

COBRA

MODELS: BCX230C / BCX370CU



ASSEMBLY & OPERATING INSTRUCTIONS

BCX230C (PNB230) / BC370CU (PNB370)

CONTENTS

ENGINE PART

BRUSH CUTTER

Attention Statements

Throughout this manual are special attention statements.



DANGER!

A statement preceded by the triangular attention symbol and the word "DANGER" indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury!



DANGER!

A statement preceded by the triangular attention symbol and the word "WARNING" indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury!

CAUTION!

A statement preceded by the word "CAUTION" contains information that should be acted upon to avoid damage to the machine.

IMPORTANT!

A statement preceded by the word "IMPORTANT" is one that possesses special significance.

NOTE:

A statement preceded by the word "NOTE" contains information that is handy to know and may make your job easier.

Safety Precautions

IMPORTANT!

The information contained in these instructions describes components available at the time of publication. While every attempt has been made to provide the latest information about your product, there may be some differences between your attachment and what is described here. We reserves the right to make changes to products without prior notice and without obligation to make alterations to components previously manufactured.

The procedures described in this manual are intended to help you get the most from your machine as well as to protect you and others from harm. These procedures are guidelines for safe operation under most conditions, and are not intended to replace any safety rules and/or laws that may be in force in your area.

If you have questions regarding your power tool, or if you do not understand something in this manual, your local dealer will be glad to assist you.

Operating Precautions



read and follow this manual, make sure anyone using the trimmer does likewise. Failure to do so could result in serious personal injury or machine failure. Keep this manual for future reference.



Never operate this tool or any other power equipment if you are tired, ill, or under the influence of alcohol, drugs, or any substance that could affect your ability or judgement.



Always wear a hard hat to reduce the risk of head injuries during operation of this machine. In addition, always wear eye and hearing protection. We recommend wearing a face shield as additional face and eye protection.



Keep bystanders at least 15 meters (50 feet) away from the operating trimmer to reduce the risk of being struck by falling objects or thrown debris.



Wear non-slip heavy-duty gloves to improve your grip on the trimmer handle. Wear sturdy footwear with non-slip soles to provide good footing. Steel-toes safety boots are recommended. Wear snug-fitting clothes that also permits freedom of movement.

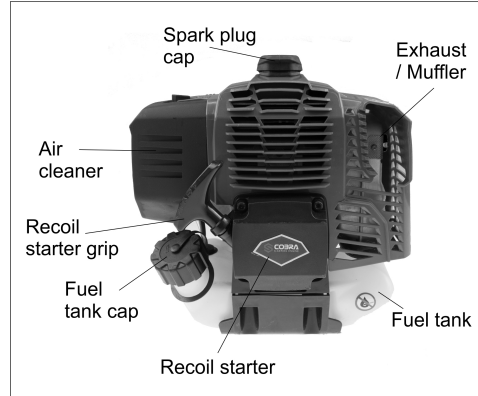
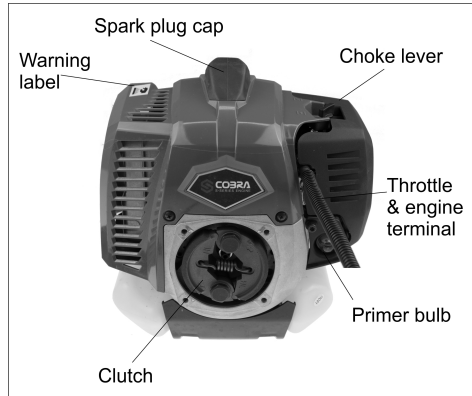
Operating Precautions



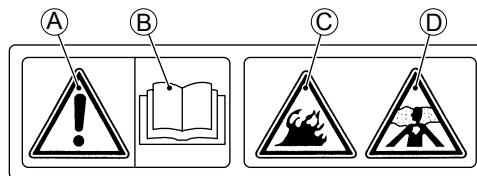
WARNING!

- Never permit a person without training or instruction to operate this machine.
- Always make sure the cutter attachment is properly installed and firmly tightened before operation.
- Never use a cracked or damaged equipment, check, replace or repair before use.
- Before starting the engine, make sure the cutter is clear of all objects.
- Always stop the engine immediately and check for damage if you strike a foreign object or if the machine becomes tangled. do not operate with broken or damaged equipment.
- Stop the machine immediately if it suddenly begins to vibrate or shake. Inspect for broken, missing or improperly installed parts or attachments.
- Keep the trimmer away from excessive heat. Engine fuel is very flammable and fire could lead to serious personal injury or property damage.
- Never operate this machine or other power equipment if you are tired, ill, or under the influence of alcohol, drugs, or any other substance that could affect your ability of judgement. Do not operate the trimmer with the muffler removed.
- Make sure there is always good ventilation when operating the trimmer. Fumes from engine exhaust can cause serious injury or death. Never run the engine indoors!
- Make sure there are no missing or loose fasteners, and that the stop switch and throttle controls are working properly
- If a cutter should bind fast in a cut, shut off the engine immediately.
- Make sure of no fuel leaking from Fuel tank, fuel cap, Fuel pipe and carburetor and other parts which fuel may leak. Repair the machine if fuel leaking, make sure no leaking again.

1. LOCATION OF PARTS :



Warning Label



A: WARNING

B: The Owner's manual contains important information on safe operation. Read it before operating engine.

C: Gasoline is extremely flammable and explosive.

Stop engine before refueling.

D: Exhaust gas contains carbon monoxide, an odorless and deadly poison. Do not run Engine in an enclosed area.

2

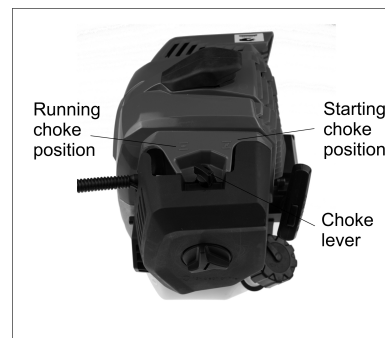
Lever type

Engine Serial Number Label

Engine Serial Number:

The engine serial number is the only means of identifying your particular engine from others of the same model type.

This engine serial number is needed by your dealer when ordering parts.



2. FUEL AND OIL RECOMMENDATIONS :

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions, creating the potential for serious burns. Turn the ignition switch to "OFF". Do not smoke. Make sure the area is well-ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light. Never fill the tank completely to the top. If the tank is filled completely to the top, heat may cause the fuel to expand and overflow through the vents in the tank cap. After refueling, make sure the tank cap is closed securely. If gasoline is spilled on the fuel tank, wipe it off immediately.

NOTICE

Running on gasoline only will cause the engine to seize. Use gasoline-oil mixture.

Cobra 2-stroke engine requires a gasoline-oil mixture.

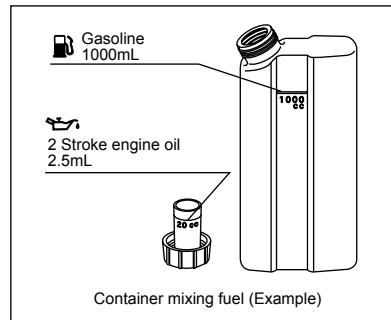
Gasoline and engine oil mixing ratio:
40:1
(Petrol 40, 2-stroke engine Oil 1)

NOTICE

Do not use any fuel that contains more ethanol or other oxygenates than specified for E10 fuel* in this engine. Damage to the engine and fuel system, or engine starting and/or performance problems may result from the use of improper fuel.

* E10 means fuel containing up to 10% ethanol as specified by European directive.

Pour the 2-stroke engine oil and the gasoline into an appropriate container with the ratio shown above, and shake it thoroughly to avoid the separation of them. And then, pour it into the fuel tank.



Fuel Type and Octane Rating

Use clean, fresh unleaded gasoline with ethanol volume content not more than 10% and an octane rating equal to or higher than that shown in the table.

Fuel Type	Unleaded Gasoline
Ethanol Content	E10 or less
Minimum Octane Rating	Research Octane Number (RON) 91

NOTE

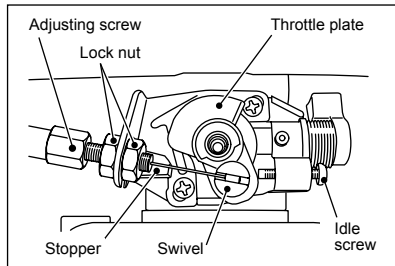
- Do not use gasoline that has been stored longer than two month.
- To ensure proper starting at low ambient temperatures, fresh winter grade fuel must be used.
- If "knocking or pinging" occurs, use a different brand of gasoline or higher octane rating.

7

Recommended Engine Oil

High quality 2-stroke engine oil
JASO Service Classification - FC class

3. ADJUSTMENT OF THROTTLE CABLE :



● When setting the engine to equipments (bush cutter. Etc.), adjust the throttle cable in the following procedures.

1. Remove the air cleaner cap. Loosen the lock nut.
2. Turn the adjusting screw. Be sure that the idle screw touches throttle plate at the swivel and the play of the throttle cable is around 2 mm.
3. Squeeze the throttle lever. Be sure that throttle plate touches the stopper.
4. Tighten the lock nut.

4. STARTING :

Fuel

- Level the engine before fueling.
- Open the fuel tank cap and fill the fuel tank with 50 : 1 gas/oil pre-mixed fuel.
- Pour slowly to avoid "spill back" and allow air to escape from the fuel tank.
- Close the tank cap securely by turning it clockwise as far as it will go.

⚠ WARNING

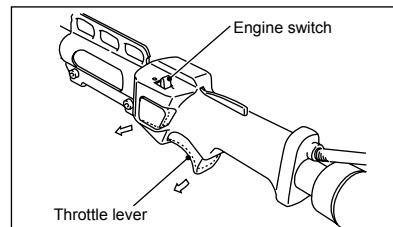
Never fill the tank so the fuel level rises into the filler neck. If the tank is overfilled, heat may cause the fuel to expand and overflow through the vents in the tank cap. After refueling, make sure the fuel tank cap is closed securely. If gasoline is spilled on the fuel tank, wipe it off immediately.

