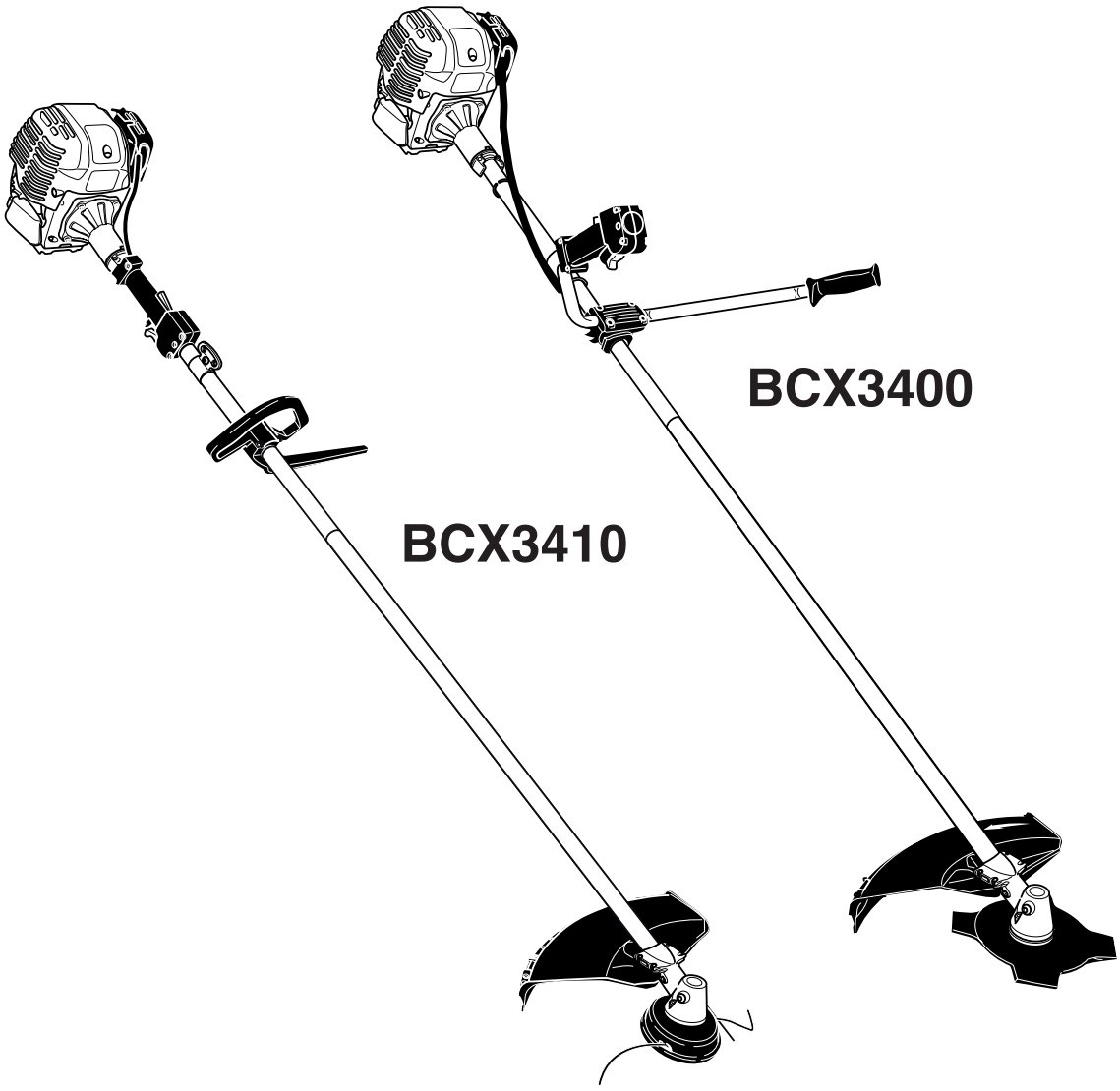
Instruction Manual



Important:

This brushcutter is shipped from the manufacturing plant without being filled with engine oil.
Fill with engine oil according to instructions before putting the brushcutter into operation!
Putting the brushcutter into operation without engine oil will result in engine damage immediately!

Congratulations! You have purchased a new MAKITA brushcutter! We thank you for your trust and hope you will be completely satisfied with your new brushcutter.

Brushcutters of the series BCX3400 / 3410 are included among the lightest brushcutters with a four-stroke engine in this class. These brushcutters are very handy, compact and multipurpose and can be used to cut grass, weeds and brushwood.

The considerably lower fuel consumption compared to similar brushcutters with two-stroke engines is a highly advanced step in terms of energy consumption and emissions.

Furthermore, the four-stroke engine is an agreeably quiet engine.

To ensure your personal safety and to guarantee optimum operation of the brushcutter including readiness to operate, we kindly ask you to:

Read this instruction manual carefully before putting the brushcutter into operation for the first time and to strictly observe the safety instructions!
Nonobservance can result in serious injuries!

Proper use:
These brushcutters are intended to be used with the appropriate and approved cutting tools for the purpose of cutting grass or thick weeds. The brushcutter is only allowed to be used by one person at a time and only outdoors!

Unapproved working technique:
Thicker material such as shrubs, wild plants or thickets is not allowed to be cut using the approved cutting tools.

Unapproved users:
Persons who are not familiar with the instruction manual, children, young persons, as well as persons under the influence of alcohol, drugs or medication, are not allowed to operate the machine.

Table of contents

Safety instructions

Before putting your new brushcutter into operation for the first time, please read the following safety instructions.

Explanation of symbols

You will notice the following symbols on the brushcutter and in the Owner's and Safety Manual:

Read the instruction manual and follow all warnings and safety instructions!

Particular care and caution!

CAUTION!
Kickback (blade thrust)

DANGER!
Very sharp cutting tool!

DANGER!
Beware of thrown objects!

No smoking!

No open flame!

Wear protective gloves!

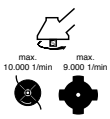
Wear safety shoes!

Wear protective helmet, face, eye, and hearing protection!

Forbidden!

NOTE!
Minimum risk. Situations that should be taken into account when using this machine.

The distance between the machine and bystanders shall be at least 15 meters!



Maximum tool rpm

Regular gasoline

Engine oil

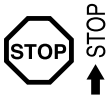
Choke closed

Choke open

Primer pump

Direction of blade rotation

Start engine



Stop engine

ON/OFF

First aid

Recycling

Sign CE

General safety precautions

To ensure correct operation, the user has to read this instruction manual to make himself familiar with the handling of the brushcutter. Insufficiently informed users will risk danger to themselves as well as others due to improper handling.
It is recommended only to lend the brushcutter to people who have experience with brushcutters. When lending the brushcutter to someone else, give him this Instruction Manual as well. First-time users should ask their dealer for basic instructions, or contact a forestry school in order to familiarize themselves with the basic handling of gasoline-powered brushcutting.

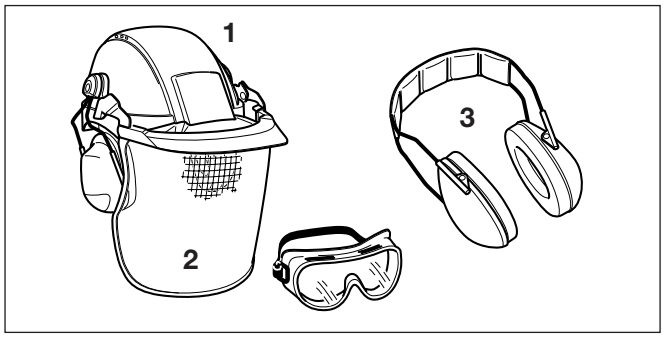
Children and persons under 18 years must not be allowed to operate the brushcutter with metal cutting tools (4-tooth star blade)**.**
Exceptions may be made for persons over 16 for training purposes under the supervision of a qualified trainer.

Perform all work calmly and carefully.
The user must accept liability for others.
Never use the brushcutter after consumption of alcohol, drugs or medication.

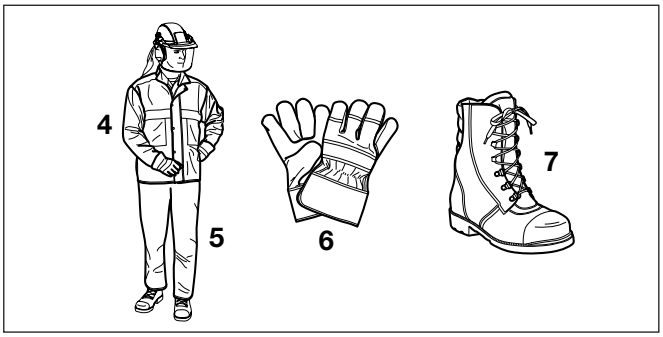
Personal protective equipment

- The clothing worn should be functional and appropriate, i.e. it should be tight-fitting but not cause hindrance. Do not wear either jewelry or clothing which could become entangled with bushes or shrubs.

In order to avoid head-, eye-, hand- or foot injuries as well as to protect your hearing, the following protective equipment and protective clothing must be used during operation of the brushcutter.



- It is recommended to wear a protective helmet; it is imperative when working in forests. The protective helmet (**1**) should be checked at regular intervals for damage and must be replaced after 5 years at the latest. Use only approved protective helmets. If you have long hair, always wear a hairnet!
- The face shield (**2**) of the protective helmet protects against flying sawdust, wood chips or stone chippings. During operation of the brushcutter always wear goggles or a visor to prevent eye injuries.
- Wear adequate noise protection equipment to avoid hearing impairment (ear muffs (**3**), ear plugs, etc.). Octave band analysis upon request.
- The forestry safety jacket (**4**) is equipped with special red-colored shoulder parts. The arms and neck should always be protected by clothing.
- The protective trousers (**5**) are made from a nylon fabric with 22 layers and protects against cuts. We strongly recommend its use. In any case, it is essential that a long pair of trousers made of tough material be worn during operation of the brushcutter. Do not wear short pants.
- Protective gloves (**6**) made of thick leather are part of the prescribed equipment and must always be worn during operation of the brushcutter.
- Safety shoes or boots (**7**) fitted with anti-skid sole, steel toe caps and leg protection must always be used. Safety shoes equipped with a protective layer give protection against cuts and ensure a secure footing. Do not wear sandals or go barefoot.



Handling fuels/refueling the brushcutter

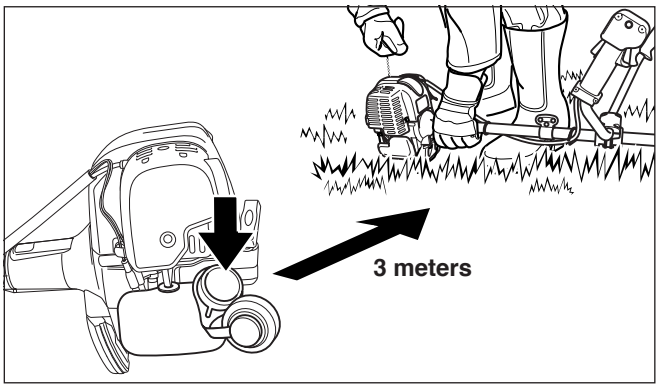
Stop the engine and let the engine cool down before refueling the brushcutter.

No smoking and no open flame!

Fuel may contain substances similar to solvents. Eyes and skin should not come in contact with mineral oil products. Always wear protective gloves when refueling. Frequently clean and change protective clothes. Do not breathe in fuel vapors. Inhalation of fuel vapors can be hazardous to your health.

