Operating instructions

4-in-1 Multi Gardening Tool with 2-stroke Motor





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
\triangle	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.
	Cutting device	Do not touch the tool without first switching off the motor.
15m(50FT)	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.
15 m (50ft)	Keep a distance from high-voltage power lines	Always keep a minimum distance of 10 m between the device and a high-voltage line and/or objects touching it.
	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.
∮ x5	_	Press the primer button all the way down 5 times and release it again.
CE	_	All relevant directives that apply to CE marking and the product are fulfilled.
	_	Wear eye, ear, and head protection when operating this device.
entiunitae,	_	To reduce the risk of injury or damage, avoid contact with any hot surface.
Lw.s	_	Guaranteed sound power level
	Pay attention to the kickback of the blade	The blade continues to move after the trunk has been cut.
	_	Danger from fire/flammable materials
	_	Do not use serrated cutting blades.

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.
- Always comply with local laws and regulations governing the use of electrically powered tools.



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 nonslip 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.
- Keep the handles free from oil and fuel. Always use the right handles when cutting.
- 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!

Strap

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.

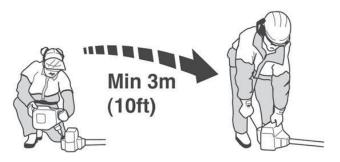
- 1. Put the strap on.
- 2. Hang the machine on the hook of the harness holder.
- Adjust the length of the belt so that the support hook is approximately at the level of your right hip.

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.
 - o 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:
 - o 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 htat 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.



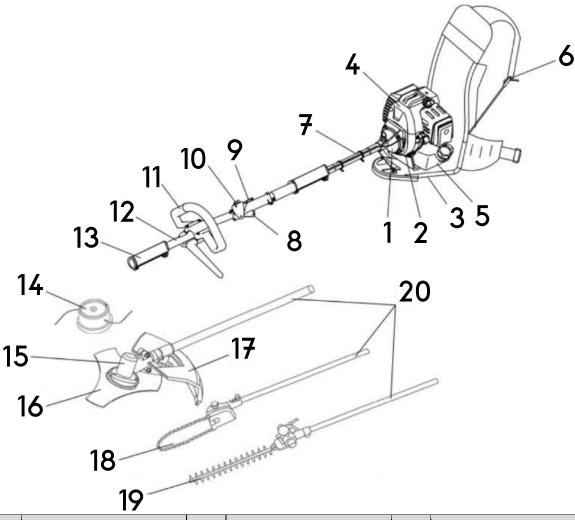


Residual risks

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



Nº	Name	Nº	Name	Nº	Name
1	Coupling housing	8	Throttle lever	15	Housing
2	Motor-socket assembly	9	Safety lever	16	Three-blade
3	Shoulder-strap connector	10	Ignition switch	17	Protective shield
4	Petrol engine	11	D-shaped handle	18	Chain saw
5	Fuel tank	12	Drive-shaft assembly	19	Hedge cutter
6	Shoulder-strap connector	13	Adaptor with knob	20	Lower drive shaft
7	Flexible-shaft assembly	14	Nylon cutting head		





Information on individual components

- Fuel tank (5): Contains fuel and fuel filter.
- Throttle lever (8): With spring, returns to idle when released. Push down gradually when accelerating; do not hold when starting.
- Safety lever (9): Press before acceleration.
- Ignition switch (10): slide switch mounted on top of the throttle lever housing; move the switch FORWARD to STOP, BACK to START.
- D-shaped handle (11): can be adjusted as desired for more comfortable operation.
- Drive-shaft assembly (12): contains a specially designed flexible drive shaft with bushing.
- Nylon cutting-thread head **(14)**: contains a replaceable nylon thread that moves forward when the head touches the ground at normal working speed.
- Triple blade (16): suitable for cutting shrubs.
- Protective shield (17): 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!