⚠ DANGER

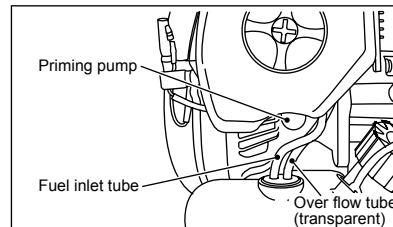
Exhaust gases contain carbon monoxide, a colorless, odorless, poisonous gas. Do not operate the engine in enclosed areas. Provide adequate ventilation at all time.

NOTE

- Should the engine fail to start, do not try the recoil start many times with the lift up lever to the "STARTING" position or the choke lever to the "CLOSED" position. This will cause the fuel to flood into the cylinder and make starting even more difficult. In this case, set the lift up lever to the "RUNNING" position or the choke lever to the "OPEN" position. And then, repeat the starting.
- After starting, vary the engine speed a few times, by operating the throttle lever to draw out the remaining air in the carburetor.



- Turn the engine switch on the engine or the equipment to the "I" (starting) position.
- Move the throttle lever on the equipment to the fully CLOSED (engine idle speed) position.

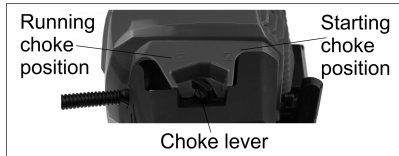


- Slowly push the priming pump several times until the fuel comes out of the overflow tube.

NOTE

- This engine is designed so that overflowed fuel due to pushing a priming pump is to be returned to the fuel tank.
- There is no fear of flooding the engine, so push the priming pump enough times to get the engine started.

4. STARTING continued :



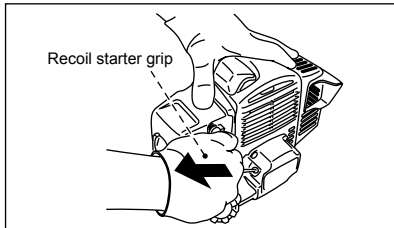
- Turn the lever clockwise to switch to the "STARTING" position.

NOTE

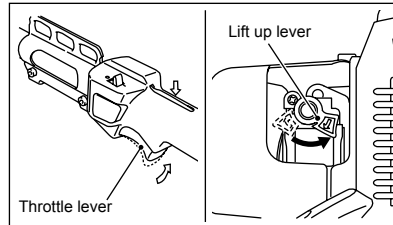
- If the throttle lever is squeezed or locked at half position, the engine won't start. Be sure the throttle lever is in the fully CLOSED position.

NOTE

- When the engine is already warm up, no lift up lever or choke lever required.



- Pull the recoil starter grip slowly to engage the starter, then give a short, quick pull.



- Squeeze the throttle lever to switch the lift up lever to the "RUNNING" (engine idle speed) position, and then release the throttle lever back to fully "CLOSED" (engine idle speed)

▲ WARNING

Releasing the starting rope suddenly may allow the rope to whip around and cause injury and/or damage the recoil starting mechanism. When starting the engine, firmly grasp the recoil starter grip; do not grasp the starter rope itself. Always control the rope as it rewinds into the housing.

5. WARMING UP :

- After starting the engine, run the engine at the idling speed (throttle lever position is fully CLOSED) for a few minutes.

NOTICE

Allow sufficient warm-up time to prevent engine damage and run the engine smoothly. The engine should be run at idle speed for a few minutes to allow it to warm up before applying a load. This will allow oil to reach engine parts, and allow piston clearance to reach design specifications.

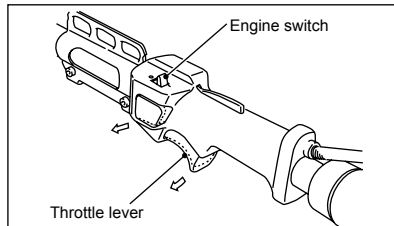
Fuel Adjustment

The carburetor has been adjusted to the optimum fuel supply at the factory. Don't reset the carburetor setting.

NOTE

- If adjustment is needed, it should be performed by your authorized dealer.

7. STOPPING :



- Move the throttle lever on the equipment to the fully CLOSED (engine idle speed) position, and the engine running at idle speed.
- Turn the engine switch to the "O" (stopping) position.

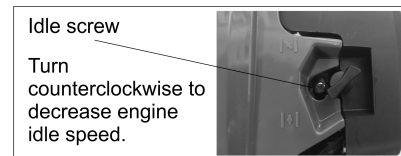
NOTICE

Suddenly stopping engine from high-speed operation can cause engine damage. Reduce engine speed to idle speed for one minute before shutting engine off after high-speed, full-load operation.

Emergency stop

- Turn the engine switch to the "O" (stopping) position.

6. ADJUSTING:



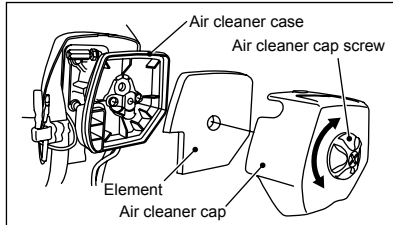
Idling Speed

- If the cutting blade move when the engine is running at the idle speed, turn the idle screw counterclockwise to decrease the engine idle speed.
- If the engine does not run the idle speed, it may be changed too low, turn the idle screw clockwise to increase the engine idle speed. The stable idle speed is shown below.

NOTE

- Never stop the engine by closing the choke lever.
- Never stop the engine during operation while running above idle speed.
- Shut off the engine and allow it to cool before transporting or storing the unit.
- Do not put the unit on dry grass or near any flammable object unless the engine is cold or cooled down.

9. MAINTENANCE :



Air Cleaner Service

Clean the air cleaner element every 20 hours.

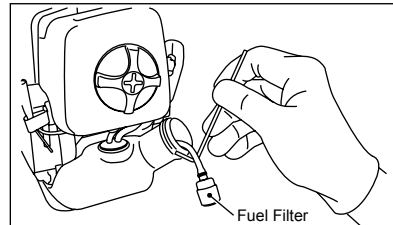
- Remove the air cleaner cap from the air cleaner case by removing the air cleaner cap screw.
- Remove the element from the air cleaner case.
- Wash the element in detergent and water, and dry it thoroughly.
- Reinstall the element in the air cleaner case and reinstall the air cleaner, and tighten the screw.

NOTICE

Improper element cleaning can result in engine damage.

Do not use compressed air to clean or dry element. Always clean element with an approved high flash point solvent only. Never use gasoline.

Do not operate engine with air filter parts removed.



Fuel Filter Service

Every 20 hours of operation

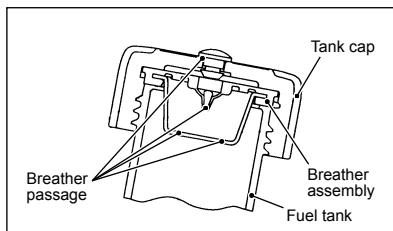
- Pull the fuel filter out from the fuel tank.
- Clean the fuel filter in a bath of high flash-point solvent.
- Dry the fuel filter and reinstall it into the fuel tank.

NOTE

- *If a fuel still does not flow well after the cleaning, replace the fuel filter with new one.*

⚠ WARNING

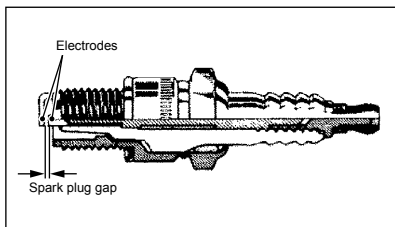
Many solvents are highly flammable and may cause serious burns. Improper use of solvents can result in fire or an explosion. Do not use gasoline or low flash-point solvents to clean the fuel filter. Clean only in a well-ventilated area away from sources of sparks or flame, including any appliances with a pilot light.



Fuel Tank Cap Service

A breather passage is incorporated in the tank cap. If the breather passage is clogged, the fuel will not flow into the carburetor, causing problems with starting or running the engine. At the same time, make sure that the base of the breather assembly is fitted firmly into the groove inside the tank cap as shown.

9. MAINTENANCE continued :

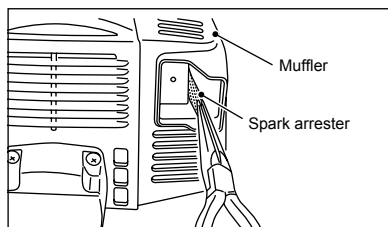


Spark Plug Service

Every 50 hours of operation

- Take the spark plug cap with fingers, and pull it up.
- Remove the spark plug by using a suitable plug wrench.
- Clean the electrodes by scraping or with a wire brush to remove carbon deposits and wetness.
- Inspect for cracked porcelain or other wear and damage. Replace the spark plug with a new one if necessary.
- Check the spark plug gap and reset it if necessary. The gap must be between 0.6 and 0.7mm. To change the gap, bend only side-electrode, using a spark plug tool.
- Install and tighten the spark plug to 14N·m (1.4kgf·m).
- Fit the spark plug cap on the spark plug securely.
- Pull up the spark plug cap lightly to make sure of the installation of the spark plug cap.

Recommended spark plug:
NGK BPMR7A



Spark Arrester Service

Every 50 hours of operation

- Remove the spark arrester from the exhaust hole of muffler
- Clean deposits from the spark arrester screen by brushing it.
- Install the spark arrester.

Carbon Removal of Engine Internal Parts

Every 50 hours of operation

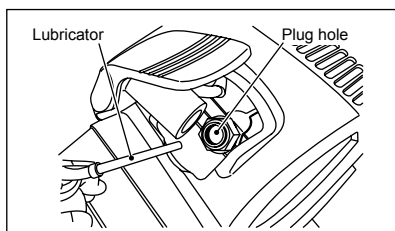
These items must be performed with proper tools.

See your authorized dealer for service.

⚠ WARNING

Gasoline is a toxic substance. Dispose of gasoline properly. Contact your local authorities for approved disposal methods.

10. STORAGE :



Engine to be stored over 30 days should be completely drained of fuel to prevent gum deposits forming on essential carburetor parts

fuel filter and fuel tank.