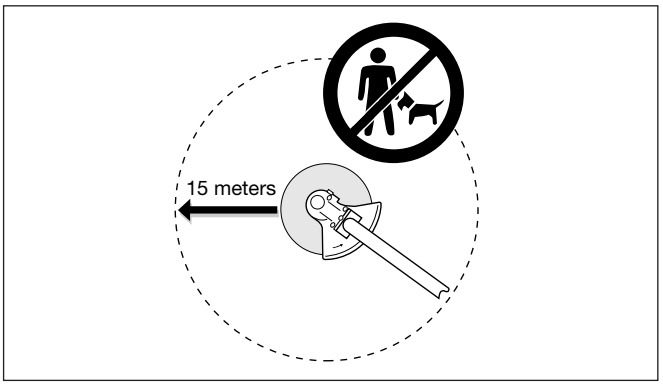
- Before refueling the brushcutter make sure it is in a **stable** position.
- Do not spill fuel or oil. When you have spilt fuel or oil immediately clean the brushcutter. Fuel should not come in contact with clothes. If your clothes come in contact with fuel, change them at once.
- Ensure that no fuel oozes into the soil (environmental protection). Use an appropriate base.
- Refueling is not allowed in closed rooms. Fuel vapors will accumulate near the floor (explosion hazard)!
- Carefully tighten the locking screw of the fuel tank and inspect the fuel cap at regular intervals.

- Change the place before starting the engine at least 3 meters from the place of refueling.
- Fuel cannot be stored for an unlimited period of time. Buy only as much as will be consumed in the near future.
- Use only approved and marked containers for the transport and storage of fuel. Ensure children have no access to fuel.



Putting into operation

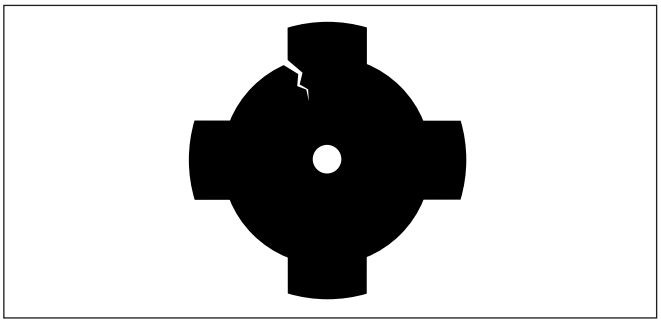
Never work alone. In case of emergencies, another person must be within shouting distance. Before beginning to work, inform the other person about the protective devices available on the machine!



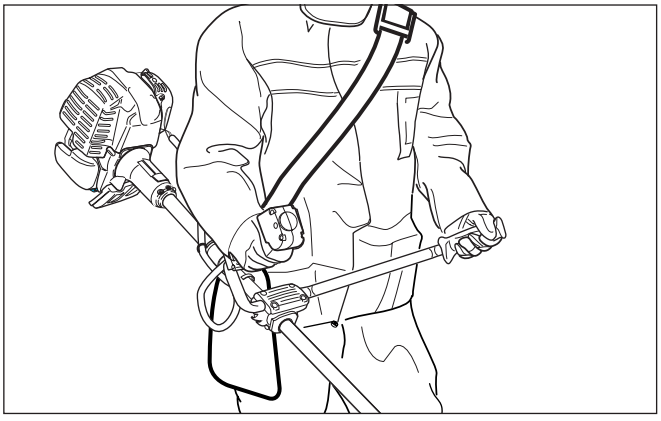
- Children and other persons must remain more than 15 meters from the working area. Keep an eye out for animals as well.
- Before use always check that the brushcutter is safe for operation: Make sure the cutting tool is securely installed. The throttle must automatically return to the off position when released, and the throttle lever lock must work properly. The cutting tool must not turn during idling. The handles should be clean and dry. The on/off switch must function properly. The protective devices must be undamaged and securely installed in the correct position (see Chapter "Operation"). Otherwise you are in danger of injury!
- Start the brushcutter only in accordance with the instructions (see Chapter "Operation". Do not use any other methods for starting the engine!
- Use this brushcutter and its cutting tools only for the above-mentioned uses they are intended for as specified in the documentation.

Start the brushcutter only after complete assembly and inspection. Operation of the machine is only permitted after all the appropriate accessories are attached!

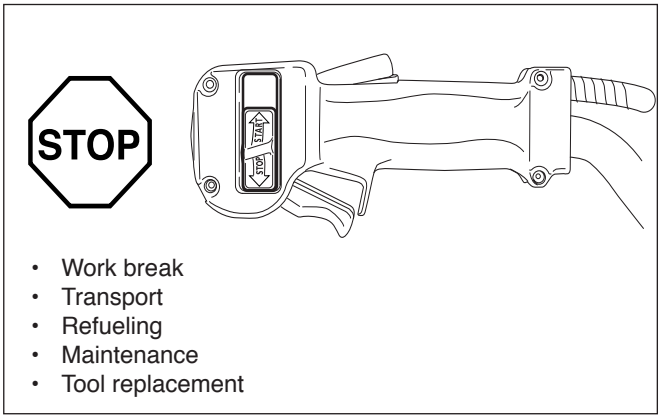
The cutting tool must be equipped with its appropriate cutter guard. Never run the cutter without this cutter guard.



- The cutting tool must not turn during idling. If necessary adjust the idling speed (see Chapter "Operation").
- Before starting, make sure that the cutting tool has no contact with hard objects such as branches, stones, etc.
- The engine must be switched off immediately if there are any noticeable changes in the behavior of the equipment.
- Should the cutting tool hit stones or other hard objects, immediately switch off the engine and inspect the cutting tool.
- Inspect the cutting tool at frequent intervals for damage (detect hairline cracks by means of tapping – noise test). Hairline cracks can occur in the region of the base of the teeth after long use. **Damaged cutting tools and cutting tools with hairline cracks must not be used any longer under any circumstances!**
- Operate the brushcutter only with the shoulder strap attached, which is to be suitably adjusted before putting the brushcutter into operation (see Chapter "Preparations"). It is essential to adjust the shoulder strap according to the user's size to prevent fatigue during use. Never hold the cutter with one hand during use.
- When working with the brushcutter always hold it with both hands. **Keep proper footing and balance at all times.**



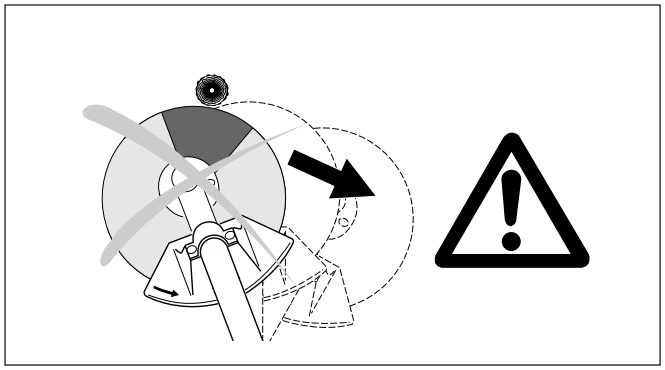
- Operate the brushcutter in such a manner as to avoid inhalation of the exhaust gases. Do not start or operate the brushcutter in closed rooms (risk of gas poisoning). Carbon monoxide is an odorless gas; breathing exhaust fumes can kill. Work only in well-ventilated places.
- When taking a break or leaving the brushcutter unattended, turn off the engine, make sure the cutting attachment has stopped and set the brushcutter down in such a way that there is no risk of injury to yourself or others.
- Never put the hot brushcutter onto dry grass or onto any combustible materials.
- Shut off the engine during transport or when moving on to a new location.
- Never operate the brushcutter with a faulty exhaust muffler.



- Work break
- Transport
- Refueling
- Maintenance
- Tool replacement

Kickback (blade thrust)

When operating the brushcutter, uncontrolled kickback may occur. This is the case whenever the cutting tool (4-tooth star blade**) comes into contact with solid objects such as tree stumps, fence posts, trees, solid brushwood or large stones.**
In such situations, the brushcutter will be thrown to one side at high speed and with great force (high risk of injury).



To avoid kickbacks, observe the following:

- Clear the cutting area of any foreign objects and pay attention to any existing planted areas and other objects.
- The cutting tool must be turning at full speed before you begin to cut.
- An increased risk of injury exists in the darkly marked area and especially when metal cutting tools are being used!

Working behavior and working techniques

- Before commencing cutting, the cutting tool must have reached full working speed
- Use the brushcutter only in good light and visibility. During the winter season beware of slippery or wet areas, ice and snow (risk of slipping). Always ensure a safe footing.
- Never cut above your shoulder height.
- Never stand on a ladder and run the brushcutter.
- Never climb up into trees to perform cutting operations with the brushcutter.
- Never work on unstable surfaces.

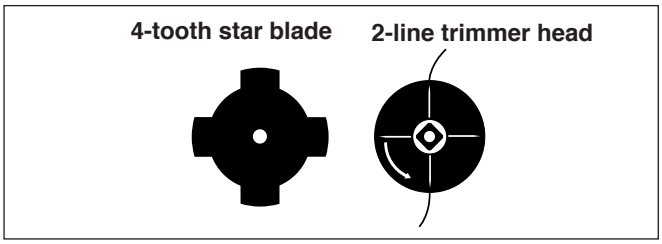
Make sure the cutting area is free of foreign objects such as stones and metal items. Foreign particles can rebound (danger of injury!), damage the cutting tool and cause dangerous kickbacks (see last section).

Applications for cutting tools

Use the cutting tools to perform the work described below only! Other applications are not permitted.

2-line trimmer head
Exclusively for cutting along walls, fences, grass edges, trees, posts, etc. (supplementing the lawn mower).

4-tooth star blade
For cutting grass or thick weeds. Perform this cutting work by swinging the brush cutter evenly in half-circles from left to right (similar to a scythe).



Transport

STOP

When transporting the equipment or moving to another working location, the brushcutter must be switched off in order to avoid unintentionally starting the cutting tool.

Never drag the brushcutter behind you and never drop it (except in case of emergency)**. Do not throw the brushcutter in order to load it onto the transport vehicle!**

If the brushcutter is subject to sudden jolts, it must be checked for signs of leaking fuel (risk of fire or explosion!).

Never transport the brushcutter with the cutting tool still running!

- The transport safety device included in the scope of delivery must always be fitted whenever the brushcutter is being transported over longer distances.
- When transporting the brushcutter in the vehicle, make sure that the brushcutter is safely secured. Empty the fuel tank before transporting the brushcutter.
- Before shipping the brushcutter, completely empty the fuel tank.

Storage

- The brushcutter must be safely stored in a dry room. Use the transport safety device for metal cutting tools. Keep the brushcutter out of reach of children.
- Following a longer storage period, have an authorized MAKITA service center perform a thorough maintenance check and a complete inspection of the brushcutter.
- Prior to a longer storage period of the brushcutter, the fuel tank must be completely emptied and the carburetor run dry. Fuels may only be stored for a limited period of time and could cause deposits to form in the tank or in the carburetor.
- Fuel remaining in reserve canisters should be used for other engines or be disposed of properly.

Maintenance

Always make sure that the brushcutter is in good working order before using it. This includes, in particular, the cutting tool, cutter guard, shoulder strap, and fuel system (check for leaks). Particular attention must be paid to the cutting blades, which must be correctly sharpened.

Metal cutting tools must be sharpened only at an authorized service center!

A tool which has been improperly sharpened can cause unbalance and thus considerable danger of injury. Apart from this, the equipment may be damaged due to vibrations.