Technical specifications

	Drive type		Automatic centrifug drive shaft	al clutch; spira	al bevel gear;
	Max. Speed of the gearbox/motor (rpm)		8300		
ø	Idle speed (rpm)		3000 + 200		
Main device	Vibration values at each handle (⋒∕s)	ahveq	4.89		
in d		a _{hveq}	5.62		
Σ		K	1.5		
	Noise pressure level L _{PA} (dB (A))	•	96.2 (inaccuracy K: 3)		
	Sound power level L _{WA} (dB (A))		110.35 (inaccuracy K: 3)		
	Reduction		22:17		
	Motor designation		1E45F-5	1E44F	1E48F
	Туре		Air-cooled 2-stroke petrol engine with vertical piston valve		
	Displacement (ml)	55.7	51.7	63.3	
_	Max. power (kW / min)		1.5 / 7000	1.3 / 7000	2.0 / 7000
Motor	Tank volume (ℓ)		1.0	1.0	1.3
Š	Empty weight (kg)		4.3	4.3	4.6
	Carburettor		Diaphragm		
	Ignition		Contact-free electronic ignition		
	Starting procedure		Pull starter		
	Fuel		Petrol-	oil mixture (30:	1)

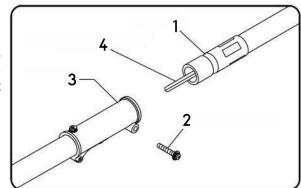




Assembly

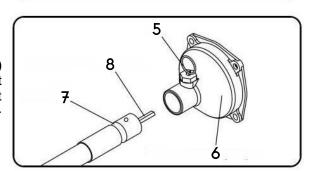
ASSEMBLING THE FLEXIBLE SHAFT AND DRIVE SHAFT

Insert the square of the flexible shaft (4) into the square hole of the adapter (3), align the screw hole of the handle and the notch (1) of the flexible shaft and tighten the $M_5 \times 30$ screw (2).



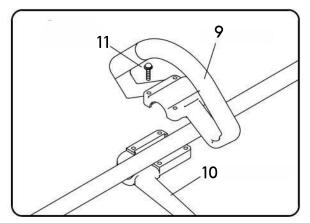
ASSEMBLING THE FLEXIBLE SHAFT AND COUPLING ASSEMBLY

Insert the square head (8) of the flexible shaft (7) into the square hole of the coupling housing (6), lift the pin (5), align the Ø7 hole of the flexible shaft and the hole of the coupling housing, and reengage the pin.



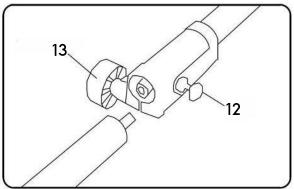
FITTING THE HANDLE

Fit the handle (9) in the holder. Put the handle in a comfortable working position and tighten the four $M5 \times 25$ screws (11) (10 = straight part of handle).



ASSEMBLING THE DRIVE SHAFT

Pull out the pin (12), connect the front and rear drive shaft assemblies, replace the pin, and tighten the handle (13).

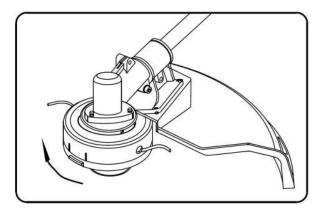






Mounting the nylon cord cutting head

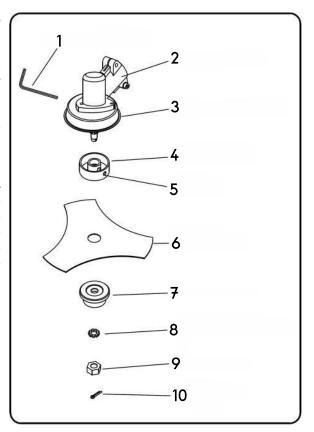
Align the hole in the connecting plate and the hole in the shaft and insert the fastening tool. Screw the cutter head onto the shaft (clockwise) until it is tight. Remove the tightening tool.



Installing the blade

Assemble the holder A (4), the triple blade (6), the holder B (7), and the toothed lock washer (8) in this order. Then clamp these parts together with a left-hand threaded nut (9). Align the hole in the gearbox housing (2) and the hole of the holder A (5) and insert a spanner (S = 4 mm) (1). Tighten the blade-fixing nut clockwise with the spanner. Then insert the 2×16 pin (10). (3 = protective guard)

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.



Fuel-oil mixture



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.





Mixture and mixing ratio

- This model uses a fuel mixed from unleaded petrol and approved engine lubricant. When mixing
 petrol with two-stroke engine oil, use only that which does NOT contain ETHANOL or METHANOL (types of alcohol). Use high-quality unleaded brand petrol with 89 octane or more. This will
 prevent possible damage to the fuel lines and other parts of the engine.
- Do not mix the fuel in the tank first.
- THE MIXING RATIO IS 40:1 40 PARTS PETROL : 1 PART OIL! Fuel mixtures with a ratio other than 40:1 can damage the engine. Make sure that the mixing ratio is correct.
- Two-stroke fuel mixtures can separate. Shake the fuel tank thoroughly before each use. Stored fuel ages. Do not mix more fuel than you expect to consume within a month. If the fuel mixture has been stored for a longer period, it should be removed and a new mixture filled in.