- Clean the engine.
- Remove all the fuel from the tank and run the engine at idling to use up the fuel in the carburetor.
- Remove the spark plug, pour in 0.5 mL of new 2-stroke engine oil through the plug hole, pull the recoil starter grip several times, and reinstall the spark plug.
- Slowly pull the recoil starter grip until resistance is felt.
- Store the engine in a clean and dry place.

General maintenance



WARNING!

Before performing any maintenance, repair, or cleaning work on the machine, make sure the engine and cutting attachment are completely stopped. Disconnect the spark plug wire before performing service or maintenance work.



WARNING!

Non-standard parts may not operate properly with your unit and may cause damage and lead to personal injury.

Muffler



WARNING!

Operating the engine without a muffler or with a muffler that is damaged or improperly sufficiently to lead to hearing loss.

This machine must never be operated with a faulty or missing spark arrestor or muffler is well secured and in good condition. A worn or damaged muffler is a fire hazard and may also cause hearing loss.

SPARK PLUG

Keep the spark plug and wire connections tight and clean.

Daily maintenance

Prior to each work day, perform the following:

- Remove all dirt and debris from the engine, check the cooling fins and air cleaner for clogging, and clean as necessary. see Figure 33.

Keep cooling fins clean

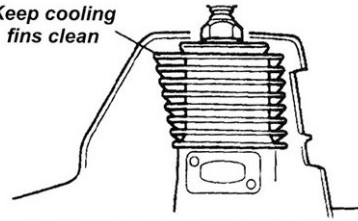
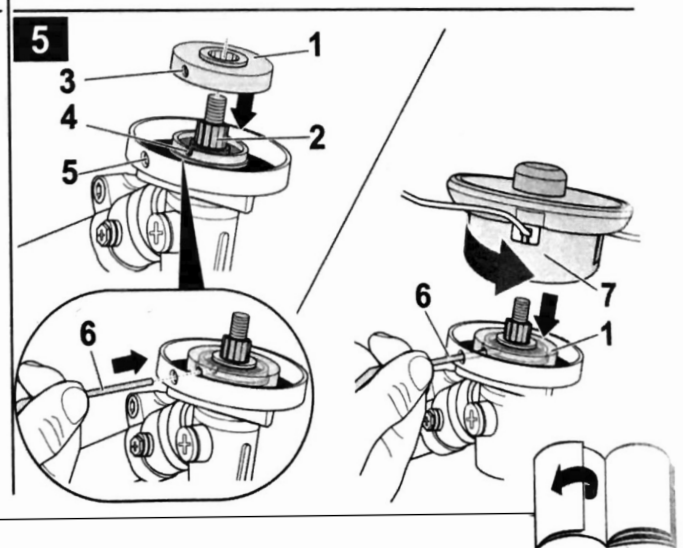
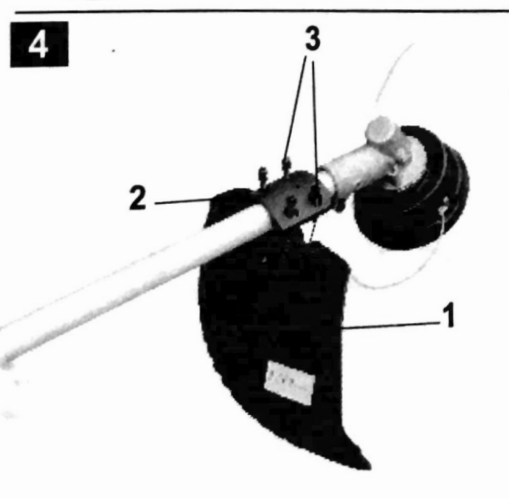
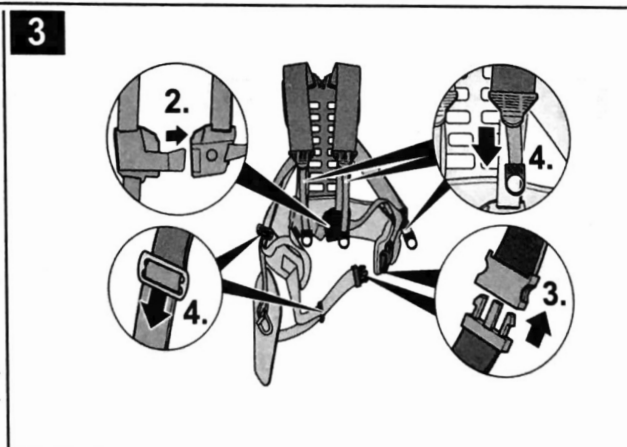
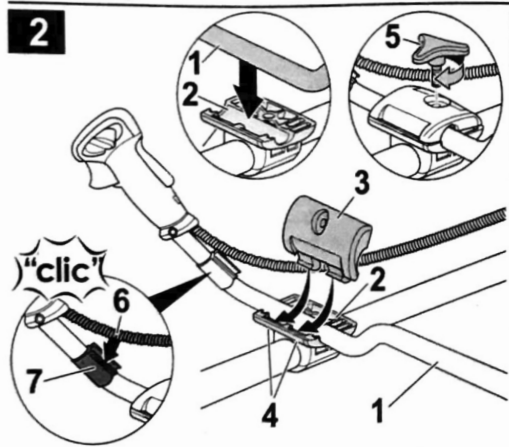
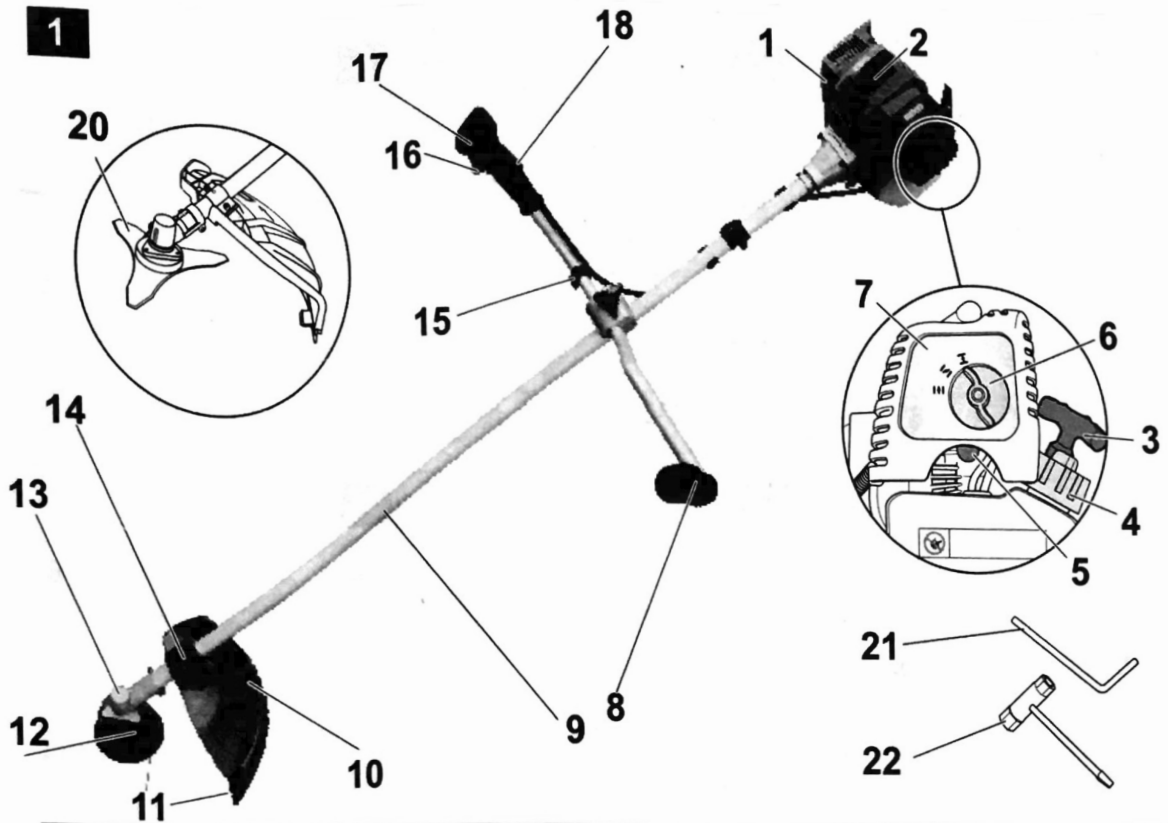


