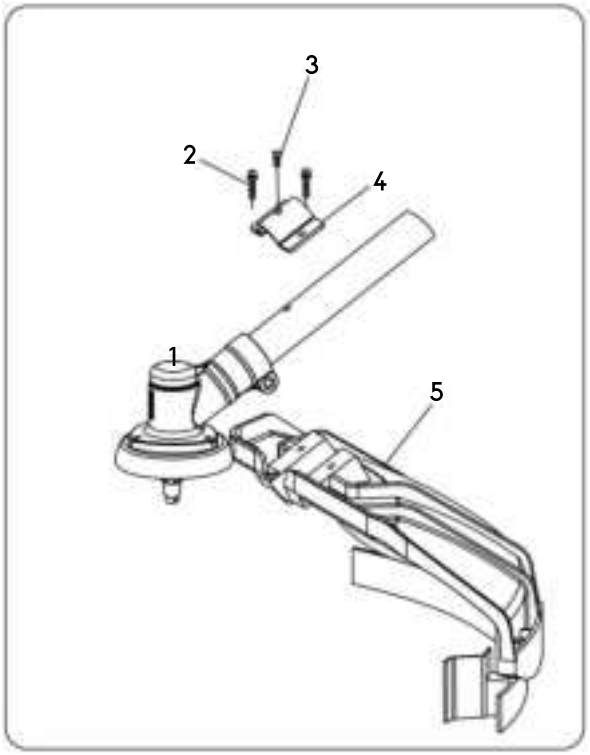
Assembly

ATTACHING THE ENGINE AND DRIVE SHAFT

Attach the motor and drive shaft to the stand and tighten the four M6×25 screws **(1).**

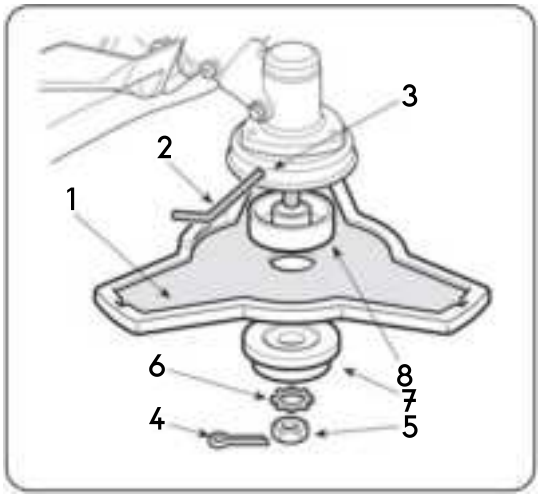
ATTACHING THE SHIELD

Attach the protective shield **(5)** to the drive shaft by fastening it with the bracket **(4)** and screws **(3, 4)** (**1** = drive housing). Tighten the screws firmly when the bracket is in the correct position.



ATTACHING THE BLADE

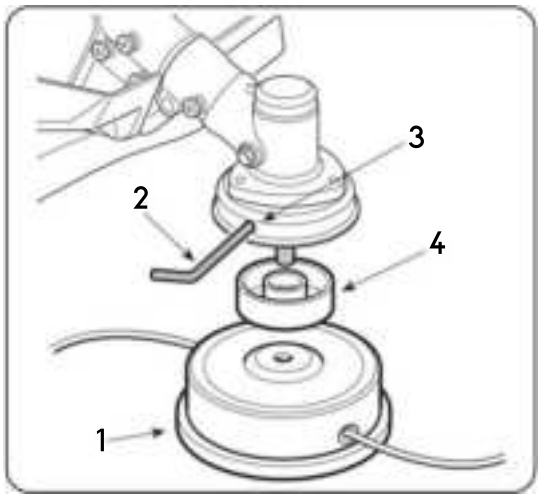
Insert the hexagon spanner **(2)** into the corresponding hole in the transmission unit **(3),** then turn the blade by hand until the hexagon spanner snaps into the inner hole and makes further turning impossible. Remove the split pin **(4)** and unscrew the nut **(5)** clockwise. Pull out the washer **(6)** and the outer nut disc **(7)** and remove the blade **(1).** Make sure that the groove of the inner nut disc is aligned with the transmission unit. Refit the blade and the outer nut disc. Refit the washer and nut and turn them anti-clockwise to tighten. Replace the split pin and bring the two ends together. Remove the hexagon spanner again.