STOP STOP

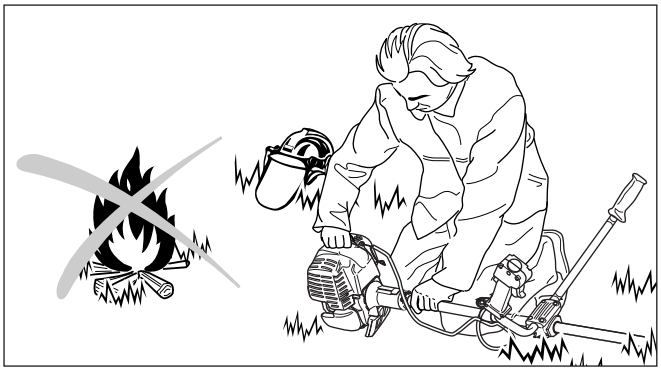
When changing the cutting tool, cleaning the brushcutter and the cutting tool, etc., it is essential to switch off the engine and pull the spark plug cap.

- Never straighten or weld damaged cutting tools.
- Operate the brushcutter with as little noise and pollution as possible. In particular check the correct setting of the carburetor.
- Clean the brushcutter at regular intervals and check that all screws and nuts are well tightened.
- Never service or store the brushcutter near open flames!
- Always store the brushcutter in a locked storage area, with the fuel tank completely empty and the carburetor run dry. Keep the brushcutter out of reach of children.

Observe the accident prevention instructions issued by the relevant trade associations and insurance companies.

Do not make any modifications to the brushcutter! You will only be putting your own safety at risk!

- The performance of maintenance or repair work by the user is limited to those activities described in this instruction manual. All other work must be done by the MAKITA customer service center.
- Use only original MAKITA spares and accessories. The use of non-MAKITA spares, accessories, or cutting tools increases the risk of accident. MAKITA will not accept any liability for accidents or damage caused by the use of non-approved cutting tools and fixing devices of cutting tools, or accessories.



makita®

SERVICE

First aid

A first-aid kit should always be nearby as a precaution in the event of an accident. Immediately replace any items taken from the first-aid kit.

When calling for help, give the following information:
- Place of accident
- What happened
- Number of persons injured
- Nature of injuries
- Your name

Individuals with poor circulation who are exposed to excessive vibration may experience injury to blood vessels or the nervous system. Vibration may cause the following symptoms to occur in the fingers, hands or wrists: "Falling asleep" (numbness), tingling, pain, stabbing sensation, alteration of skin color or of the skin. If any of these symptoms occur, see a physician.

EU Declaration of Conformity

The undersigned, Shigeharu Kominami and Rainer Bergfeld, as authorized by DOLMAR GmbH, declare that the brushcutters of the make MAKITA,

Type: (366) **BCX3410 and BCX3400**

conforms to the basic safety and health requirements of the applicable EU directives:

- EU Machinery Directive 98/37/EC.
- EU EMC Directive 89/336/EEC (modified by 91/263/ EEC, 92/31/EEC and 93/68/ EEC).
- Noise Emission Directive 2000/14/EC.

For proper implementation of the requirements of these EU directives, the following standards were applied to a significant extent: EN 11806, EN 14982, EN 61000-4-2, EN 61000-4-3.

The conformity assessment procedure 2000/14/EC was carried out in accordance with Annex V. The measured sound power level (Lwa) is 103 dB(A). The guaranteed sound power level (Lwa) is 104 dB(A).

Hamburg, 2.1.2005

For DOLMAR GmbH

Shigeharu Kominami
Managing Director

Rainer Bergfeld
Managing Director

Packaging

Your MAKITA brushcutter comes in a cardboard box for proper protection against transport damage.

Cardboard packaging boxes are raw materials and are therefore reusable or can be fed back into raw material recycling systems (waste paper utilization).

Scope of delivery

1 Brushcutter

2 U-handle
(incl. 4 fastening washers, 2 anti-slip inserts and handle fastening cap)
(for BCX3410 with C-handle incl. 4 fastening screws, washers and handle mount)

3 Screwdriver insert

4 Screwdriver handle

5 Combination wrench

6 3 Allen key

7 Shoulder strap with hip protection pad (for BCX3410 without hip protection pad)

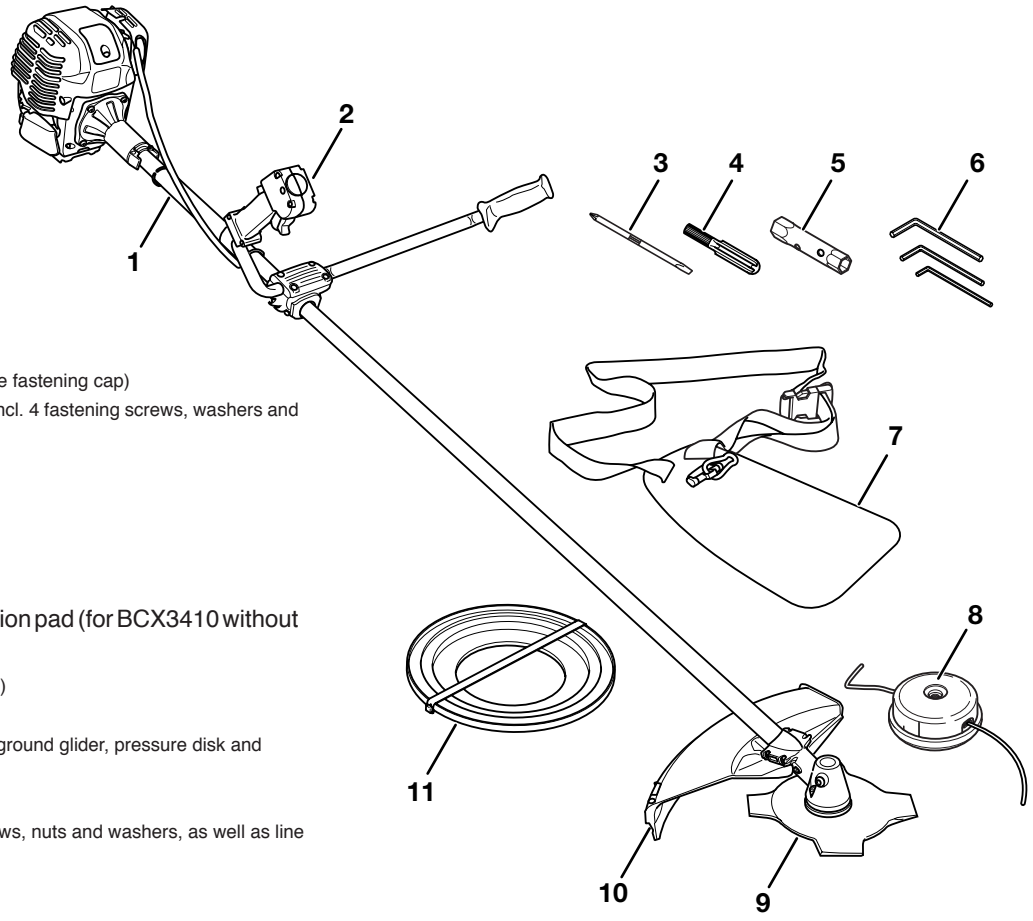
8 2-line trimmer head (cutting tool)

9 4-tooth star blade
(cutting tool incl. mounting disk, cap, ground glider, pressure disk and fastening nut)

10 Cutter guard
(incl. protective strip, 4 fastening screws, nuts and washers, as well as line blade and fastening screw)

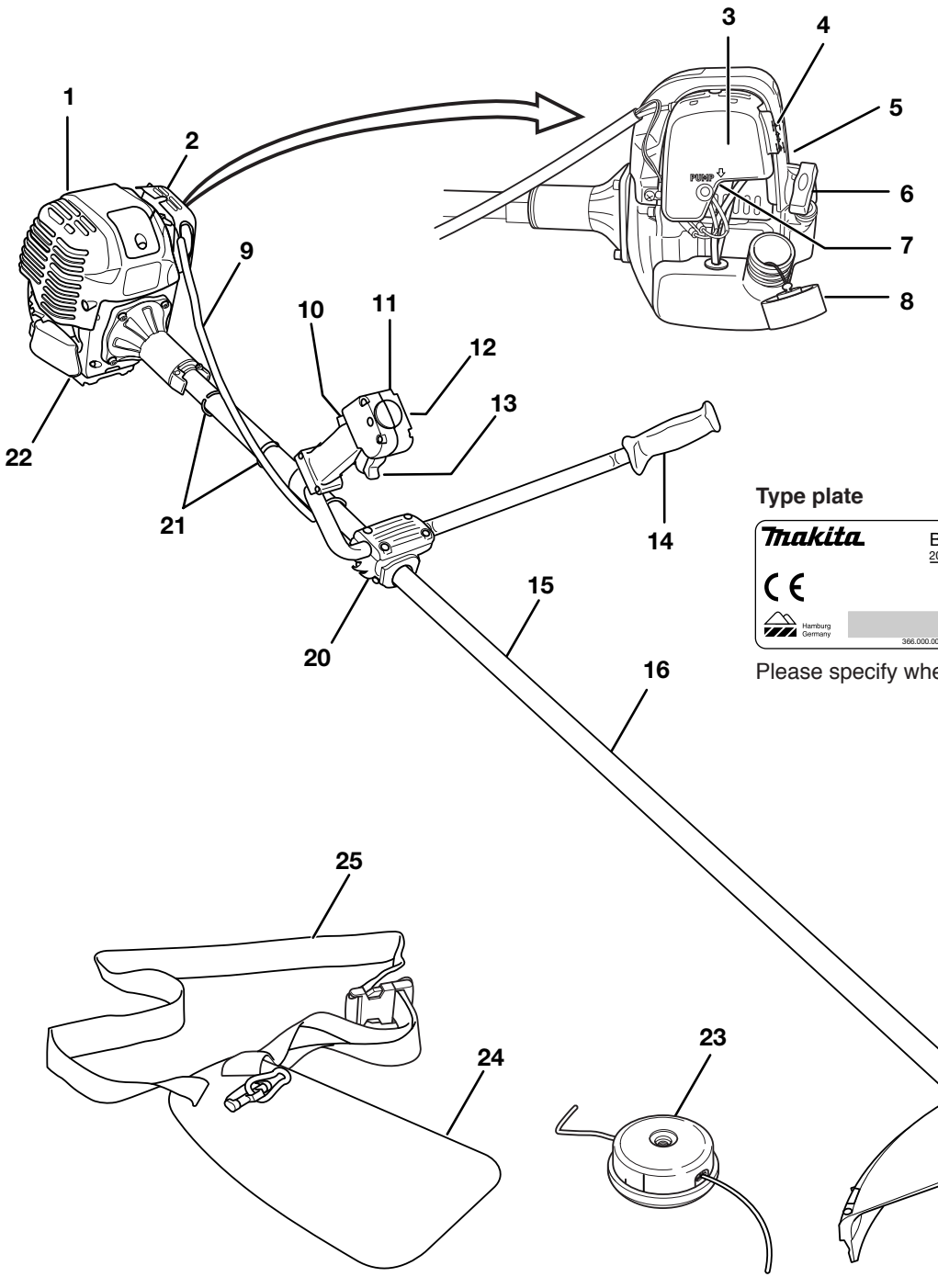
11 Transport protection device

12 Instruction manual (without illustration)

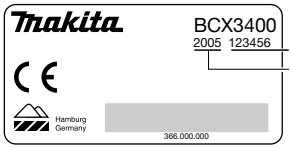


First of all, check the scope of delivery. If one of the parts listed here is not included or is defective, please contact your salesperson.

Main components of the brushcutter



Type plate



Year of manufacture
Serial number

Please specify when ordering spare parts!