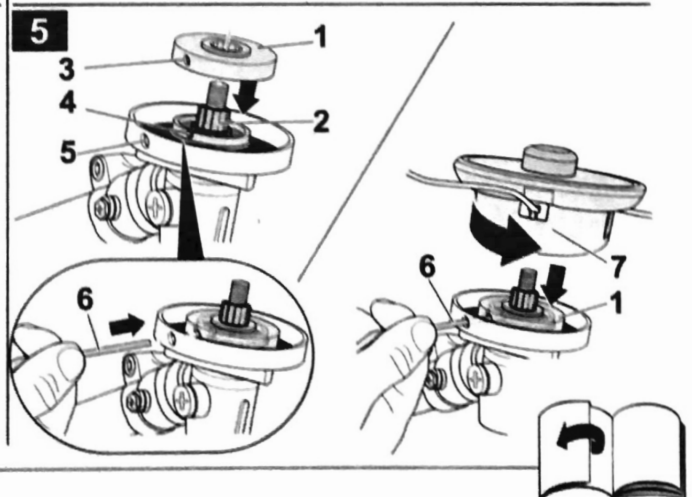
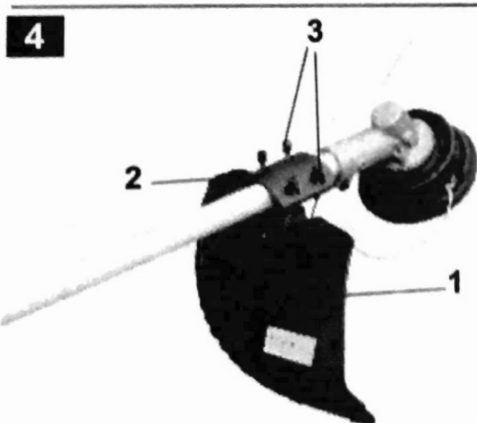
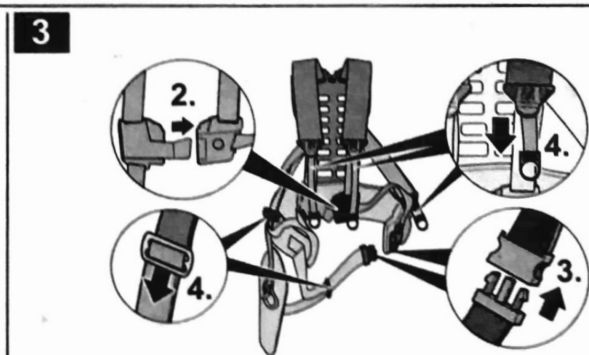
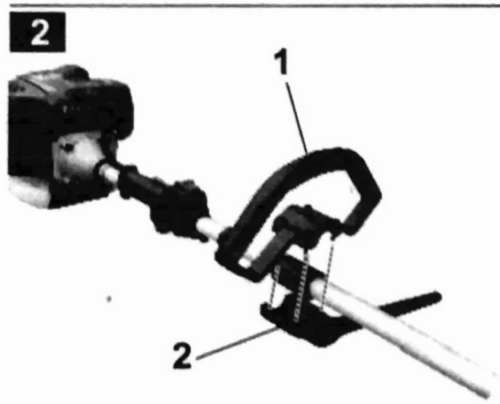
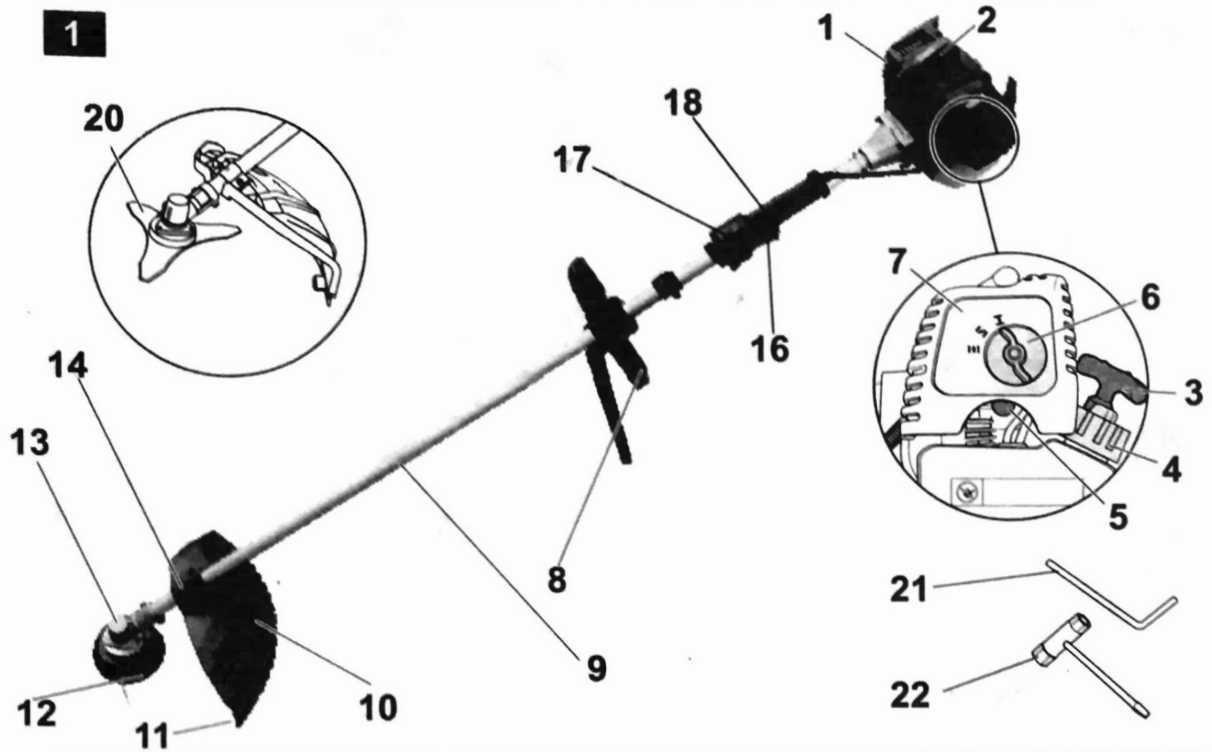
Figure 33

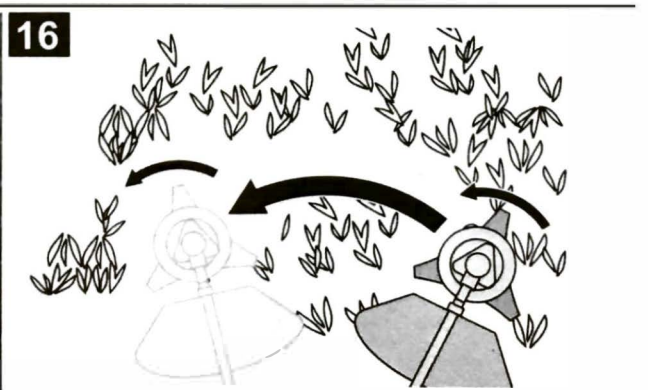
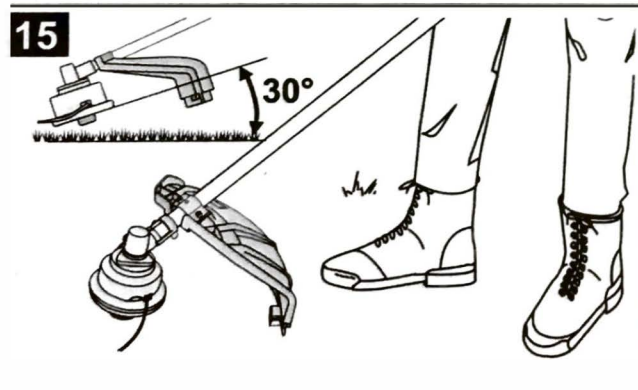
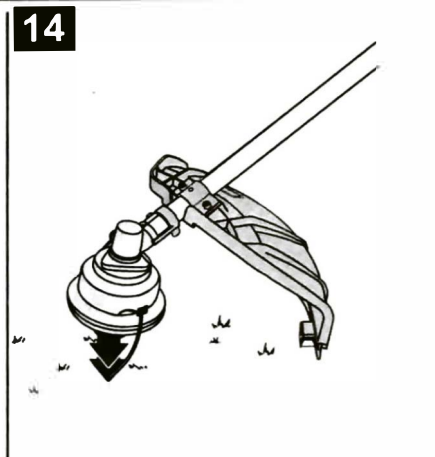
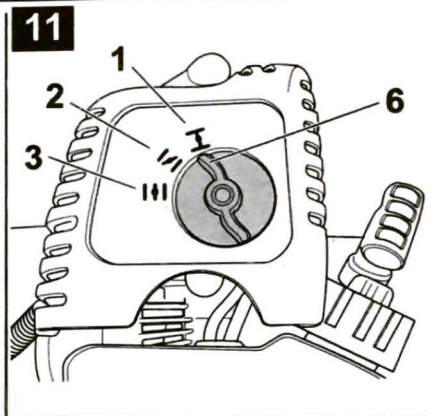
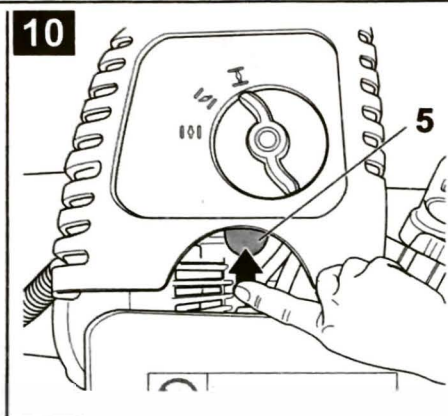
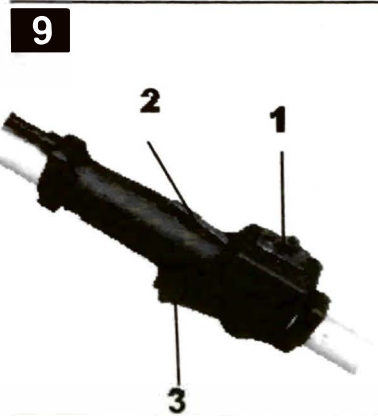
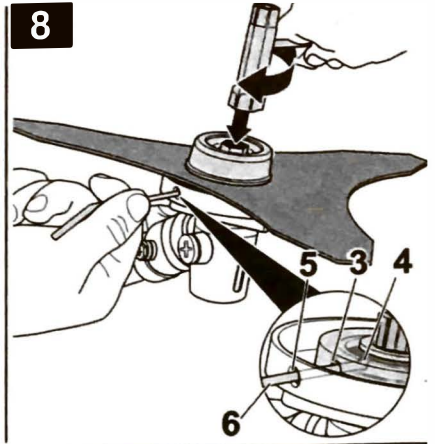
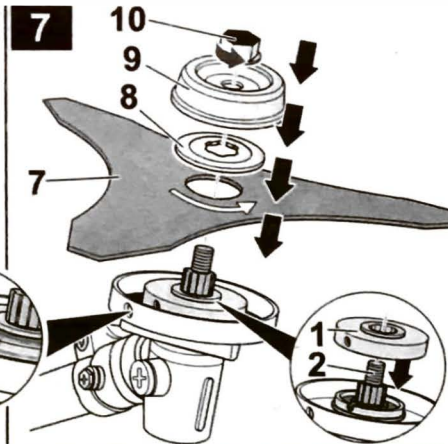
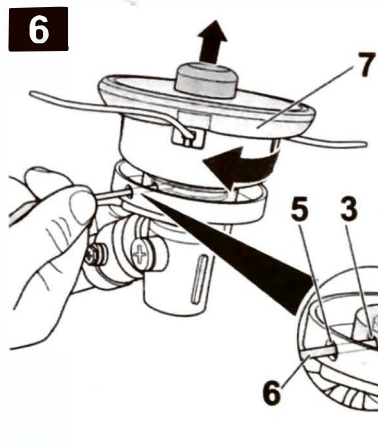
- Carefully remove any accumulating of dirt or debris from the muffler and fuel tank first build-up in these areas can lead to engine overheating fire or premature wear.
- Check for loose or missing screws or components. Make sure the cutting attachment is free of debris and securely fastened.
- Check the entire machine for leaking fuel or grease.
- Make sure nuts, bolts and screws (except carburetor adjusting screws) and tight.