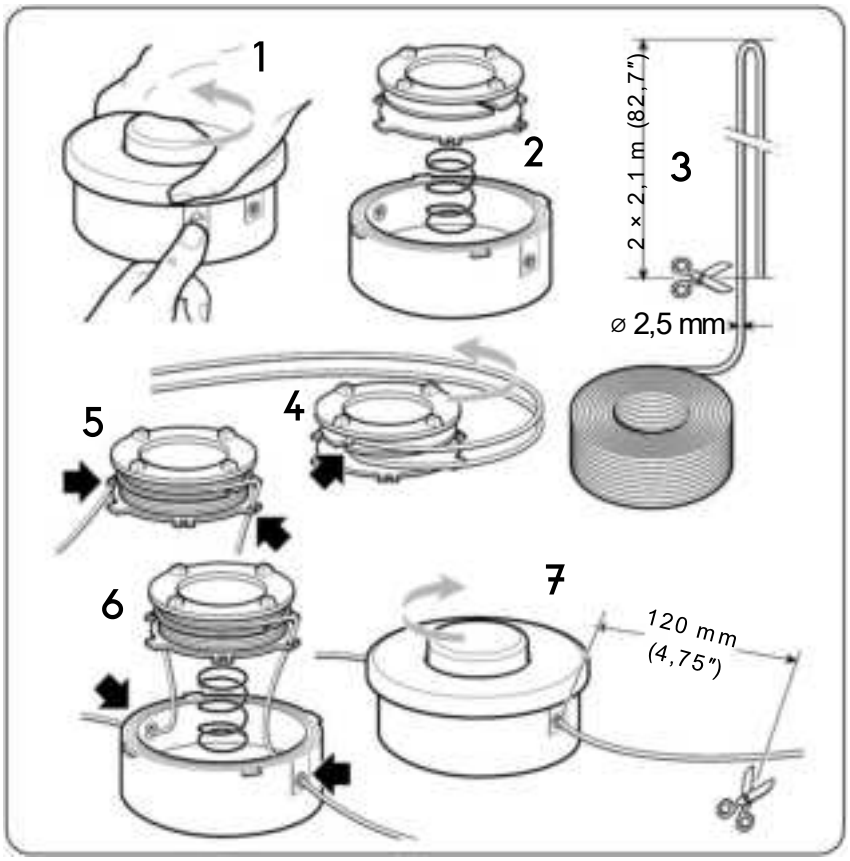
WARNING! CAUTION! EXCESSIVE VIBRATIONS – SWITCH OFF THE ENGINE IMMEDIATELY! – Excessive vibration of the blade indicates that it is not properly installed. Stop the engine immediately and check the blade. An improperly installed blade can cause injury. Use only original parts when servicing the device.

ATTACHING THE NYLON-THREAD HEAD

Insert the hexagon spanner **(2)** into the corresponding hole in the transmission unit **(3),** then turn the nylon-thread head **(1)** by hand until the hexagon spanner snaps into the inner hole and makes further turning impossible. Make sure that the groove of the inner nut disc **(4)** is aligned with the transmission unit. Now tighten the nylon thread head by turning it anti-clockwise. Remove the hexagon spanner again.



REPLACING THE NYLON-THREAD HEAD



ATTENTION! The hook should be on the right-hand side. The quick-release tab should point outwards. — Before starting the device, check that the belt is in perfect condition. If a dangerous situation arises, pull the quick-release tab immediately!

Oil and fuel level

WARNING! Never fill the fuel tank to the brim.

- Never fill fuel into the tank in a closed, unventilated area.
- Do not fill the device near an open fire or sparks.
- Be sure to wipe off any spilled fuel before attempting to start the engine.
- Do not try to refuel a hot engine.
- Keep children away from the fuel!

Fuel

- Use automotive petrol for this model (preferably unleaded or low-lead petrol to reduce deposits in the combustion chamber). Never use dirty petrol. Dirt, dust, or water must be prevented from entering the tank.
- If you want to use petrol containing alcohol (alcohol fuel, gasohol), make sure that its octane rating is high enough. There are two types of alcohol fuels, those containing ethanol and those containing methanol. Do not use fuel containing methanol that does not also contain cosolvents and corrosion inhibitors intended for methanol. Never use petrol with more than 5 % methanol, even if it contains cosolvents and corrosion inhibitors.

ATTENTION! Petrol containing alcohol can cause damage to the fuel system or loss of performance. These faults are not covered by the warranty. We cannot expressly recommend the use of fuels

containing methanol, as their suitability has not yet been conclusively established. — Before you buy fuel from a petrol station that you are not familiar with, first find out if it contains alcohol. If so, have the type of alcohol and the alcohol content confirmed. If you notice that you are experiencing difficulties with the device when using petrol that (probably) contains alcohol, switch to petrol that certainly does not contain alcohol.