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

Starting a cold engine

- 1. Set the stop switch to "START."
- 2. Set the petrol tap "ON."
- 3. Pull the lever up to close the choke.
- 4. Pull the starter until the engine misfires.
- 5. Push the choke lever inwards (excessive cranking with choke will stall the engine and make it difficult to start).
- 6. Pull the starter handle until the engine starts.
- 7. Let the engine warm up for a few minutes before using it.

Starting a warm engine

If the fuel tank has not run dry, pull the starter motor one to three times and the engine should start.

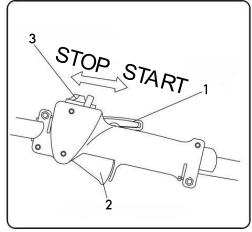
Do not use throttle

If the fuel tank was empty, repeat steps 3 to 7 under "Starting a cold engine" after refilling.

Turning off the engine

Set the switch to "STOP."





Nº	Name	Nº	Name
1	Safety lever	3	Stop switch
2	Throttle lever		

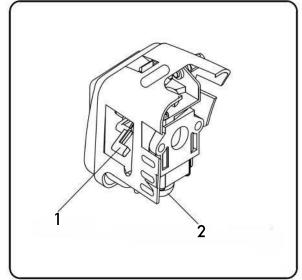
Maintenance and care

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 by loosening the air filter cover knob (2). (1 = choke)

Adjusting the carburettor

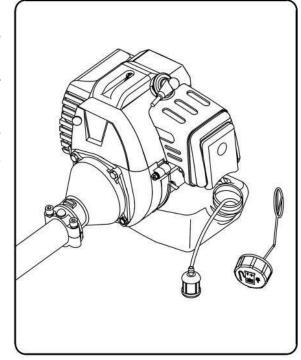
Note! Only adjust the carburettor when necessary. If you have problems with the carburettor, contact a specialist workshop. Improper adjustment may cause engine damage and invalidate the warranty.





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.

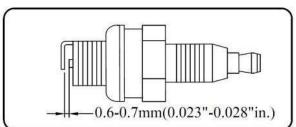


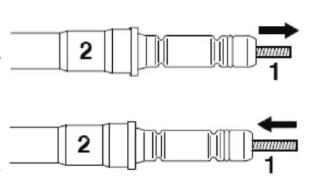
Checking the spark plug

- 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
- Tightening torque 145–155 Kg.cm

Lubricating the flexible shaft

- Check the lubricating film approximately every 10 operating hours. Remove the flexible shaft from the coupling housing. Pull the shaft (1) out of the protective tube (2) and note the installation position.
- When the shaft has turned blue, insert a new one.
- Reinsert the flexible shaft (1) into the protective tube (2) turn it 180° from the original installation position and push it in as far as it will go.
- Insert the flexible shaft into the coupling housing – turn the shaft back and forth at the same time.









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.

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- compres- sion pres- sure nor- mal	Spark- plug spark nor- mal	Deviation in the fuel system		No fuel in tank	Fill fuel into the tank.
				Fuel filter clogged	Clean fuel filter.
		tem nor-	Fuel	Fuel too dirty	Replace fuel.
		mal		Water in fuel	Replace fuel.
				Too much fuel in the cylinder	Remove spark plug and allow to dry.
				Incorrect mixing ratio	Change mixture.
	_		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.
				High-voltage wire broken or torn off	Replace or retighten.
				Loose coil	Retighten.
Fuel sys-	Ignition	sion pressure Compression normal		Worn piston ring	Replace.
tem nor- mal	system normal			Broken piston ring	Replace.
mai				Stuck piston ring	Remedy.
				Loose spark plug	Retighten.
				Leakage in crankcase	Remove.
				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	Fuel filter clogged	Clean fuel filter.	
smoke, carburettor discharge backwards	Not enough fuel	Clean fuel line.	
	Muffler soiled by oil deposits	Adjust carburettor, remove oily deposits.	
Insufficient compression pres-	Piston	Replace piston.	
sure	Piston ring	Replace piston ring.	
	Worn cylinder	Replace cylinder.	
Leakage from engine	Leakage in crankcase	Repair.	
Leakage from one end of crank- shaft	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	Clean.
High-voltage wire dropped	Reconnect.

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