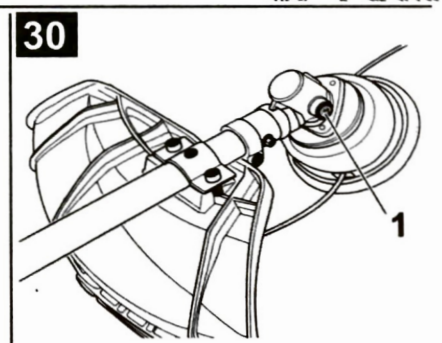
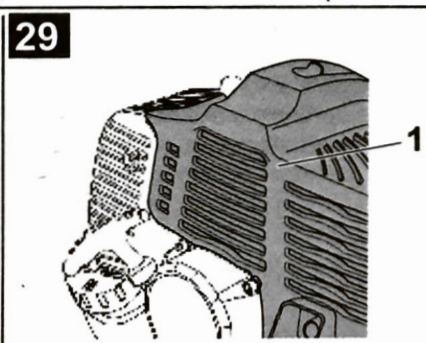
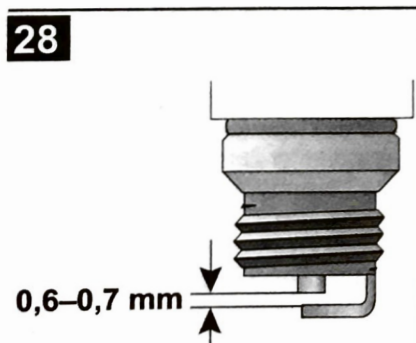
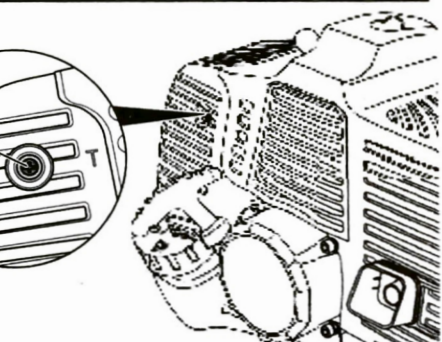
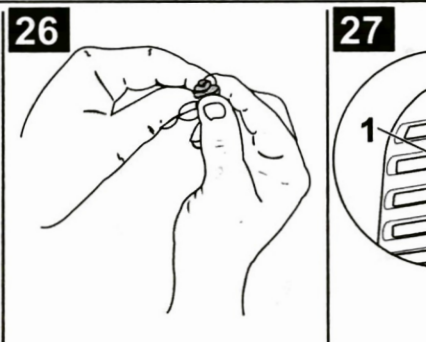
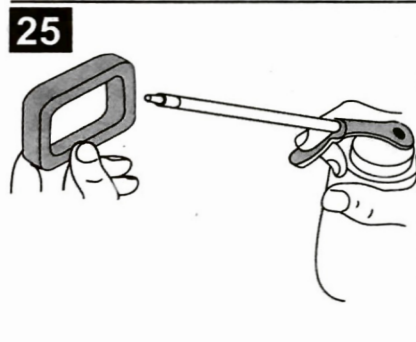
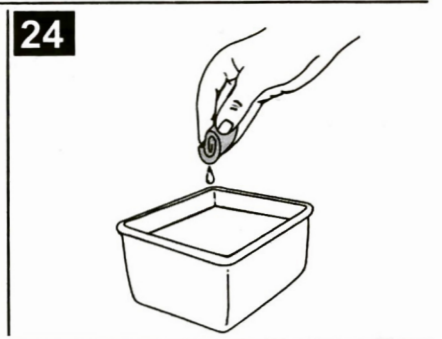
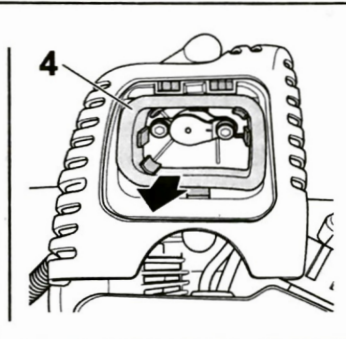
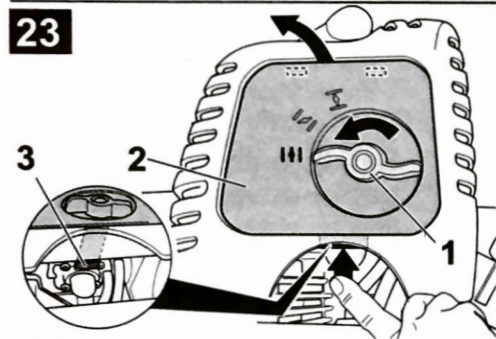
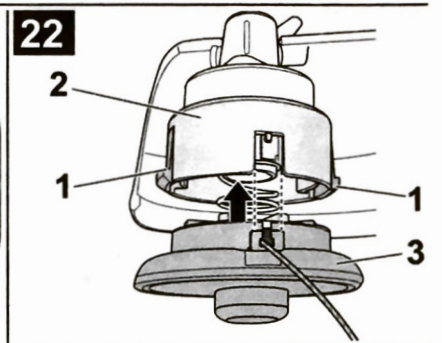
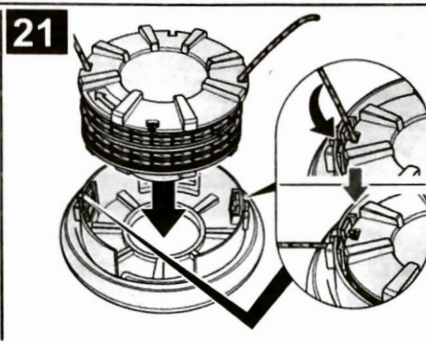
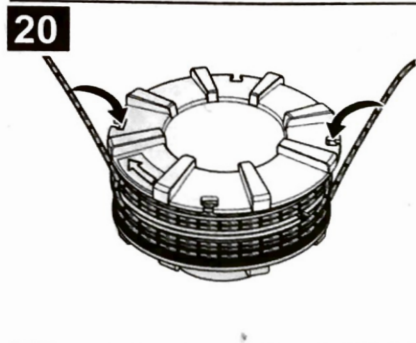
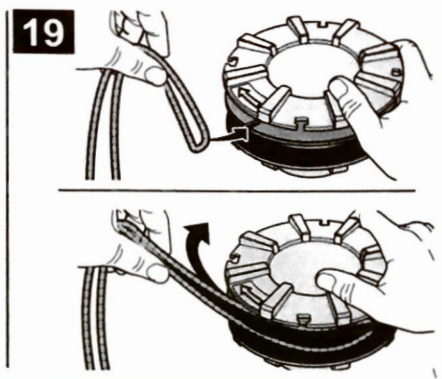
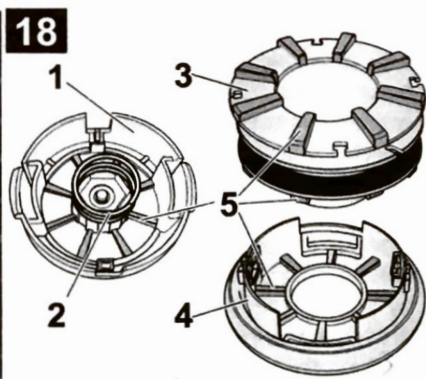
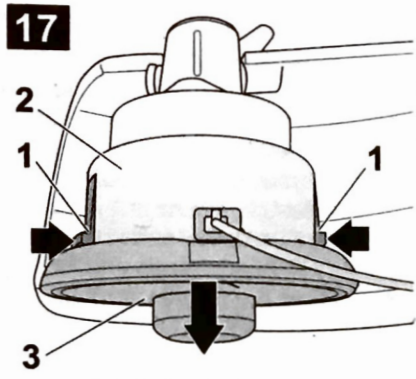
BCX370CU



BCX230C







Contents

Safe operating practices	
Operating and display elements	
Installation manual	
Oil and petrol	
Operating	
Maintenance and cleaning	
Transportation	
Warranty	
Troubleshooting	

Details on the ratings plate

Enter all information on the rating plate of your unit in the following field. You can find the rating plate near the engine.

These specifications are very important for subsequent identification when ordering spare parts and for customer service.

These and other details for your appliance can be found on the separate CE declaration of conformity that forms an integral part of these operating instructions.

Illustrations



Fold out the illustrated pages at the start of the operating manual. Graphical representations may deviate in detail from the purchased unit.

Safe operating practices

Using the unit correctly

This unit is designed

- for private use,
- for trimming lawn edges and small inaccessible areas of grass (e.g. under bushes),
- for cutting wild growth, shrubs and undergrowth,
- according to the descriptions and safety instructions indicated in this operating manual.

Any other use is not as intended.

Improper use is not covered by the warranty and the manufacturer will reject any liability. The user is liable for all injuries to third parties and damage to their property.

Operate the unit only in the technical condition as stipulated and delivered by the manufacturer.

Arbitrary changes to the unit will exclude the manufacturer from any liability for resulting injury and/or damage.

Read all instructions before operating

- Please read these instructions carefully. Familiarize yourself with the operation and handling of the unit.
- Do not use this unit if you are tired or ill or under the influence of alcohol, drugs or medication.
- Children and young people under 16 years of age must not operate the unit.
- This unit is not designed to be used by persons (including children) who have limited physical, sensory or mental abilities or who have no experience and/or knowledge of the unit, unless they are supervised by a person responsible for their safety or they have been instructed by the person how to use the unit.
- Children should be supervised to ensure that they do not play with the appliance.
- Check the unit before using it. Replace damaged parts. Check whether fuel is leaking out. Ensure that all connections are attached and tight. Replace cutting attachment parts which are cracked, flawed or damaged in any other way. Ensure that the cutting attachment has been installed correctly and attached securely. Ensure that the guard for the cutting attachment has been attached correctly and is in the recommended position. If these instructions are not followed, the user and bystanders may be injured or the unit damaged.