Fuel storage

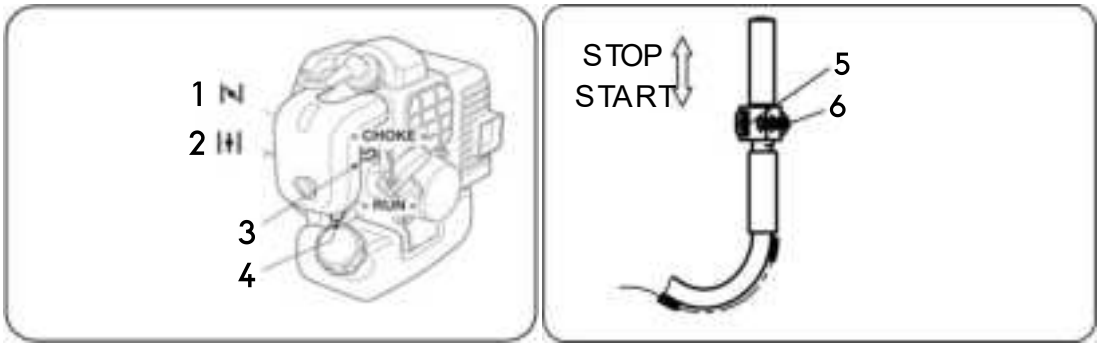
Store fuel only in a clean, safe, and approved container. Check and follow local ordinances on the type and location of the storage container.

Commissioning

Preparing the commissioning

- Check the device for loose screws, nuts, and fittings.
- Check the air filter for dirt. Clean any dirt, etc. from the air filter before operation.
- Make sure that the protective shield is firmly in place.
- Make sure that no fuel leaks out.
- Make sure that the blade is not cracked.

Starting and stopping the engine



№	Name	№	Name
1	Throttle close	**4**	Primer pump
2	Throttle opened	**5**	Ignition switch
3	Throttle	**6**	Throttle lever

Starting a cold engine

1. Set the stop switch to “START.”
2. Press the primer pump 7–10 times until fuel flows in.
3. Set the throttle lever to “throttle closed” **(1).**
4. Move the accelerator and hold it.
5. Pull the starter handle until the engine false starts.
6. Push the throttle lever inwards (excessive cranking with choke will stall the engine and make it difficult to start). If you have flooded the engine, remove the spark plug and carefully pull the starter handle to remove excess fuel. Then dry the electrodes of the spark plug and reinsert the plug).
7. Pull the starter handle until the engine starts.
8. When the engine is running, set the throttle lever to “throttle open” **(2).**
9. Allow the motor to warm up for a few minutes before operating the device.

Starting a warm engine

- Set the throttle lever to “throttle closed.”

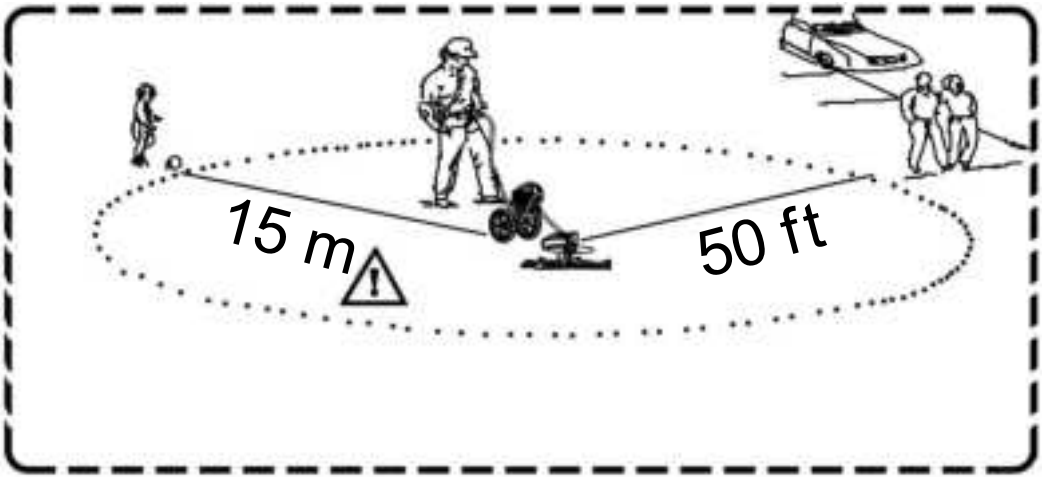
- If the fuel tank has not run dry, pull the starter one to three times – the engine should start.
- If the fuel tank has run dry, follow steps 1, 2, and 7 of the procedure for starting a cold engine.

Turning off the engine

- Release the accelerator and leave the device idling for a few seconds.
- Set the switch to “STOP.”

Working position

- Hold the device by the handle with both hands. Hold it in such a way that it is comfortable for you to guide the device. The device should be held at about hip height. Stand in such a way that you cannot be thrown off balance by the device starting up or running or by a kickback.
- You should always use the strap with the device to have as much control over the device as possible and to reduce the risk of fatigue in your arms and back as much as possible.
  – Put the strap on.
  – Hang the machine on the hook of the harness holder.
  – Adjust the length of the belt so that the support hook is approximately at the level of your right hip.