1 Cover
2 Cap for spark plug
3 Cover for air filter
4 Choke lever
5 Muffler
6 Starter handle
7 Primer pump
8 Tank cap
9 Control cable (Bowden cable)
10 Safety locking button (throttle lever lockout)
11 Handle, right
12 Short-circuit switch ("START / STOP")
13 Throttle lever
14 Handle, left
15 Model designation
16 Main tube
17 Cutter guard
18 Angular gearbox
19 4-tooth star blade (cutting tool)
20 Handle fastening cap
21 Strap holder
22 Foot
23 2-line trimmer head (cutting tool)
24 Hip protection pad (for BCX3410 not included)
25 Shoulder strap

Preparations

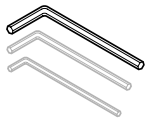
Before you can put the brushcutter into operation, you must assemble and prepare it for regular operation.

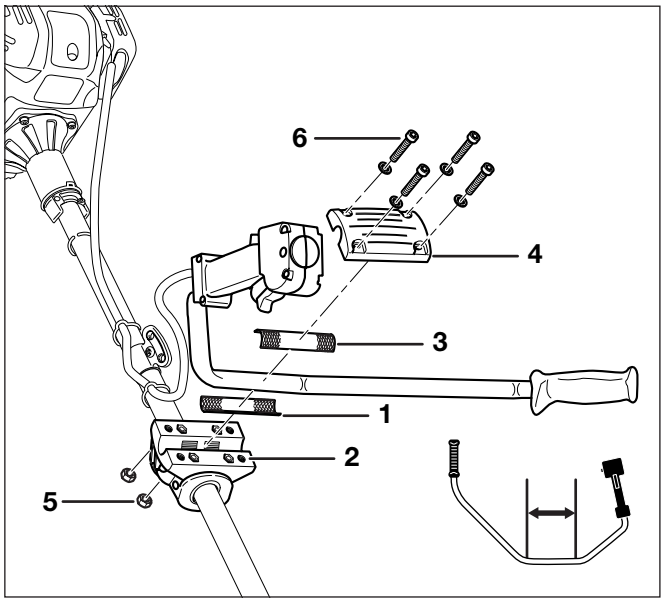
The brushcutter is not allowed to be started until it has been completely assembled and a functional test has been carried out!

Wear protective gloves for all work on the brushcutter!

Installing the handle

Depending on whether you have decided to purchase the BCX3400 or the BCX3410 brushcutter, your machine will be equipped with a C-handle or with a U-handle.

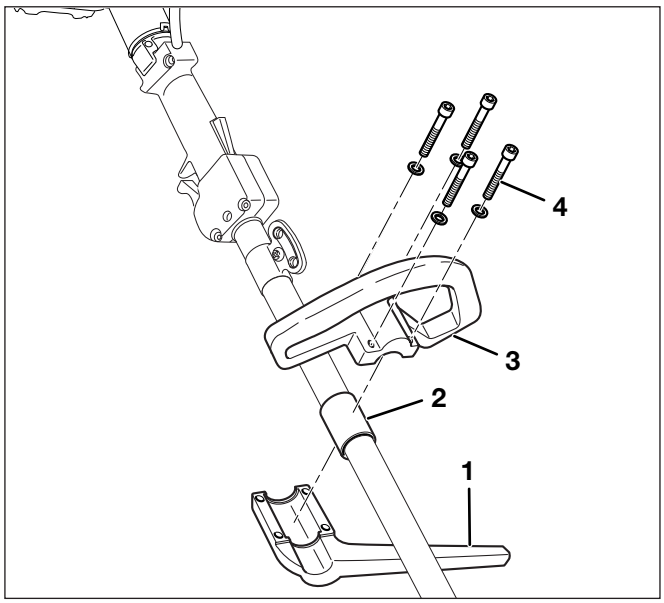




U-handle
To install the handle, lay down the brushcutter so that it is resting on its foot in stable position.

The tool you will require is the big Allen key.

1 Place the anti-slip insert (**1**) in the handle mount (**2**) so that it lines up flush with the handle mount.
2 Insert the handle as shown in the illustration.
3 Place the second anti-slip insert (**3**) on the handle (**2**) so that it also lines up flush with the handle mount.
4 Place the handle fastening cap (**4**) on top and hold it firmly.
5 Insert the nuts (**5**) from underneath into the drilled holes of the handle mount, hold them in place and tighten the screws firmly (**6**) at the same time (do not forget the washers).



C-handle
To install the handle, lay down the brushcutter so that it is resting on its foot in stable position.

The tool you will require is the medium-sized Allen key.

1 Place the handle mount (**1**), as shown in the illustration, from the rear side onto the anti-slip sleeve (**2**) on the main tube and hold it firmly.
2 Place the C-handle (**3**), as shown in the illustration, from above onto the anti-slip sleeve (**2**) so that it is resting on the handle mount.
3 Fasten the handle by tightening the screws (**4**) (do not forget the washers).

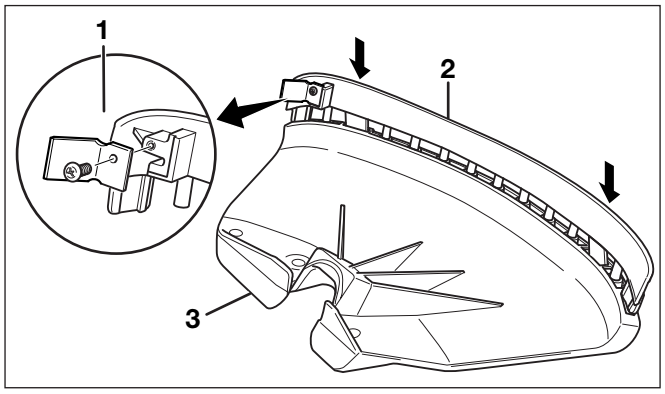
Installing the line blade and cutter guard

On the basis of legal accident prevention regulations, the cutter guard included in the scope of delivery (and no other cutter guard) must be installed!
To ensure your personal protection, the brushcutter is not allowed to be put into operation without the cutter guard under no circumstances whatsoever!
Caution: The enclosed blade, which is fastened to the cutter guard in order to adjust the lines of the 2-line trimmer head, is sharp!

The tools you will require are the Phillips screwdriver and the medium-sized Allen key.

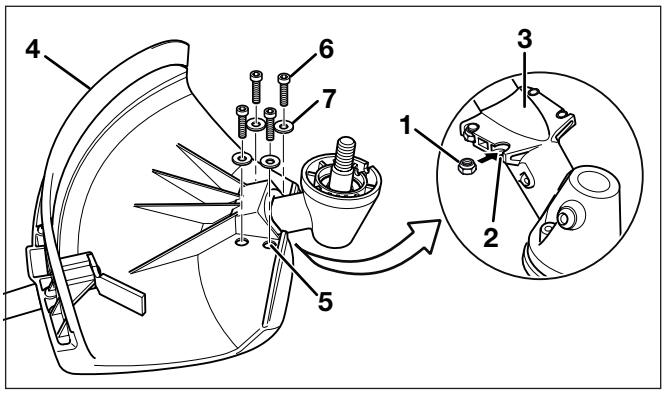
Fastening the line blade to the cutter guard
If the brushcutter is to be used with the 2-line trimmer head, the line blade must be fastened to the cutter guard so that it can cut the line automatically to the same length during the readjustment operation.

1 Use the enclosed Phillips screwdriver to fasten the line blade (**1**), as shown in the illustration, to the protective strip (**2**).
2 Lay the cutter guard (**3**) down on the top side.
3 Bend the protective strip slightly with the line blade on the inside and insert into the mounts on the bottom edge of the cutter guard until the snap-fit closures snap into place on both sides.



Installing the cutter guard
To install the cutter guard, lay down the brushcutter so that it is resting on its handle in stable position.

1 Insert the four nuts (**1**) from the side into the provided cutouts (**2**) in the mount (**3**).
2 Place the cutter guard (**4**) on the mount so that the fastening holes (**5**) in the cutter guard line up with the nuts.
3 Use four screws (6) (do not forget the washers (**7**)) to fasten the cutter guard.



Installing the cutting tool

Use only the cutting tools included in the scope of delivery!
Installing other cutting tools can result in an increased risk of accidents and damage to the machine and is therefore not permitted!

Before installing the cutting tool, you must install the cutter guard first (see previous section)**.**

The brushcutter can be operated using two different cutting tools: either with the 4-tooth star blade in order to cut thick material, such as weeds, high grass etc.; or with the 2-line trimmer head in order to cut remaining grass along walls, fences lawn edges, trees, posts, etc.

4-tooth star blade
To install the cutting tool, lay down the brushcutter so that it is resting on its handle in stable position.

The tool you will require is the:

- Combination wrench plus screwdriver as a handle
- e.g. the medium-sized Allen key as an assembly pin

1 Place the mounting disk (**1**) on the gearbox shaft (**2**) so that one lateral cut-out (**3**) lines up with the cut-out (**4**) in the angular gearbox.

2 Place the winding safety device (**5**) on the angular gearbox so that its lateral cut-out and the cut-out (**4**) in the angular gearbox line up properly.

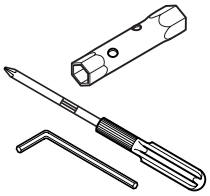
3 Insert the 4-tooth star blade (**6**), pressure disk (**7**) and ground glider (**8**) after one another onto the gearbox shaft as shown in the illustration.

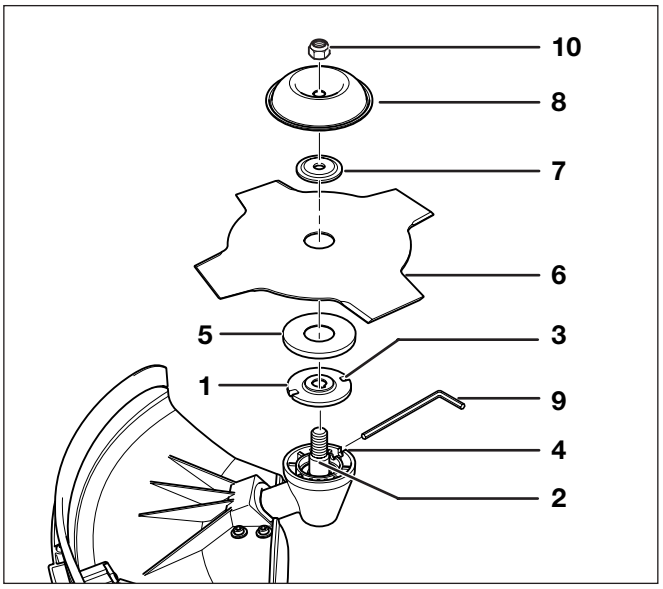
4 Insert the assembly pin (**9**) through the mounting disk into the cut-out of the angular gearbox.
The gearbox shaft is blocked.

5 Use the combination wrench (**10**) to tighten the nut firmly (left-hand thread).

The fastening nut (10**) is equipped with a plastic locking device and must be replaced, for safety reasons, with a new fastening nut immediately in the case of noticeable easy movement, but no later than after the tool has been changed 10 times (see extract from the spare parts list)!**

6 Remove the assembly pin again and check the cutting tool for free movement.





2-line trimmer head
To install the cutting tool, lay down the brushcutter so that it is resting on its handle in stable position.

The tool you will require is ,e.g, the medium-sized Allen key as an assembly pin.