- Use only original replacement lines which have a diameter of 3,0 mm. Never use a metal-reinforced string, wire, chain, rope, etc. These may break off and become dangerous projectiles.
- Always be aware of the risk of injury to head, hands and feet.
- Depress the throttle. It must automatically return to the home position. Perform all settings and/or repairs before operating the unit.
- Before using the unit, always clear the area which you want to trim. Remove all objects such as stones, broken glass, nails, wire or string which could be ejected or become entangled in the cutting attachment. Remove children, bystanders and animals from the area. Keep children, bystanders and animals at a minimum distance of 15 m; there is always a risk of bystanders being hit by ejected objects. Bystanders should wear eye protection. If somebody approaches, immediately switch off the engine and cutting attachment.

Safety instructions for petrol-driven units

Petrol is highly flammable and the vapours may explode if ignited. Take the following precautions:

- Store petrol in designated and permitted containers only.
- Keep ignition sources away from spilled petrol. Do not start the engine until the petrol vapours have evaporated.
- Before filling the tank, always switch off the engine and leave it to cool down. Never remove the tank cap or fill the tank while the engine is hot. Before using the unit, ensure that the tank cap is screwed on tightly. Slowly unscrew the tank cap to reduce the pressure in the tank gradually.
- Mix petrol and fill the tank in a clean, well ventilated outdoor area only where there are no sparks or flames. After switching off the engine, slowly unscrew the tank cap. Do not smoke while mixing petrol or filling the tank. Immediately wipe any spilled petrol off the unit.

- Before switching on the engine, carry the unit at least 10 m away from the filling station. While filling the tank or using the unit, do not smoke and keep sparks and naked flames out of the area.
- Replace damaged exhausts, fuel tanks, or filler caps.

Operating the unit

- Never start the unit and never leave it running in a closed room or building. The inhalation of exhaust gases may be fatal. Use the unit outdoors only.
- Wear eye and ear protection when using the unit. If working in a dusty environment, wear a face or dust mask. A long-sleeved shirt is recommended.
- Wear thick, long trousers, boots and gloves. Do not wear loose clothing, jewellery, short trousers, sandals and do not walk barefoot. Pin your hair above your shoulders. If required, wear a hair net.
- The cutting attachment cover must always be attached when you use the unit as a lawn trimmer. Both trim lines must be pulled out and the correct line must be installed. The trim line must not be pulled out over the end of the cover.
- The unit has a clutch. The cutting attachment stops when the unit is running at no load. If it does not stop, have the unit adjusted by a mechanic at your authorised dealer.
- Before switching on the unit, ensure that the line spool/cutting blade cannot strike an object.
- Adjust the handle bar to your height so that you have the unit under control.
- Operate the unit in daylight or adequate artificial lighting only.
- Avoid starting the unit unintentionally. Be ready to operate the unit when you pull the starter rope. User and unit must be in a stable position when the unit is started. Follow the Start/Stop instructions.
- Use this unit for its designated purpose only.
- Do not stretch too far over the unit. Always have a secure footing and keep your balance.
- When operating the unit, always hold the unit firmly with both hands. Always hold both sides of the handle bar firmly.
- When operating the unit, always wear the shoulder belt.
- Do not use the unit in adverse weather conditions, e.g. if there is a probability of rain or a storm.
- Never change the engine settings preset at the factory.
- Keep away from naked flames, avoid creating sparks and do not smoke.
- Never operate the unit with a defective ignition switch.
- Keep your hands, face and feet away from all moving parts. Do not touch the cutting attachment while it is rotating and do not attempt to stop it.
- Do not touch the engine or muffler. These parts become very hot while the unit is being used. They remain hot for a short time even when the unit is switched off.
- Do not let the engine run quicker than required for cutting or trimming of lawn edges. Do not run the engine at high speed when it is not cutting.
- Always switch off the engine if you cannot start cutting immediately or if you are moving from one place to another.
- If unusual vibrations occur, switch off the engine immediately. Check the unit for damage. If the unit is damaged, contact a specialist company.
- If you strike or ensnare a foreign object, immediately switch off the engine and check whether the unit has been damaged. Never use the unit with loose or damaged parts.
- Before removing blockages or performing other work on the unit, switch off the engine and remove the spark-plug terminal.
- Stop and switch the engine off before performing maintenance or repairs or before changing cutting attachments. Also pull out the spark-plug terminal.
- Use only original spare parts for repairs. These parts can be purchased from your authorised dealer.
- Never use parts, accessories or attachments which are not authorised for this unit. Otherwise, the user may be seriously injured and the unit damaged. In addition, your warranty may be deemed null and void.
- Keep the unit clean and ensure that there are no plants or other objects caught between the cutting attachment and guard.
- To reduce the risk of fire, please replace damaged mufflers and spark extinguishers and remove grass, leaves, excess lubricants and layers of soot from the engine and muffler.
- Have all repairs carried out by a repair shop only.

Working with the cutting blade (depending on model)

- Before operating the unit, please read all safety instructions carefully.
- Always keep the handle bar between the user and cutting attachment.
- NEVER cut material if the cutting blade is 75 cm or higher above ground level.
- The unit may recoil if the rotating blade strikes an object which cannot be cut immediately. Recoils may be strong enough to throw the unit and/or user in any direction and may cause the user to lose control of the unit. Recoils may occur without warning if the blade gets caught, jams or locks. This can easily happen in areas in which the material to be cut is difficult to see.
- Never use the undergrowth blade to cut undergrowth thicker than 12.7 mm. Otherwise, violent recoils may occur.
- When using the cutting blade, the cutting attachment cover must always be attached.
- Do not attempt to touch or stop the blade while it is rotating.

- A rotating blade may cause injuries, even when the engine has been switched off or the throttle has been released. Hold the unit firmly until the blade has come to a standstill.
- Do not run the engine at high speed when it is not cutting.
- If you strike or ensnare a foreign object, immediately switch off the engine and check whether the unit has been damaged. Have the repair damaged before continuing to use the unit. Do not use the unit with a bent, cracked or blunt blade. Throw away bent, twisted, cracked or broken blades.
- Do not sharpen the cutting blade. The sharpened tip of the blade may break off during operation. This may result in serious injuries. Replace the blade.

After operating the unit

- Clean the cutting blades with a household detergent to remove any remnants. Lubricate the blade with machine oil to prevent rust.
- Store and lock away the blade securely to protect it from damage and unauthorised use.

Other safety instructions

- As long as the tank still has petrol in it, never store the unit in a building where vapours could come into contact with sparks or naked flames.
- Leave the engine to cool down before transporting or conveying the unit. Attach the unit securely for transportation.
- Empty the fuel tank before transporting the unit.
- Store the unit in a dry condition, locked away or high up to prevent unauthorised use and damage. Keep the unit away from children.
- Never douse or splash the unit with water or other liquids. Keep the handle bar dry, clean and dust-free. Clean the unit after each use and follow the instructions for cleaning and storage.
- Dispose of waste petrol/oil or any packaging remnants in accordance with local regulations.

- Keep this manual. Read it frequently and use it to instruct other users. If you lend this unit to somebody else, also include this manual.

Operating times

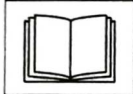
Observe the national/municipal regulations concerning times of use (if required, ask your local authority).

Symbols on the appliance

This operating manual describes safety and international symbols and pictograms which may be displayed on this unit. Read this user handbook in order to familiarise yourself with all safety, installation, operating and repair instructions.



Attention!
Before starting up the unit, read the operating instructions!



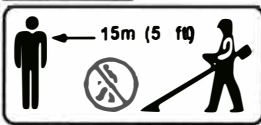
Wear eye, hearing and head protection.



While operating this unit, wear heavy duty boots and protective gloves.



Keep third parties away from the danger area!



Ejected objects and rotating parts may cause serious injuries!



Risk of injury from rotating parts!
Keep hands and feet away from rotating parts.



Beware of hot surfaces!



Petrol/Oil!
Always use clean and fresh lead-free petrol for mixing petrol. Use only authorised oil according to the operating manual for mixing petrol.



Do not fill up with fuel of specification E85!



Maximum rpm
Do not let the unit run more quickly than the maximum rpm.

START

Ignition switch
Cold start position



Ignition switch
On /run/start

Ignition switch
Off/stop

Choke settings



1 – Full choke start position.

2 – Half choke intermediate position.

3 – Operating position.

Ensure that these symbols on the unit are always in a legible state.

Symbols used in this manual

The following symbols are used in this manual:



Danger

They refer to dangers which are connected with the described activity and which may result in injury.



Caution

They refer to dangers which are connected with the described activity and which may result in damage to property.



Note

Indicates important information and application tips.

Operating and display elements

Caution.

Damage to the appliance

This first describes the control and display functions. Do not execute any of these functions yet!

Fig. 1

- 1 Exhaust cover
- 2 Spark plug
- 3 Starter handle
- 4 Tank cap
- 5 Intake pump/primer
- 6 Choke lever
- 7 Air filter cover
- 8 Handle bar
- 9 Shaft
- 10 Cutting attachment cover
- 11 Line cutting blade
- 12 Line coil
- 13 Gearbox
- 14 Holder for cutting attachment cover
- 15 Holder for cable harness
- 16 Throttle
- 17 Ignition switch
- 18 Throttle lock

- 20 Cutting blade with cutting attachment cover *
- 21 Retaining bar *
- 22 Socket wrench *

* depending on model

Installation manual

Danger

Risk of injury from engine being started unintentionally.

Protect yourself from injury.

Before working on the engine:

- Switch off the engine,
- Wait until all moving parts have come to standstill; the engine must have cooled down.
- Remove spark-plug terminal.

Disposal instructions

Dispose of packaging remnants, old units, etc., in accordance with local regulations.

Installing and setting the handle bar

Fig. 2

- Insert the handle bar (1) into the lower holder (2).
- Hook the upper retaining plate (3) into the openings (4) of the lower holder and secure with the toggle screw (5).
- Hold the unit in the operating position (Fig. 13) and position the handle bar until you have a secure footing.
- Tighten the toggle screw (5) firmly until the handle bar (1) is secure.
- Press the cable harness (6) into the holder (7).