DANGER ZONE!

NO ONE OTHER THAN THE USER IS ALLOWED WITHIN THE DANGER ZONE THE USER MUST PUT ON EYE, EAR, FACE, FOOT, LEG, AND BODY PROTECTION. OTHER PERSONS WITHIN THE DANGER ZONE OR IN THE IMMEDIATE VICINITY SHOULD WEAR EYE PROTECTION. THE DANGER DECREASES AS THE DISTANCE TO THE DANGER ZONE INCREASES.

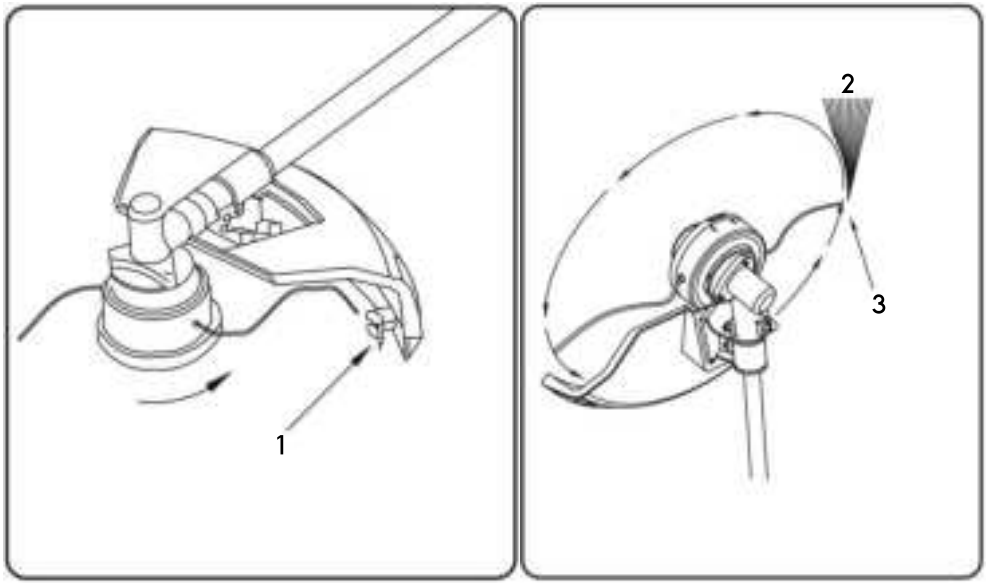
Operation

Cutting with the nylon-thread head

- The nylon-thread head rotates counter-clockwise. The knife is on the right-hand side of the protective shield.
- For almost all cutting operations, the nylon-thread head should be held at an angle so that the thread comes into contact with the plants to be cut in its circular movement where it moves away from them and the protective shield (see illustration). This throws objects that you may have overlooked away from you.

DANGER!

- When cutting with the nylon thread, the protective shield with knife must also be attached. If the thread is too long, it may flutter around.
- If the nylon-thread head is tilted in the wrong direction, fragments will be thrown towards you. This also happens when you hold the head flat so that the rotating thread cuts in its entire circle. This will reduce the turning speed and consume a lot of thread.
- Only use a high-quality nylon thread consisting of a monofilament with a diameter of 2.5 mm. Only use nylon thread with the specified diameter. Never use wire or wire-reinforced thread instead of nylon cutting thread.
- Be very careful when working on bare ground or gravel. The nylon thread can throw up stones and splinters at high speed. The protective shield cannot stop objects bouncing off hard surfaces.



№	Description	№	Description
1	Knife on left	3	Cut here
2	Direction in which objects are projected		

TRIMMING

- The device is carefully guided into the plants that you wish to cut. Tilt the nylon-thread head slightly so that pieces projected are thrown away from you.
- If you are cutting close to an obstacle such as a fence, wall, or tree, approach this obstacle at an angle so that any pieces thrown off do not fly towards you.
- Continue to move the nylon-thread head slowly until the grass has been cut back to just before the obstacle. However, do not lead the thread into the obstacle.
- If you are cutting close to a wire mesh fence, make sure to keep a sufficient distance so that the thread does not get caught in the mesh.
- You can also cut directly through several weed stems at the same time. To do so, hold the head close to the ground where the weeds emerge from the soil, but not in the tips of the weeds, otherwise they will wrap themselves around the thread. It is best to cut the stems slowly with the end of the thread.