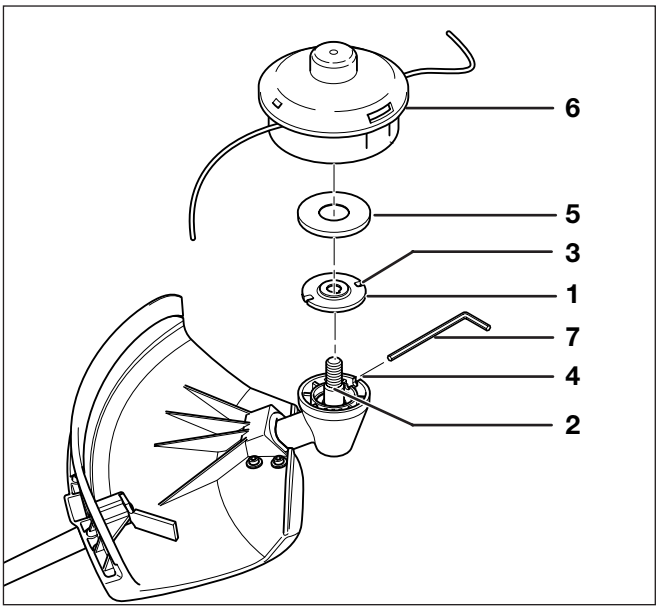
1 Place the mounting disk (**1**) on the gearbox shaft (**2**) so that the lateral drilled hole (**3**) lines up with the cut-out (**4**) in the angular gearbox.

2 Place the winding safety device (**5**) on the angular gearbox so that its lateral cut-out and the cut-out (**4**) in the angular gearbox line up properly.

3 Insert the assembly pin through the mounting disk into the cut-out of the angular gearbox.
The gearbox shaft is blocked.

4 Screw on the 2-line trimmer head (**6**) (left-hand thread) and tighten firmly by hand.

5 Remove the assembly pin again and check the cutting tool for free movement.



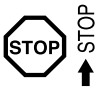
Refueling the brushcutter

When refueling the brushcutter, please note the following information at all times!

No smoking and no open fires!
Do not refuel in closed rooms!

Fuel vapors will accumulate on the ground (risk of explosion)!

Fuels can contain solvent-like substances. Prevent contact of the eyes and skin with mineral oil products. Wear gloves when refueling. Change and clean your protective clothing more frequently. Do not inhale fuel vapors. Inhaling fuel vapors can cause physical damage to your health.



Before refueling the brushcutter, turn off and allow the engine to cool down.

Operating materials/fuels

The handling of operating materials/fuels requires cautious, careful action. Refuel the brushcutter only outdoors or in well-ventilated rooms.

Mineral oil products, including oils, degrease the skin. In case of repeated, longer contact, the skin will dry up. This can result in various skin diseases. Beyond that, allergic reactions are well known.
Contact of the eyes with oil results in irritations. In case of eye contact, wash the affected eye immediately with clear water. If the irritation does not subside, a physician must be consulted immediately!

Gasoline

The engine of the brushcutter is designed to be run with regular gasoline with a minimum octane number of 91 RON. If that type of fuel is not available, fuel with a higher octane number can also be filled into the tank without damaging the engine.

Engine oil

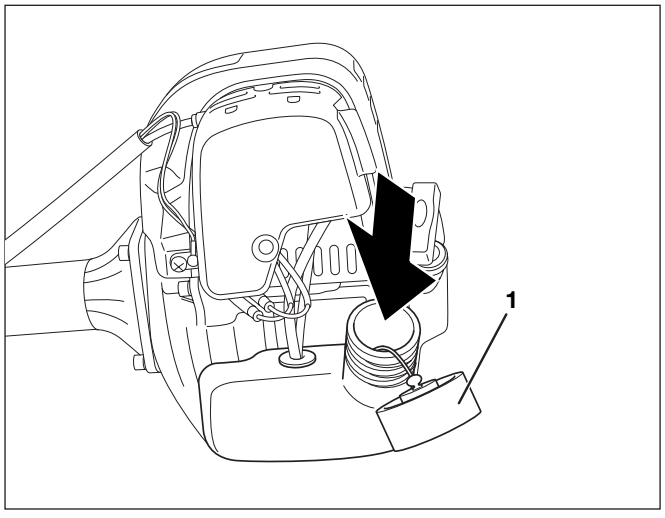
The engine is lubricated exclusively by the engine oil (multigrade oil of the classification **SAE 10W-30)**. This is why you must check the engine oil level at a clean location before beginning to work with the brushcutter. During this inspection, it is important to make sure that no dirt gets onto the dipstick or into the crankcase in order to guarantee long service life of the engine.

If, despite all precautions, dirt does get into crankcase, the engine oil must be changed before the engine is started.

Refueling and filling up with engine oil

The tool you will require is a clean rag.

1 Clean the area around the tank cap (**1**) thoroughly, so that no dirt can get into the fuel tank (not necessary upon first-time operation of the brushcutter).
2 Lay down the brushcutter, so that it is resting on its foot in stable position.
3 Unscrew the tank cap and fill gasoline carefully up to the bottom edge of the filler neck.



However, if you do spill any fuel, clean the brushcutter immediately. If fuel gets onto your clothes, change them immediately.

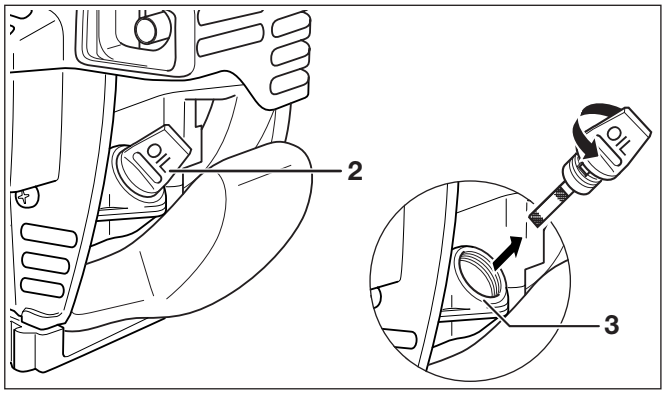
4 Screw the tank cap on tightly again.

5 Clean the tank cap and the surrounding area thoroughly.

When laying down the dipstick, make sure that it does not come into contact with dirt under no circumstances whatsoever! Remove dirt immediately whenever necessary!

6 Turn the dipstick (**2**) out of the opening anticlockwise.

7 Upon first-time operation of the brushcutter, use a suitable filling bottle to fill 80 cm^3 of engine oil up to the bottom edge of the filling opening (**3**).



An engine oil bottle can be used for precise dosing without spilling engine oil (see extract from the spare parts list)**.**

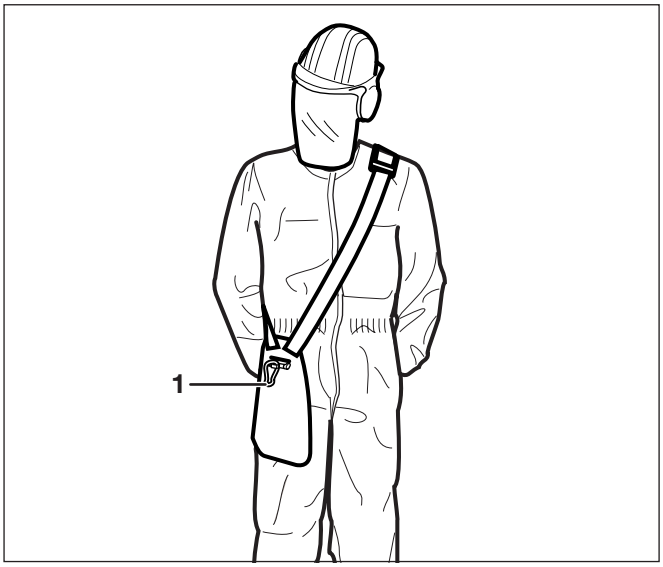
9 Turn the dipstick back in again.

Following first-time operation of the brushcutter, the engine oil must be changed after 20 hours of operation and not after 50 hours of operation.

Putting on the shoulder strap

1 Put on the shoulder strap as shown in the illustration.

2 Adjust the shoulder strap so that the fastening hook (**1**) for the brushcutter is situated at the height of your hip bone.



The shoulder straps of the BCX3410 brushcutters are not equipped with a hip protection pad.

Balancing the brushcutter

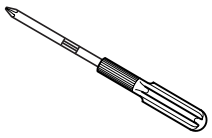
To balance the brushcutter, the machine must have been refueled and filled with oil (see section "Refueling the brushcutter" in this chapter).

The ground clearance depends on the selected cutting tool.

When a line trimmer head is being used on level ground, the line trimmer head should be resting on the ground lightly without the operator touching the machine with his hands.

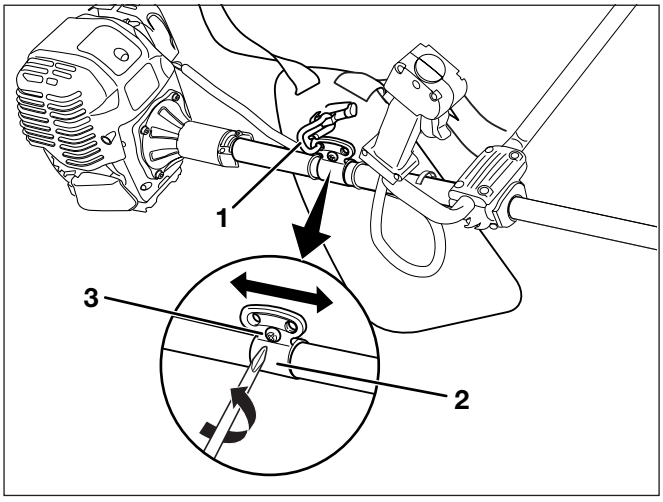
When the 4-tooth star blade is being used on difficult ground, the cutting tool must be resting approx. 20 cm above the ground without the operator touching the machine with his hands.

The tool you will require, if appropriate, is the Phillips screwdriver.



1 Hook the fastening hook (**1**) of the shoulder strap, depending on the cutting tool, into one of the two holes of the strap holder (**2**).

If the adjustment option is not sufficient:



2 Undo the screw (**3**) slightly.

3 Push the strap holder into the desired position on the main tube.

4 Retighten the screw firmly.

At this point, the adjustment of the handles to suit your body should also be carried out again.

Operation

Since you have performed all the preparations, the brushcutter can now be put into operation.

The brushcutter is not allowed to be started until it has been completely assembled (see chapter "Preparations") and a functional test has been carried out!
Observe the accident prevention regulations!

For all work performed with the brushcutter:

Wear protective gloves!

Wear safety shoes!

Wear a helmet as well as face, eye and hearing protection!

Never work alone. In case of emergencies, another person must be within shouting distance. Before beginning to work, inform the other person about the protective devices available on the machine!
The cutting tool must be equipped with the appropriate cutter guard. Never operate the machine without the cutter guard.
In the case of noticeable changes in the behavior of the machine, turn off the engine immediately.

If the cutting tool comes into contact with stones or other hard objects, turn off the engine immediately and check the cutting tool.