Adjusting the carrying system (shoulder strap)

Fig. 3

1. Place harness over your shoulders.
2. Close the catch on the chest belt. If required, readjust.
3. Close the catch on the abdominal belt. If required, readjust.
4. Adjust the shoulder, abdominal and chest belts to the correct length/width.
5. Latch the hook of the carrying system into the holder on the unit and adjust the attachment pad to a comfortable length.

Attaching the cutting attachment cover

Fig. 4

- Attach cutting attachment cover (1) to the holder (2) using the two screws (3).
- Tighten screws firmly.

Attaching/removing the line head

Attaching the line head

Fig. 5

- If attached, remove cutters and blade attachment parts beforehand. See "Removing the cutting blade".

- Push spacer (1) onto the drive shaft (2).
Align the 3 openings in the spacer (3), the gearbox (4) and the gear cover (5).

Note

If alignment is not correct, the line head cannot be attached/removed!

- Insert retaining bar (6) through the openings (3, 4, 5) in order to secure the gearbox.
- While holding the retaining bar (6), turn the line head (7) anti-clockwise (to the left) onto the drive shaft. Tighten line head firmly!

Note

Ensure that the line head (7) is seated correctly on the spacer (1), i.e. centred and resting flat!

- Remove retaining bar from the gear head.

Remove the line head

Fig. 6

- Align the openings (3, 4, 5). Insert retaining bar (6) through the openings and hold in position.
- Unscrew line head (7) clockwise (to the right) off the drive shaft.

Attaching/removing the cutting blade (depending on model)

Attaching the cutting blade

Fig. 7

- If attached, remove the line head beforehand. See "Attaching/removing the line head".

Note

When attaching the cutting blade for the first time, remove the blade attachment parts (blade holder (8), retaining bell (9), nut (10)) if attached. See "Removing the cutting blade".

- Push spacer (1) onto the drive shaft (2).
Align the 3 openings in the spacer (3), the gearbox (4) and the gear cover (5) (Fig. 5).

Note

If alignment is not correct, the cutting blade cannot be attached/removed!

- Insert retaining bar (6) through the openings (3, 4, 5) in order to secure the gearbox.
- While holding the retaining bar (6), attach the cutting blade (7) with blade holder (8), retaining bell (9) and nut (10) as follows:
 - Push cutting blade (7) onto drive shaft (2) and centre on the spacer (1).

i Note

Ensure that the cutting blade (7) is seated correctly on the spacer (1), i.e. centred and resting flat!

- Attach blade holder (8), retaining bell (9) and nut (10). Ensure that the blade holder is seated correctly in the toothing!
- Tighten nut firmly anti-clockwise (to the left) – tightening torque 37 Nm.

i Note

- Before tightening, check again that the cutting blade is seated correctly.
- If you do not have a torque wrench, tighten the nut firmly by hand. Then tighten the nut anti-clockwise (to the left) another half turn using a ring spanner.
- Remove retaining bar from the gear head.
- Remove guard (if fitted) from the cutting blade.

Removing the cutting blade

Fig. 8

- Attach guard (if available) to the cutting blade.
- Align the openings (3, 4, 5). Insert retaining bar (6) through the openings and hold in position.
- Unscrew nut clockwise (to the right).
- Remove cutting blade (7), blade holder (8) and retaining bell (9) (Fig. 7).

Oil and petrol

Oil

Use quality oil only, API classification TC (TSC-3) which is offered for air-cooled two-stroke engines. Mix the oil for two-stroke engines according to the instructions on the container, Petrol: Oil 40:1.

Petrol

⚠ Danger

Under certain conditions petrol is extremely flammable and explosive.

- Refuel only in a well ventilated area and with the engine switched off. Do not smoke and switch off all ignition sources in the vicinity of the tank or at the fuel storage depot.
- Do not overfill the fuel tank (there must be no fuel in the inlet nozzle). After filling up the petrol tank, ensure that the tank cap is closed and secured.
- When filling up the petrol tank, do not spill any fuel. Spilled fuel or petrol vapours may ignite. If fuel has been spilled, ensure that the area is dried before the engine is restarted.
- Prevent repeated or prolonged skin contact or inhalation of the vapours.

⚠ Caution

Do not fill up with fuel of specification E85. If fuel of specification E85 (ethanol content >15 %) is used, the engine may be damaged. The use of an unauthorised fuel will void the warranty.

See instructions on mixing oil and petrol

Age and/or incorrectly mixed fuel are the main reasons for the unit not running properly.

Always use clean, fresh unleaded petrol (no more than 60 days old, minimum octane number 91 ROZ). Follow exactly the instructions for the correct petrol/oil mixture. Correctly mix two-stroke engine oil and lead-free petrol, 1:40 (2.5 %). Do not mix directly in the tank.

Fill the tank with petrol.

Fig. 1

- Remove tank cap (4).
- Fill fuel tank with petrol/oil mixture. Never overfill!
- Close fuel tank tightly.
- Move the unit approx. 10 m from the filling station/fuel container before starting the engine.

Operation

⚠ Danger

Do not hook the shoulder strap onto the unit until the engine has started.

- Mix petrol (gasoline) with oil. Fill the tank with the mixture. See „Oil and petrol“.

Starting the engine

Starting the cold engine.

Fig. 9

- Press throttle lock (2) and press the throttle (3) all the way and hold in position.
- Move the ignition switch (1) to the **START** position.
- Release throttle lock and throttle.

i Note

Both levers remain locked in the depressed position (cold start position).

- Slowly and fully press intake pump/primer (5) 6x (Fig. 10). The fuel must be visible in the pump. If this is not the case, keep pressing until fuel is visible.
- Move choke lever (6) to position 1/| (Fig. 11).
- Press the unit on the ground.
- Slowly pull on the starter cable (7) until it begins to resist. Then pull quickly and forcefully until the engine starts (Fig. 12). After starting the engine, do not let the pull-starter spring back, but slowly guide it back.
- Leave the engine running for approx. 1–2 minutes.
- Move choke lever (6) to position 2/| and leave the engine to warm up for another 1–2 minutes (depending on the outside temperature) (Fig. 11).

- Move choke lever (6) to position 3/↑ (Fig. 11).
- Press throttle (3) and then release to deactivate the cold start lock (Fig. 9). The ignition switch automatically jumps back to position I/On. The engine runs at idling speed.

i Note

The unit has warmed up adequately when the engine accelerates without faltering.

Starting with a warm engine

- Move the ignition switch (1) to the I/On position (Fig. 9).
- Move choke (6) lever to position 3/↑ (Fig. 11).
- Press the unit on the ground.
- Slowly pull on the starter cable (7) until it begins to resist. Then pull quickly and forcefully until the engine starts (Fig. 12). After starting the engine, do not let the pull-starter spring back, but slowly guide it back.

i Note

If the engine does not start, move the choke (6) to position 2/↑. When the engine has started, move the choke (6) back to position 3/↑ (Fig. 11).

Stopp the engine

Fig. 9

- Release throttle (3). Leave the idling engine to cool down.
- Move the ignition switch (1) to the 0/Stop position.

i Note

If the engine does not stop when the ignition switch is actuated, move the choke (6) to position 1/→ to force the engine to stop (Fig. 11). Before using the unit again, have the ignition switch checked by a repair shop!

Holding the lawn trimmer

Before using the unit, place yourself in the operating position (Fig. 13). Check the following:

- The user is wearing eye protection and the correct clothing.
- The shoulder belt has been set to the correct height.

- The handle bar has been set in such a way that you can grip it with both hands without having to stretch out your arms.
- The unit is below waist height.
- Hold the cutting attachment parallel to the ground so that the vegetation to be cut can easily be reached without the user having to bend forward.

Setting the length of the trimmer line

(depending on model)

You can release the trim line with the bump knob cutting attachment without stopping the engine. To release more line, tap the cutting attachment on the ground (Fig. 14) while running the lawn trimmer at a higher speed.

i Note

The trim line should always be at max. length. The shorter the trim line becomes, the more difficult it is to release.

Each time the head is bumped, approx. 25 mm of cutting line are released. A blade in the cutting attachment cover cuts the line back to the correct length if too much line is released.

It is best to bounce the bump head on bare ground or hard earth. If you attempt to release the trim line in tall grass, the engine may stall. Always keep the trim line fully extended. The shorter the trim line is, the more difficult it is to release.

i Note

Do not run the bump head along the ground.

The line may break by:

- becoming entangled with foreign objects,
- normal material fatigue,
- attempting to cut thick-stalked weeds,
- striking walls, garden fences, etc..

Tips for best trim results

- Keep the cutting attachment parallel to the ground.
- Use only the tip of the line for cutting, especially along walls.

If more than the tip is used for cutting, the cutting capacity is reduced and the engine may overload.

- Cut grass which is taller than 20 cm from the top down in small stages to prevent premature wear of the line and engine resistance.
- If possible, cut from left to right. Cutting to the right improves the cutting capacity of the unit. Grass clippings are then ejected by the user.
- Slowly move the lawn trimmer at the required height in and out of the cutting area. Walk either forwards and backwards or from side to side. Better results are achieved by cutting shorter pieces.
- Cut dry grass and weeds only.

The service life of the cutting line depends on the following:

- Follow the previous cutting tips,
 - for the vegetation which is to be cut,
 - where it is cut.
- For example, a line wears out more quickly if it is cutting against a house wall than around a tree.

Decorative cutting

You will receive a decorative cut if you cut all vegetation around trees, posts, fences, etc.

Rotate the whole unit until you are holding the cutting attachment at an angle of 30° to the ground. (Fig. 15).

Working with the cutting blade (depending on model)

Before using the unit, place yourself in the operating position (Fig. 13). See "Holding the lawn trimmer".

Tips for working with the cutting blade:

- Cut rhythmically.
- Stand firmly but comfortably on the ground.
- Before you start cutting, set the unit to full speed. At full speed the blade has maximum cutting force and will therefore not jam so easily, stick or cause blade impacts which may result in serious injury to the user or other persons.
- When cutting, move the upper part of your body from right to left.