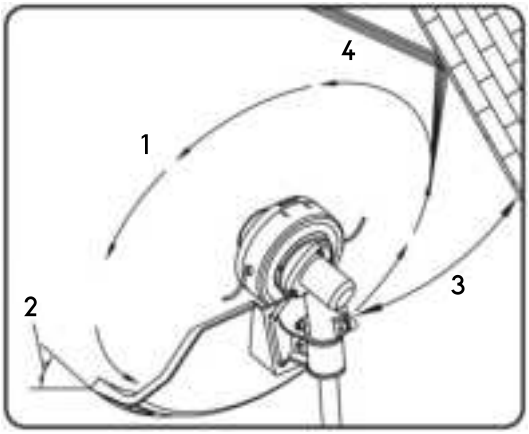
Cutting free and trimming edges

- Both cutting processes are carried out with the cutting head at a steep angle. Trimming means that vegetation is completely removed and the soil exposed.
- Edge cutting means cutting away grass that has grown over a pavement or driveway.

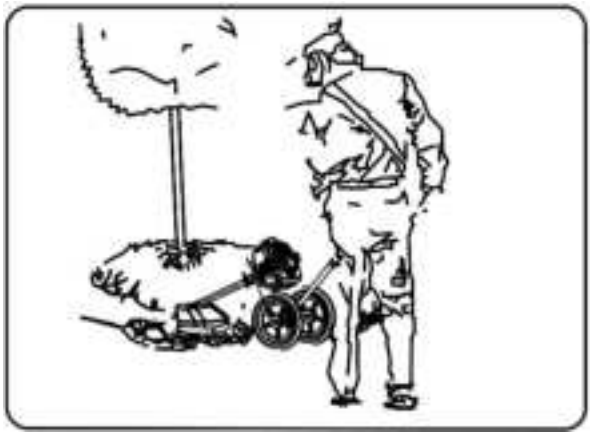
- With both methods, the device should be held at a steep angle, which also ensures that cut pieces, stones, etc. are not thrown towards you, either by the cutting itself or by bouncing off a hard surface.
- The working position shown is for orientation purposes only. Each user must try out the posture that suits his or her size and the respective application.

DANGER!

- Never cut in an area where there are strands or loose fence wires. Wear protective equipment.
- Never cut in an area where you cannot see what is being cut.
- Do not use the metal blade for edge trimming or cutting.



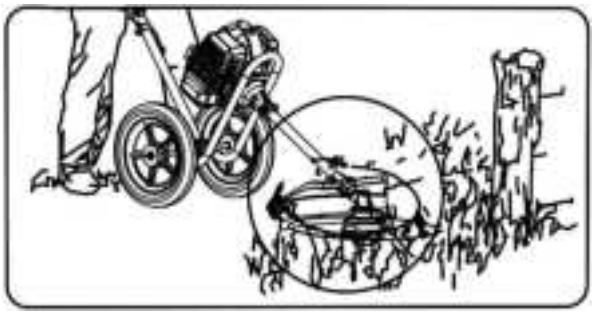
TRIMMING



CUTTING FREE

№	Explanation	№	Explanation
1	Side with knife lifted	**3**	Angle to wall
2	Angle to ground	**4**	Fragments projected

CUTTING EDGES



AVOID WIRES

Cutting with blade

There are different types of blades. The most commonly used are

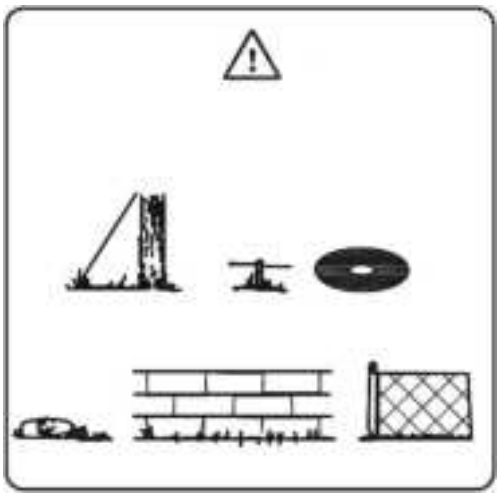
- brush-cutting blade: used for cutting back bushes and weeds with a max. diameter of approx. 2 cm (¾″). Only the CG420–2 blade with 3 teeth and a diameter of 255 mm can be used with this device.

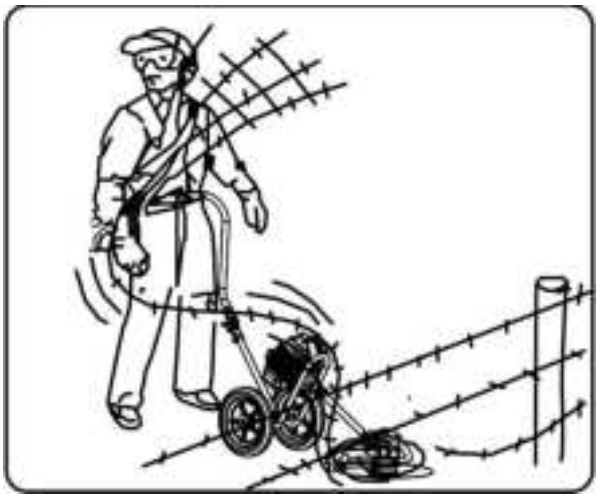
DANGER!