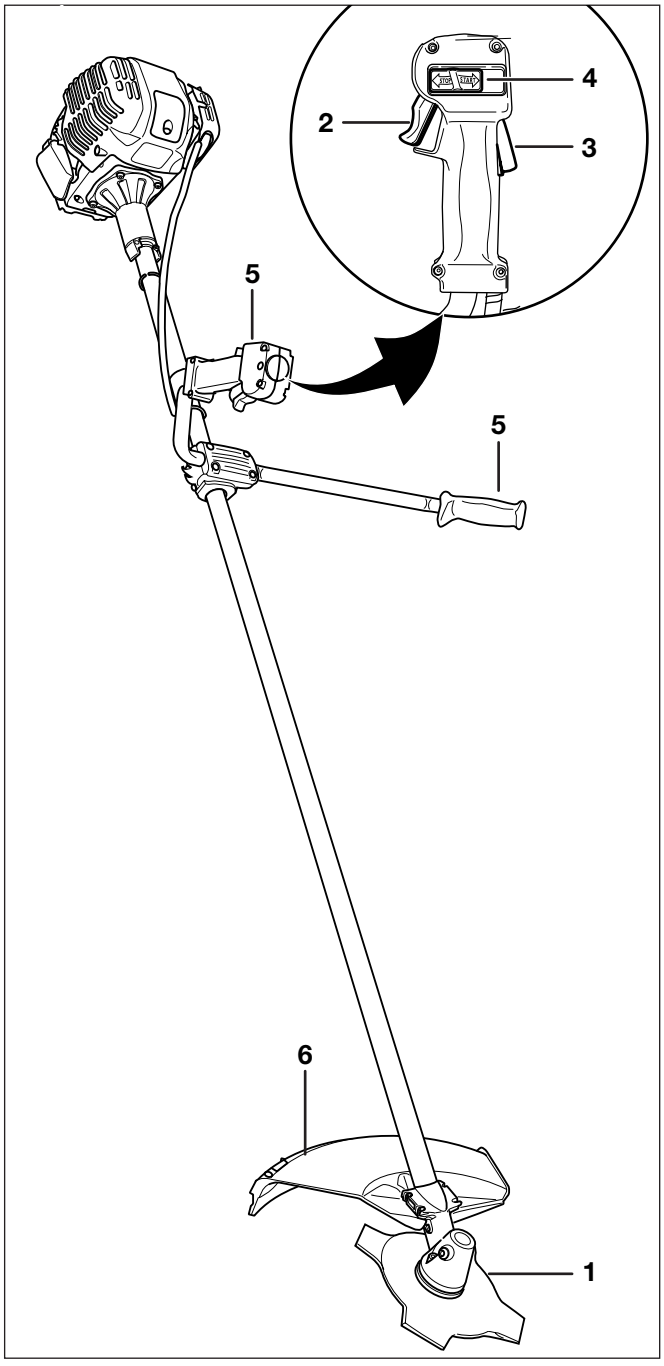
Checking the reliable operating condition of the brushcutter

Before starting the brushcutter, always make sure that

- the cutting tool (**1**) fits firmly.
- upon being released, the throttle lever (**2**) returns to zero position automatically.
- the safety locking button (**3**) is functioning.

If the safety locking button (3) is not pressed, it must also not be possible to press the throttle lever (2) all the way down.

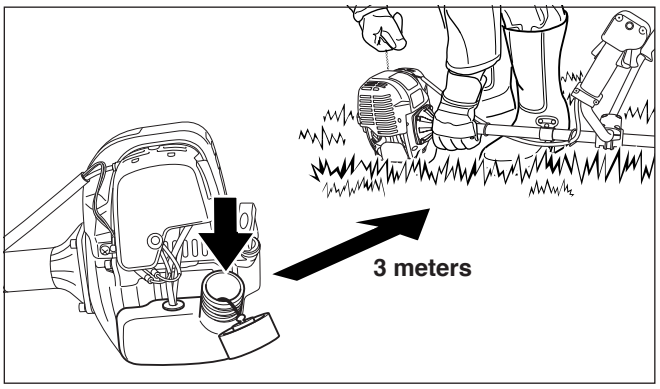
- the start-stop switch (**4**) (short-circuit switch) is functioning.
- the handles (**5**) are clean and dry.
- the cutter guard (**6**) has not been damaged and is firmly installed in correct position.



Starting

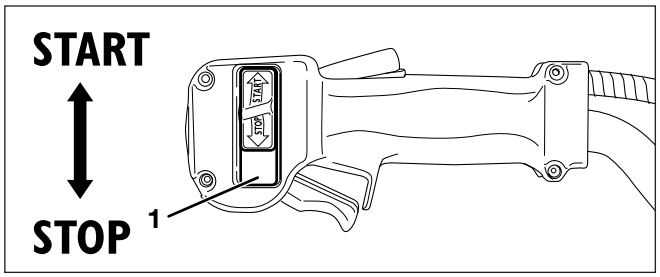
Move at least three meters away from the refueling location in order to start the brushcutter!

To start the brushcutter, lay it down on a sufficiently clear location so that it is resting on its foot in stable position and the cutting tool does not come into contact with anything else, neither with the ground nor with other objects.

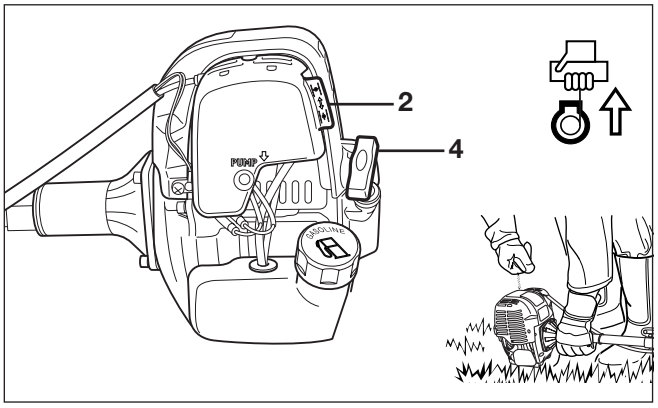


Cold starting

If there are any starting problems, excessively stored fuel could be the reason. Fuel can only be stored for a limited period of time and is subject to ageing!
Therefore, purchase only as much fuel as is supposed to be consumed in a few months!



1 Push the short-circuit switch (**1**) upward to "START".
2 Move the choke lever (**2**) upward into -position (close choke).
3 Press the fuel pump (**3**) lightly approx. 7–10 times until there are no more air bubbles to be seen in the fuel pump.
4 Hold the brushcutter firmly with one hand as shown in the illustration.
5 Pull out the starter handle (**4**) slowly until you can feel a resistance.
The piston is now located just before the upper dead-center position.
6 Now pull further quickly and forcefully until the first audible ignition occurs.
The engine will start to run for a short time.

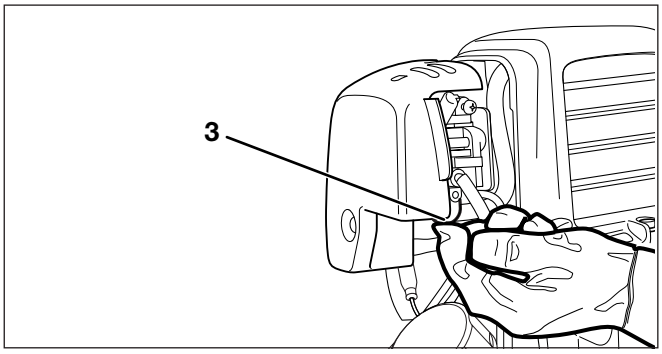


Do not pull out the starter handle more than 50 cm and do not let it fly back; instead guide it back slowly by hand.

7 Move the choke lever (**2**) downward into -position (open choke).
8 Pull the starter handle again until the engine starts to run.

At idle (throttle lever (6) is not operated)**, the cutting tool must not rotate. However, if the cutting tool is rotating, the idle speed must be adjusted** (see section "Checking and adjusting the idle speed")**.**

9 By grabbing the handle and pressing the safety locking button (**5**) and the throttle lever slightly (**6**), bring the engine up to medium speed and maintain that speed.

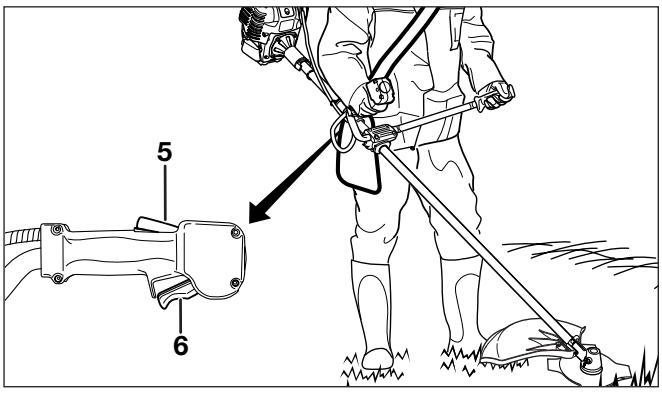


Never run the brushcutter under full load immediately; instead, let the engine warm up for approx. three to five minutes at medium speed.

10 With new machines, adjust the idle speed if necessary (see section "Checking and adjusting the idle speed").

Warm starting

Start the brushcutter in warm condition, as described in the section "Cold starting", but without opening the choke, i.e. without putting the lever (**2**) into -position.



Turning off the engine

To turn off the engine, push the short-circuit switch (**1**) downward to "STOP".

Checking and adjusting the idle speed

The carburetor of the brushcutter is equipped with a fixed jet. This means that you will only need to adjust the idle speed, e.g. if your machine is a new machine or the cutting tool is rotating at idle. Make sure that the air filter is always clean!

Never run the brushcutter under full load immediately; instead, let the engine warm up for approx. three to five minutes at medium speed.

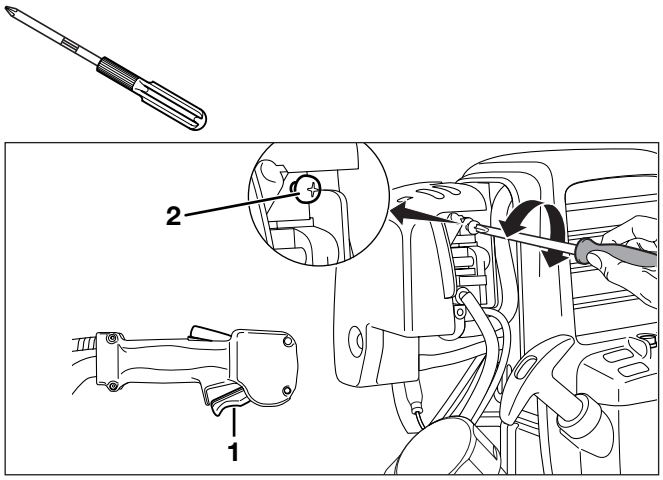
At idle, the cutting tool must no longer rotate. If the cutting tool is rotating, the idle speed must be readjusted.

The tool you will require is the Phillips screwdriver.

To adjust the idle speed:

1 Proper cutting tool must be installed.
2 Let the engine warm up.
3 Release the throttle lever (**1**).
4 If necessary, readjust the idle speed by regulating the idle screw (**2**):
   - Turn the screw inward for faster engine run.
   - Turn the screw outward for slower engine run.

If the cutting tool does not stop rotating, you must not work with the machine under no circumstances whatsoever! Contact a MAKITA service center!



Maintenance

The maintenance work described below must be performed regularly and properly in order to guarantee long service life of your brushcutter and to prevent any form of damage. Warranty claims will only be recognized in that case.

For all work on the brushcutter:

Turn off the engine and pull off the spark plug connector!

Wear protective gloves!

Observe the accident prevention regulations issued by the trade association and insurance company in charge!
Do not perform any structural modifications or maintenance work on the brushcutter extending beyond the structural modifications or maintenance work described in this instruction manual! Have a MAKITA service center perform all other work for you; otherwise, you will be putting your safety at risk!

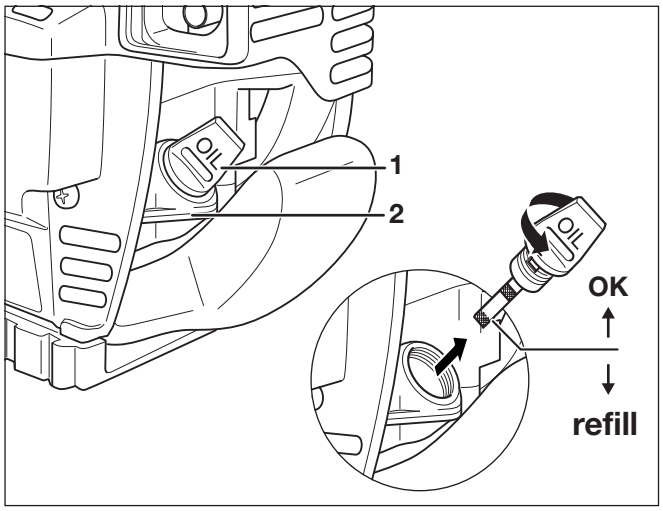
Checking the oil level

When laying down the dipstick, make sure that it does not come into contact with dirt under no circumstances whatsoever! To be on the safe side, always have a clean rag ready!