- Always release the throttle and reduce the engine to no load when you are not cutting.
 - Rotate the unit in the same direction in which the blade is cutting. This promotes cutting.
 - Move one or two steps to the next trimming area after swinging back the unit and stand firmly again.
- Follow these instructions to prevent vegetation from wrapping itself around the blade:
- Cut at full speed.
 - Swing from right to left into the vegetation which is to be cut (Fig. 16).
 - When swinging back, avoid vegetation which has just been cut.

Maintenance and cleaning

Caution

Before working on the unit:

- Switch off the engine.
- Wait until all moving parts have come to standstill; the engine must have cooled down.
- Remove spark-plug terminal from the engine to prevent the engine from starting unintentionally.

Have all repairs carried out by a repair shop only.

At the end of the season have the unit inspected and serviced by a specialist company.

Do not splash the unit with water, otherwise electric components may be damaged.

Clean the appliance after every use. Failure to clean the appliance can damage the materials and cause malfunctions.

Installing the cutting line (depending on model)

Always use a replacement cutting line with a diameter of 3,0 mm.

If using a cutting line which has a length other than the one indicated, the engine may overheat or misfire. There are two methods of replacing the cutting line:

- Winding a new line onto the spool
- Fitting a coil with a prewound line

Winding a new line onto the spool

Fig. 17

- Press both retaining plates (1) of the spool housing (2) and remove the spool together with spool cover (3).

Fig. 18

- Clean spool housing (1), spring (2) and spool (3) together with spool cover (4). Use a clean cloth.
- Check the toothing (5) for wear on the spool housing (1), the spool (3) and on the spool cover (4). If required, replace damaged parts.
- Take approximately 3 metres of new trim line and fold in half.

Note

Always use the specified line length! The line may not be released correctly if it is too long.

Fig. 19

- Insert the folded end of the trim line into the retaining plate of the spool.
- Wind the lines in tight, even layers onto the lower and upper halves of the spool. Observe the winding direction indicated on the spool!

Fig. 20

- Press the ends of the line into the two opposing retaining slots.

Fig. 21

- Insert the spool into the spool cover and feed the ends of the line through the opposing slots in the spool cover.

Fig. 22

- Press pre-assembled unit (3) out of the inner spool and spool cover into the spool housing (2) until the retaining plates (1) engage.

Fitting a coil with a prewound line

Fig. 17

- Press both retaining plates (1) of the spool housing (2) and remove the spool together with spool cover (3).
- Take spool out of the spool cover.

Fig. 18

- Clean spool housing (1), spring (2) and spool cover (4). Use a clean cloth.
- Check the toothing (5) for wear on the spool housing (1) and on the spool cover (4). If required, replace damaged parts.

Fig. 21

- Insert a new spool into the spool cover and feed the ends of the line through the opposing slots in the spool cover.

Fig. 22

- Press pre-assembled unit (3) out of the inner spool and spool cover into the spool housing (2) until the retaining plates (1) engage.

Cleaning the air filter

Clean and lubricate the air filter after every ten operating hours. This is an important part of maintenance. If the air filter is not serviced, the warranty will be deemed **null and void**.

Fig. 23


- Set choke lever (1) to position . The air filter cover can be removed in this position only.
- Open air filter cover: Press retaining plate (3) and remove cover (2).
- Remove the air filter (4).

Fig. 24

- Wash the filter with detergent and water. Flush out the filter thoroughly, leave to drip and dry completely.

Fig. 25

- Use adequately clean oil (SAE 30) to lubricate the filter easily.

Fig. 26

- Press on the filter to distribute the oil and remove excess oil.
- Install filter.
- Attach air filter cover again, ensuring that it engages.

Note

If the unit is used without the air filter, the warranty will be voided.

Adjust carburettor

Fig. 27

The idle speed can be set with the screw (1). This work may be carried out by a specialist workshop only.

Replace petrol filter (depending on model)

If required – This work may be carried out by a specialist workshop only.

Check/replace spark plug

Use only original spark plugs or ones approved by the manufacturer.

The correct electrode gap is **0,6–0,7 mm**. Every 25 operating hours take out the spark plug and check its condition.

- Stop the engine and leave it to cool down.
- Remove spark-plug terminal.
- Remove dirt from around the spark plug.
- Unscrew spark plug to the left with a spark plug wrench.
- Check/adjust the electrode gap of **0,6–0,7 mm** (Fig. 28).

Note

Replace a damaged, sooted or dirty spark plug.

- Screw in spark plug and tighten to a torque of 12.3–13.5 Nm. Do not tighten too tightly.

Cleaning the exhaust

Fig. 29

Clean the area under the exhaust cover (1) every 25 operating hours. To do this, the exhaust cover must be removed.

This work may be carried out by a specialist workshop only.

Checking/topping up the grease in the gearbox

Fig. 30

Check the level of grease in the gearbox every 25 operating hours. To do this, remove the screw (1). If required, refill with a high-quality lithium grease.

This work may be carried out by a specialist workshop only.

Cleaning the unit

Caution

Always keep the unit and ventilation slots clean and free of dirt.

Use a small brush for cleaning the outside of the unit.

Do not use abrasive detergents. Household cleaners which contain aromatic oils such as pine oil or lemon as well as solvents such as kerosene may damage the plastic housing and handle.

Wipe housing with a damp cloth only.

Storage

- Never store the unit with fuel in the tank or in a location where petrol vapours may be ignited by a spark or naked flame.
- Before storing the unit, leave the engine to cool down.
- Store the unit in a dry, closed room to prevent unauthorised use or damage. Keep the unit away from children.

Long-term storage

If the unit is to be stored for a prolonged period, proceed as follows:

- Drain all the fuel out of the tank and pour into a container with the same two-stroke mixture. Do not use fuel which has been stored for longer than 60 days.
- Start the engine and leave running until it stops. This ensures that there is no fuel left in the carburettor.
- Leave the engine to cool down. Take out the spark plug and pour a high-quality engine oil or two-stroke oil into the cylinder. Slowly pull the starter rope to distribute the oil. Reinstall the spark plug.

Note

Take out the spark plug and pour all the oil out of the cylinder before starting the unit after storage.

- Thoroughly clean the unit and check for loose and damaged parts. Repair or replace damaged parts and tighten loose screws, nuts and bolts. The unit can now be stored.
- Store the unit in a dry, closed room to prevent unauthorised use or damage. Keep the unit away from children.

Transportation

- Before transporting the unit, leave it to cool down.
- Empty the fuel tank before transporting the unit. Filler cap must be closed tightly.
- Secure the unit to prevent it from shifting during transportation.

Warranty

The warranty regulations issued by our company or the importer are valid in all countries. We shall repair any faults on your unit free of charge in accordance with the warranty, provided the fault was due to defective materials or manufacturing. If claiming under the warranty, please contact your seller or your nearest branch.


Troubleshooting

Error	Cause	Remedial action
Engine does not start.	Ignition switch set to 0/Off .	Set switch to I/On .
	Fuel tank empty.	Fill fuel tank.
	Intake pump not pressed down far enough.	Slowly press intake pump all the way down 10 times.
	Engine flooded.	Implement the starting process with the choke lever in the operating position.
	Old or incorrectly mixed fuel.	Empty the tank/fill with fresh fuel mixture.
	Dirty spark plug.	Replace or clean spark plug.
Engine does not run constantly at no load.	Air filter blocked.	Clean or replace air filter.
	Old or incorrectly mixed fuel.	Empty the tank/fill with fresh fuel mixture.
	Carburettor incorrectly adjusted.	Have the carburettor adjusted by a specialist company.
	Petrol filter dirty.	Have petrol filter replaced by a specialist workshop.
Engine does not accelerate.	Old or incorrectly mixed fuel.	Empty the tank / fill with fresh fuel mixture.
	Carburettor incorrectly adjusted.	Have the carburettor adjusted by a specialist company.
Strong vibrations.	Damaged cutting tools or drive parts.	Switch off the unit immediately. Have defective parts replaced by a specialist company.
Cutting head does release line.	Cutting head entangled with grass.	Stop the engine and clean the cutting attachment.
	No line in the cutting head.	Wind up new line.
	Coil jammed.	Replace coil.
	Cutting head dirty.	Clean coil and coil housing.
	Line fused together.	Pull apart, take out the fused part and wind up the line again.
	Line twisted when wound up.	Pull apart and wind up the line again.
	Not enough line released.	Tap the bump head and pull out the line until 10 cm of line is outside the cutting attachment.

If you have any further questions, please contact your authorised dealer on site.



EC-DECLARATION OF CONFORMITY

EC Declaration of Conformity	
We herewith declare,	Cobra Garden Machinery Henton & Chattell Ltd, London Road, Nottingham NG2 3HW United Kingdom
That the following machine complies with the appropriate basic safety and health requirements of the EC Directive based on its design and type, as brought into circulation by us.	
In case of alteration of the machine, not agreed upon by us, this declaration will lose its validity	
Machine Description:	Brushcutter 23.3 & 36.3 cm ³
Machine Type:	BCX230C (PNBC230B) BCX370C(PNBC370)
Displacement	23.3 & 36.3 cm ³
Max, Cutting width	Brush cutter 255mm
Measured sound power level:	107.3dB(A) / 110.6dB(A) Grass Trimmer
Guaranteed sound power level:	110dB(A) / 114 dB(A) Notified Body for EC Directive: TÜV Rheinland, Tillystraße 2,90431 Nürnberg, Germany.
Applicable EC Directives	2006/42/EC 2004/108/EC 2000/14/EC 97/68/EC
Applicable Harmonized Standards	EN ISO 11680-1:2011 EN ISO 11806-1:2011 EN ISO 10517:2009 +A1:2013 The conformity assessment procedure followed was in accordance with Annex III of the Directive 2000/14/EC
Authorized Signature/Date	 Peter J. Chaloner 19-03-2018
Title of Signatory	Managing Director
Name and address of the person authorised to compile the technical file	Cobra Garden Machinery Henton & Chattell Ltd, London Road, Nottingham NG2 3HW United Kingdom