- Do not touch fences, fence wires, posts, rubber objects, stones, or walls with the blade.
- Do not prune trees with the blade.
- Do not use a blunt, cracked, or otherwise damaged blade.
- Before cutting, first search the area for objects, e.g., metal posts or pieces of wire. If an obstacle cannot be removed, mark it so that you can avoid it when cutting. If the blade hits stones or metal, it becomes blunt or is damaged. Wires can wrap around the blade or be thrown upwards.

Kickback

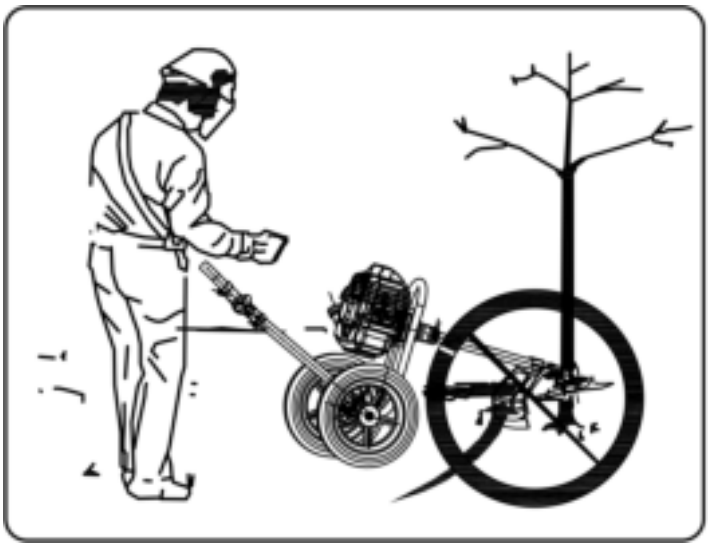
Blade kickback is a movement occurring when the blade strikes an object that it cannot cut through. This can cause the blade to pause briefly and cause the device to move in the opposite direction. Under certain circumstances, this movement can be so violent that the user can no longer control the appliance. This can happen without warning if the blade hits something that it bounces off or gets stuck in. This happens more often in an area where the user cannot see what he is cutting. For easy and safe cutting, step towards the grass from right to left if an unexpected object, branch, or similar could be thrown up. This could mitigate the kickback.





Using the device like a scythe

- The device is used like a scythe by moving it back and forth through the vegetation to be cut. This means that large areas with grass or weeds can be cut free quickly. However, no large or tough weeds or woody plants should be cut back in this way.
- Do not cut plants with a diameter between ½″ and ¾″ with a blade for trimming bushes.
- You can scythe grass in both directions or only in one direction. However, you must make sure that any pieces thrown up fly away from you. To make sure this, the side of the blade that turns away from you is used for cutting. Slightly tilt the blade on this side. There is a risk that you will be hit by pieces thrown up when scything in both directions.



Maintenance and care

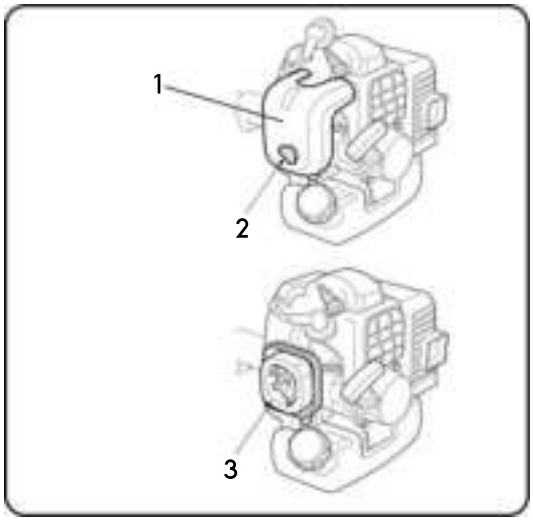
- The cutting attachment must not move when the device is idling. If this is not so, the coupling must be adjusted or the device must be serviced by a specialist.
- The user may carry out the settings and repairs described here. Other repair work must be carried out by a specialist.
- Inadequate or incorrect maintenance can lead to carbon deposits or a loss of performance. Furthermore, black oil residue may drip from the muffler.
- Ensure that all safety devices and handles are properly fitted to avoid the risk of injury.

Exhaust port and muffler

Depending on the type of fuel used, the type and amount of oil used, and/or your operating conditions, the exhaust port and muffler may become clogged with carbon deposits. If you notice a loss of performance, you should consult a specialist who will remove these deposits and restore the device to its original performance.