1 If necessary, let the engine cool down.
2 Clean the area around the dipstick (**1**) thoroughly, so that no dirt can get into the crankcase.
3 Lay down the brushcutter, so that it is resting on its foot in stable position.
4 Turn the dipstick out of the opening anticlockwise.
5 Wipe off the dipstick with a clean rag.
6 Dip the dipstick through the opening into the crankcase and pull it out again.
7 Read the oil level (see illustration).
8 If necessary, use a suitable filling bottle to refill engine oil up to the bottom edge of the filler opening (**2**).

An engine oil bottle can be used for precise dosing without spilling engine oil (available as an accessory, see extract from the spare parts list)**.**

9 Turn the dipstick back in again.



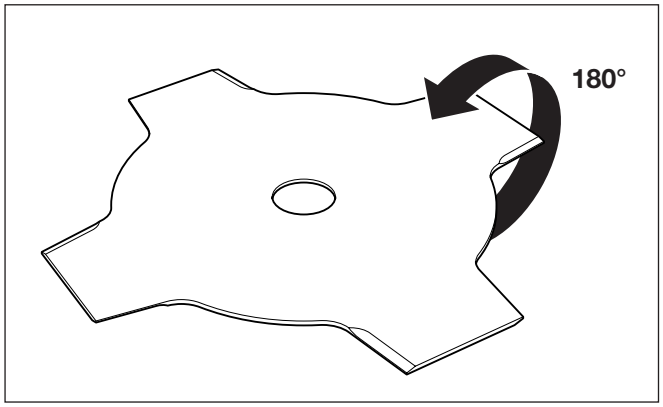
Tools

Sharpening the 4-tooth star blade

Metal cutting tools are only allowed to be resharpened by specialized workshop since an improperly resharpened can cause unbalance and therefore constitutes considerable risk of injury. Beyond that, damage to the machine can be caused by vibrations!

Every MAKITA service center will sharpen and balance the 4-tooth star blade for you.

In order to extend its period of use, the 4-tooth star blade can be turned once until both blade sides are blunt.



Readjusting the line of the 2-line trimmer head
The line length can be adjusted at any time with the best possible results by tapping the line trimmer head on the ground lightly during the mowing operation. The lengthening of the line amounts to approx. 40 mm for each releasing operation.

The line blade cuts off projecting ends of the line automatically.

Checking/replacing the line of the 2-line trimmer head
The new nylon line must be four meters long and have a diameter of Ø 3.0 mm (order number, see extract from the spare parts list).

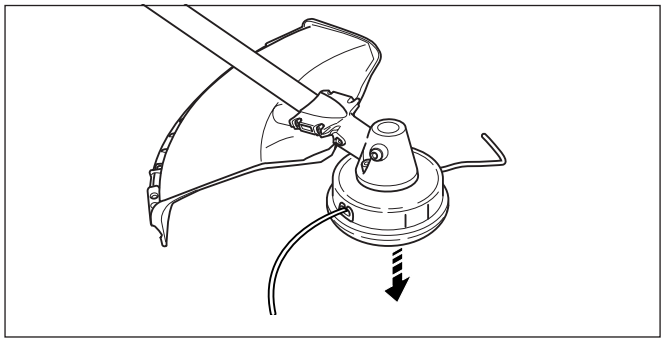
To replace the line, it is advisable to dismantle the line trimmer head first (see instructions from section "Installing the 2-line trimmer head" in chapter "Preparations" in reverse order).

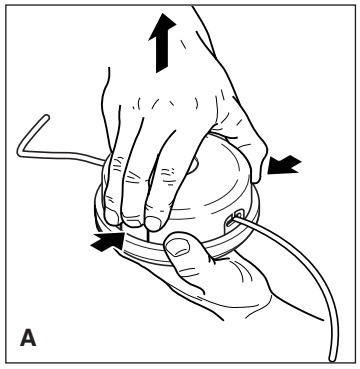
1 Press in the cover mounting clips and open the line trimmer head carefully (Caution! Inner spring presses the two housing parts apart) (A).
2 Take the reel including the line out of the housing (B).
3 Remove remaining old pieces of line from the reel.

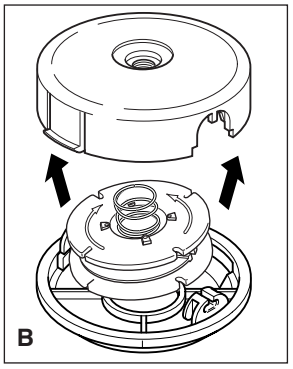
If there is still sufficient line on the reel, but if the line does not adjust itself to the correct length during the mowing operation, the line must be wound up onto the reel again.

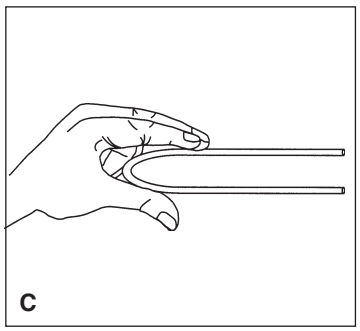
4 Use a paintbrush to clean the reel bottom side and the housing and check for any signs of damage.
5 Kink the new line in the middle and insert into the partition of the two reel guides as shown in the illustration (C, D).
6 Wind the line from the two reel guides in the direction of the arrow tautly onto the reel (E).
7 Clamp both ends of the lines in two opposite grooves of the reel so that the line does not slacken when the reel is inserted into the housing (F).
8 Reinsert the reel into the bottom part of the housing and thread both ends of the line into the line guides in the housing (G).
9 Line up the reel according to the cut-outs in the top part of the housing and press into the housing forcefully until both snap-fit closures snap into place (H).

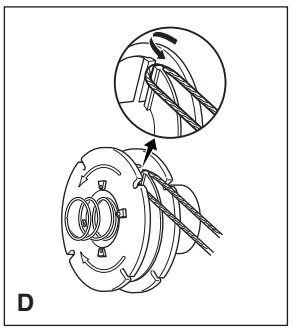
Uneven line lengths are cut off by the line blade on the cutter guard automatically during regular operation.

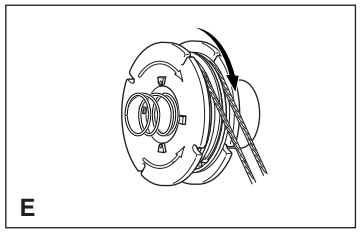


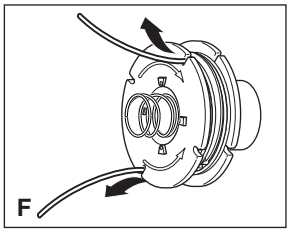


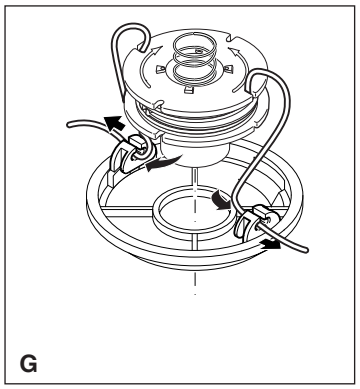


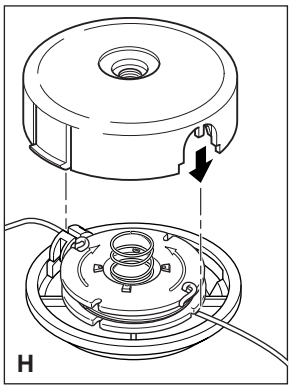












Daily maintenance

The following maintenance work must be carried out each time after the brushcutter has been used.

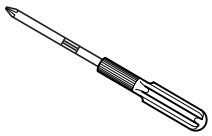
Cleaning the air filter

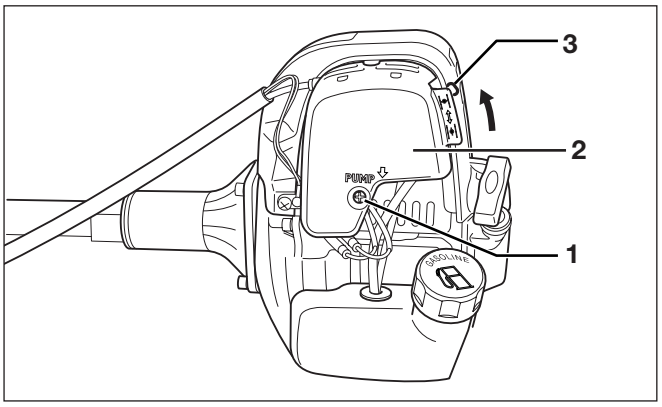
If the workplace is very dusty or sandy, the filter must be cleaned at regular intervals, due to the fact that only a clean air filter will guarantee full engine performance. Coarse particles of dirt can destroy the engine!
Renew damaged air filters immediately!

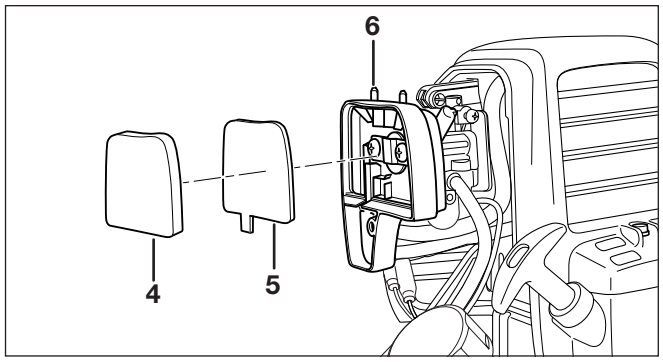
To clean the air filter, lay down the brushcutter so that it is resting on its foot in stable position.

The tool you will require is the Phillips screwdriver.

1 Unscrew the screw (**1**).
2 Grab the air filter cover (**2**) at the bottom and pull it off.
3 Push the choke lever (**3**) all the way up to the limit stop. Particles of dust can no longer drop into the carburetor now.
4 Remove both air filters (**4**, **5**) and wash them off in lukewarm alkaline soap solution with commercial-grade dish-washing detergent.
5 Let the air filters dry completely.
6 Reinsert both air filters (first the white one (**5**) with the clip facing downward on the left-hand side).
7 Place the air filter cover on the upper clips (**6**) first, and then press the lower part of the cover in the direction of the engine (you must be able to hear the cover snap into place).
8 Retighten the screw firmly.







Weekly maintenance

The following maintenance work must be carried out once a week during regular use.

Checking/replacing the spark plug

The engine must have cooled down completely before you can begin to the check or replace the spark plugs.

Lay down the brushcutter first so that it is resting on its foot in stable position.

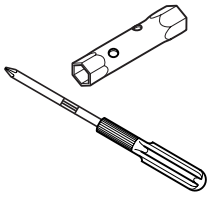
The tools you will require is the combination wrench (plus the screwdriver as a handle) as well as a pair of insulated pliers.