Air filter

- Dust accumulated in the air filter reduces the engine performance, increases fuel consumption, and allows abrasive particles to enter the engine. Remove the air filter as often as necessary to keep it clean.
- Surface dust can be easily removed by tapping the filter. Heavy deposits should be washed out with a suitable solvent.
- Remove the filter cover **(1)** by loosening the air filter cover knob **(2).** (**3** = filter net)

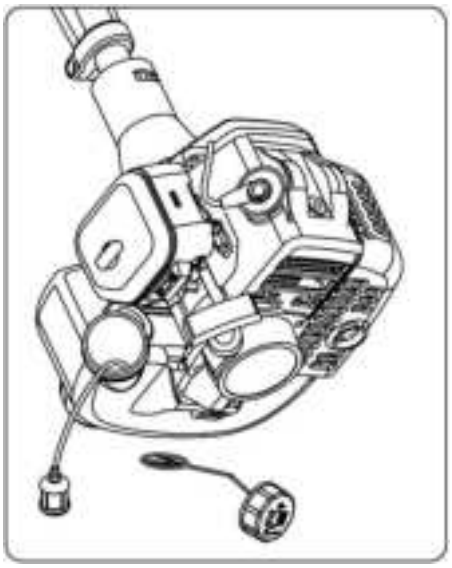


Adjusting the carburettor

Note! Only adjust the carburettor when necessary. If you have problems with the carburettor, contact a specialist workshop. Improper adjustment may cause engine damage and invalidate the warranty.

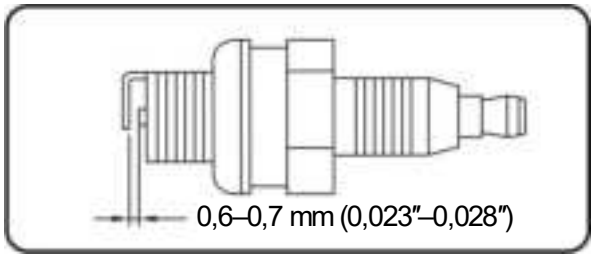
Fuel filter

- The fuel tank is equipped with a filter. The filter is located at the free end of the fuel line and can be pulled out through the fuel connection with a piece of hook wire or similar.
- Check the fuel filter regularly. Make sure that no dust gets into the fuel tank. A clogged filter will cause difficulty in starting the engine or deviations in engine performance.
- If the filter is dirty, replace it.
- If the inside of the fuel tank is dirty, you can clean it by flushing it out with petrol.



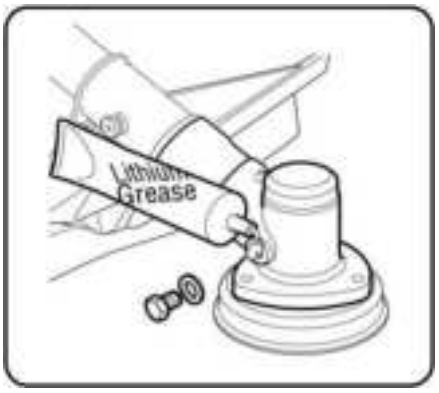
Checking the spark plug

- Do not attempt to remove the spark plug cap from a hot engine to avoid possible damage to the thread.
- Clean or replace the spark plug if it is soiled by heavy oily deposits.
- Replace the spark plug when the centre electrode has become round at the end.
- Spark gap 0.6–0.7 mm
- Torque 14–15 Nm



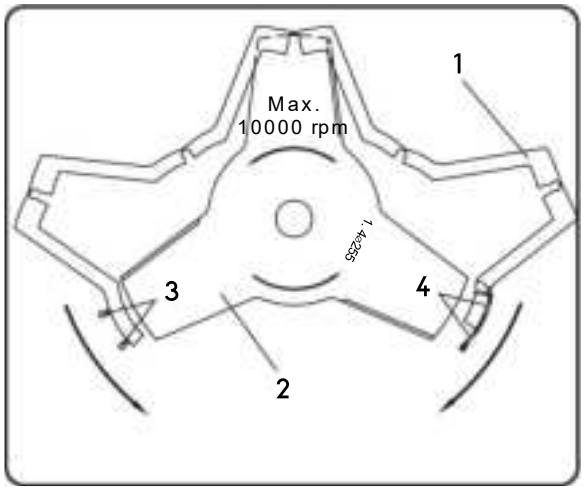
Bevel gear

- The correct amount of grease must be added after 40–50 working hours.
- Remove the screw, fill with lithium grease, and move the shaft by hand until grease comes out.
- Replace the washer and the screw.



Transport

- The engine should be switched off when moving the device between work areas.
- After the engine has been switched off, the muffler is still hot. Never touch hot components such as the muffler.
- Make sure that no fuel has leaked from the tank.
- If the device is to be transported in a vehicle, wait until it has cooled down, empty the fuel tank, remove the cutting attachment, pack it so that it does not pose a hazard, and lash the device in the vehicle. Use a blade guard when the blade is attached!
- To attach the blade guard, open it, slide it onto the blade, and insert the locking pin into the groove.



№	Name	№	Name
1	Blade guard	**3**	Nut
2	Blade	**4**	Pin

DANGER!

- Always fit the blade guard when the device is not in use.
- Remove the blade guard before each use, otherwise it could be thrown off the device when the blade starts to run.

Storage

- Check, clean, and repair the device as necessary.
- Remove all the fuel from the tank.
- Start the engine – this will use up all the fuel in the fuel line and carburettor.
- Remove the spark plug and put a teaspoon of clean engine oil into the spark-plug hole of the cylinder – reinsert the spark plug.
- Store in a clean, dry, and dust-free place.

WARNING! DANGER! Do not store the product in an enclosed area where fuel vapours can reach an open flame from water heaters, heaters, stoves, etc. Store it only in a closed, well-ventilated area.

Troubleshooting

Malfunctions such as starting difficulties, irregularities in operation, and performance deviations can usually be avoided if you carefully follow all operating instructions and maintenance procedures. If the motor does not work properly, check if

- the fuel system is in good condition and the fuel flows to the engine.
- the ignition system is in good condition and the spark plug ignites correctly.
- the compression of the engine is sufficient.

False start

- Dispose of the fuel in the tank.
- Make sure that the fuel is fresh and clean.
- Check the fuel filter to make sure that it is clean (replace the filter if necessary).
- Make sure that the air filter elements are clean.
- Install a new spark plug with the correct spacing.
- If you have a serious problem with the device, do not attempt to repair it yourself, but leave it to an expert.

Problem				Possible cause	Solution
Cylinder-compression pressure normal	Spark-plug spark normal	Deviation in the fuel system		No fuel in tank	Fill fuel into the tank.
				Fuel filter clogged	Clean fuel filter.
		Fuel system normal	Fuel	Fuel too dirty	Replace fuel.
				Water in fuel	Replace fuel.
				Too much fuel in the cylinder	Remove spark plug and allow to dry.
				Incorrect mixing ratio	Change mixture.
	Fuel system normal	Spark from high-voltage wire normal	Spark-plug connector	Spark plug contaminated with oily deposits	Remove oily deposits.
				Damage to spark-plug insulation	Replace spark plug.
				Spark gap too large or too small	Adjust spark gap: 0.6–0.7 mm.
		Deviation with sparks from high-voltage wire		High-voltage wire broken or torn off	Replace or retighten.
				Loose coil	Retighten.
Fuel system normal	Ignition system normal	Insufficient compression pressure		Worn piston ring	Replace.
				Broken piston ring	Replace.
				Stuck piston ring	Remedy.
				Loose spark plug	Retighten.
				Leakage in crankcase	Remove.
		Compression normal		Poor contact between high-voltage wire and spark plug	Tighten spark-plug cap.
				Failure of stop switch or short circuit	Repair or replace.

Low performance

Problem	Possible cause	Solution
Flame break on acceleration, thin smoke, carburettor discharge backwards	Fuel filter clogged	Clean fuel filter.
	Not enough fuel	Clean fuel line.
	Muffler soiled by oil deposits	Adjust carburettor, remove oily deposits.
Insufficient compression pressure	Piston	Replace piston.
	Piston ring	Replace piston ring.
	Worn cylinder	Replace cylinder.
Leakage from engine	Leakage in crankcase	Repair.
Leakage from one end of crankshaft	Incorrect gasket	Replace gasket.
	Engine overheating	Do not use for a long time at high speed and high load.

	Combustion chamber contaminated with oily deposits	Clean, remove.

Engine runs unevenly

Problem	Possible cause	Solution
Knocking noises in the engine	Wear on piston, piston ring, cylinder, piston pin, crankshaft bearing	Replace worn component.
Metallic knocking noises	Engine overheating	Do not use for a long time at high speed and high load.
	Combustion chamber contaminated with oily deposits	Clean, remove.
	Petrol used unsuitable	Replace with suitable petrol.
Engine ignition abort	Water in fuel	Replace fuel.
	Wrong spark gap	Adjust spark gap: 0.6–0.7 mm.
	Coil gap wrong	Adjust gap. 0.3–0.4 mm.

Engine stops suddenly

Possible cause	Solution
Fuel consumed	Add fuel.
Spark plug contaminated with oily deposits and short circuit	Replace.
High-voltage wire dropped	Reconnect.

Important note:

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