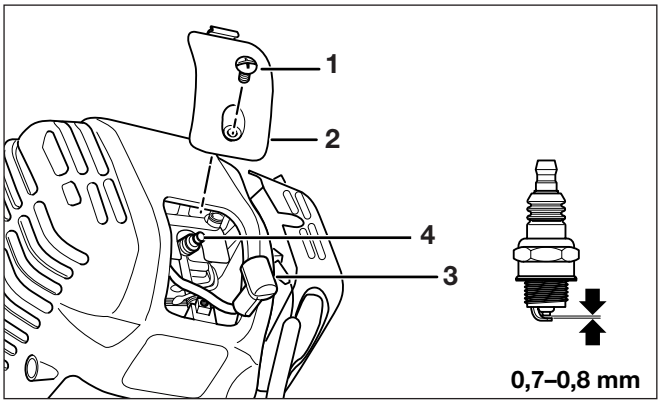
Materials: Use NGK-CMR 6A-type spark plugs only
(see extract from the spare parts list).

1 Turn out the screw (**1**).
2 Remove the spark plug cap (**2**).
3 Pull off the spark plug connector (**3**) from the spark plug.
4 Use the combination wrench to turn the spark plug (**4**) out of the opening.

The spark plug must be replaced if its insulation body is damaged or if its electrode is extremely burned, soiled or oiled up, or if you can no longer see a spark during the spark test described below.

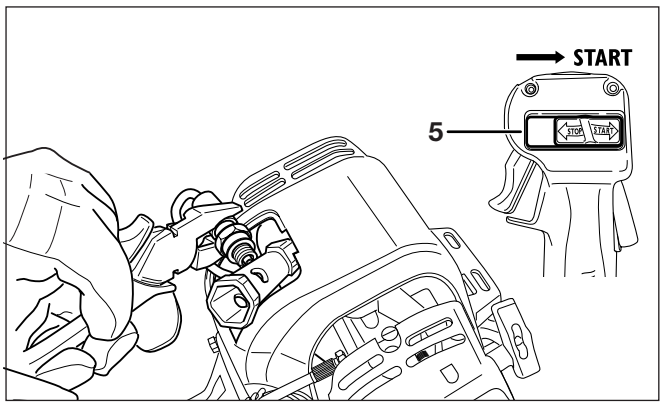
The gap between the electrodes must be 0.7-0.8 mm (see illustration)**.**





If you want to check the igniting spark (otherwise continue with step 10):

5 Plug the spark plug connector onto the unscrewed spark plug.
6 Use the combination wrench to make ground contact to the cylinder.
7 Use a pair of insulated pliers to press the spark plug connector with the spark plug lightly against the combination wrench but as far away as possible from the spark plug hole.
8 Push the short-circuit switch (**5**) to "START".
9 Pull the starter cable forcefully.
If the spark plug is functioning perfectly, you must be able to see a spark on the electrodes.
10 If necessary, use the combination wrench to screw in a new spark plug.
11 Put the spark plug cap back on and fasten it with the screw.

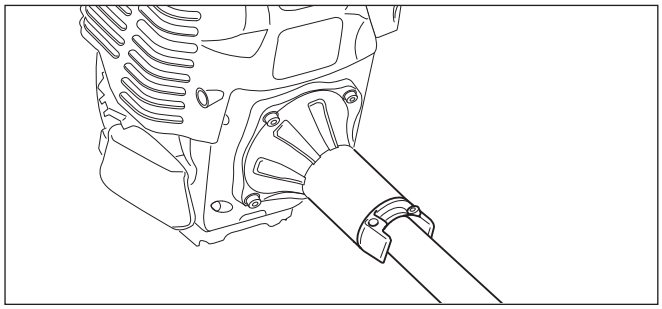


Maintenance after 50 hours of operation

The following maintenance work must be carried out after 50 hours of operation.

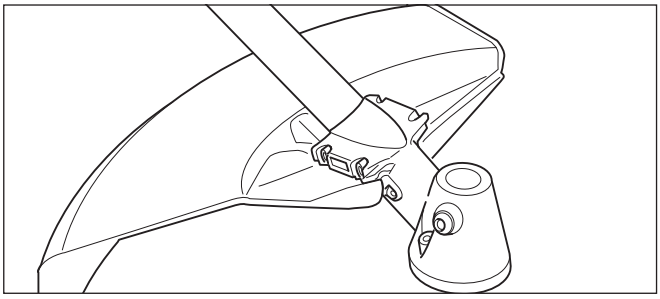
Lubricating the flexible shaft with grease

Do not lubricate the flexible shaft with grease on your own. The shaft must be lubricated with grease in one of the many MAKITA service centers!



Lubricating the angular gearbox with grease

Do not lubricate the angular gearbox with grease on your own. The angular gearbox must be lubricated with grease in one of the many MAKITA service centers!



The lubrication can be precisely dosed in a workshop. This ensures that excessive amounts of grease do not cause overheating in the angular gearbox.

Changing the engine oil

Following first-time operation of the brushcutter, the engine oil must be changed after 20 hours of operation and then after every 50 hours of operation.

Prevent contact of the skin with mineral oil products. Wear gloves when changing the oil. Change and clean your protective clothing more frequently.

Mineral oil products, including oils, degrease the skin. In case of repeated, longer contact, the skin will dry up. This can result in various skin diseases. Beyond that, allergic reactions are well known.

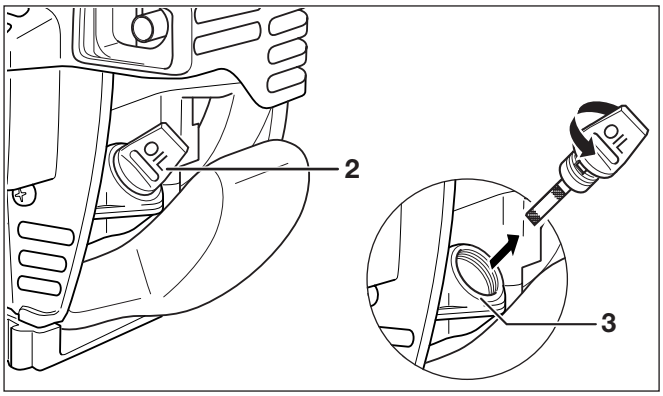
Contact of the eyes with oil results in irritations. In case of eye contact, wash the affected eye immediately with clear water. If the irritation does not subside, a physician must be consulted immediately!
Make sure that oil does not get into the ground. Use a suitable base surface. Wipe up unintentionally spilt oil or bind it with suitable binding agents! Dispose of old oil properly according to environmental regulations!

The tools you will require are two clean rags and a base surface.

Materials: 80 cm³ of SAE 10W-30 engine oil
(classification API SF)

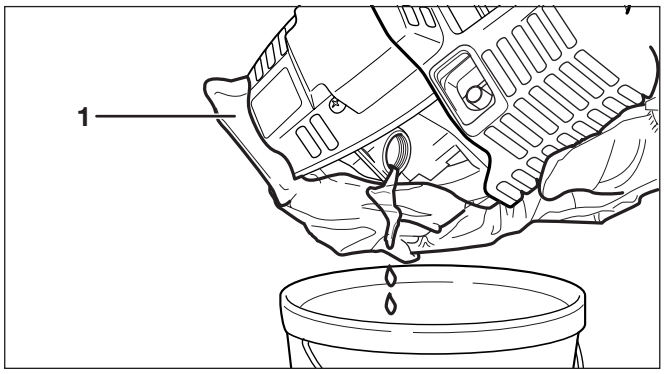
1 Start the engine (see chapter "Putting into operation").
2 Warm up the engine for 3–5 minutes at medium speed.
3 Lay down the brushcutter on a level surface, so that it is resting on its foot in stable position, and wait three minutes. Then the oil will have accumulated in the crankcase.
4 Cover the gasoline tank with a clean rag (**1**) as shown in the illustration.
5 Turn the dipstick (**2**) out of the opening.

When laying down the dipstick, make sure that it does not come into contact with dirt under no circumstances whatsoever! If necessary, remove dirt immediately with a clean rag!



6 Pour the old oil into a suitable container.

Prop up the brushcutter so that the oil flows out on its own. Leave the brushcutter in that position for a few minutes so that all of the oil can drop out of the machine.



7 Clean the tank and the filler opening carefully without allowing dirt to get into the crankcase.
8 Use a suitable filling bottle to refill new engine oil up to the bottom edge of the filler opening (**3**).

An engine oil bottle can be used for precise dosing without spilling engine oil (see extract from the spare parts list)**.**

9 Turn the dipstick back in again.

Quarterly maintenance

Suction head in the fuel tank

Prevent contact of the skin with fuels. Wear gloves during the maintenance procedure.

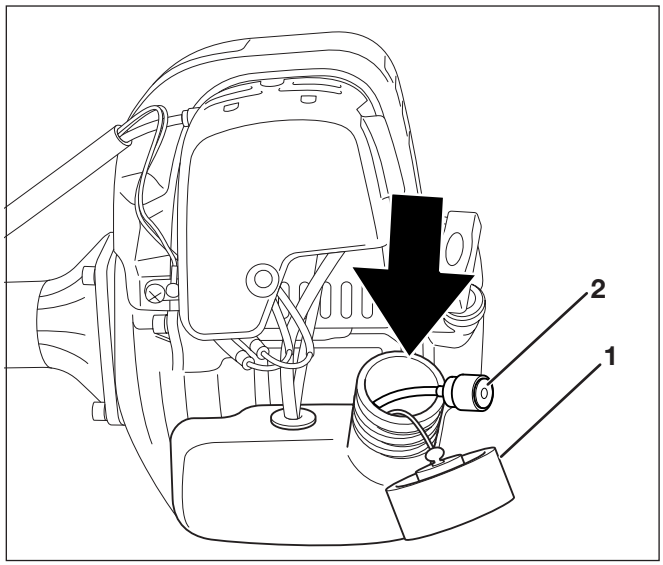
Mineral oil products degrease the skin. In case of repeated, longer contact, the skin will dry up. This can result in various skin diseases. Beyond that, allergic reactions are well known.
Contact of the eyes with fuels results in irritations. In case of eye contact, wash the affected eye immediately with clear water. If the irritation does not subside, a physician must be consulted immediately!

The fuel required by the carburetor is filtered by means of the felt of the suction head (**2**). Hardened or soiled felt filters must be replaced; otherwise, there is the risk that insufficient amounts of fuel will be conveyed and that the permissible maximum speed of the engine will be exceeded as a result.

The tool you will require is a wire hook.

Materials: felt filter

1 Unscrew the tank cap (**1**).
2 Use a wire hook to pull the suction head (**2**) through the tank cap opening.
3 Check the felt filter and replace if necessary.
4 Put the suction head back into the tank.
5 Screw the tank cap back on.



Service after 50 tank fill-ups

After every 50 tank fill-ups, the brushcutter must be thoroughly serviced and checked in a MAKITA service center.

Overview of maintenance and care

The maintenance work described below must be performed regularly and properly in order to guarantee long service life of your brushcutter and the full functional efficiency of the safety devices as well as to prevent any form of damage. Risk of accidents exists in case of nonobservance!

General	• Complete brushcutter • Screws and nuts	• Check for damage and sealed tightness • Check for proper function and firm fit
After each tank fill-up	• Throttle lever • Safety locking button • Start/Stop switch	• Check for proper function • Check for proper function • Check for proper function
Daily	• Air filter • Cooling air guide • Cutting tool • Idle speed • Engine oil • Gasoline hoses	• Clean • Clean • Check for damage and sharpness • Check (cutting tool must not rotate at the same time) • Check the oil level, refill oil if necessary • Check for sealed tightness; if necessary, let the hoses be replaced by a MAKITA service center
Weekly	• Spark plug • Muffler	• Check and replace if necessary • Check the outlet and clean if necessary
Quarterly	• Suction head • Gasoline tank	• Replace felt filter • Clean
Prior to putting the brushcutter out of operation for a longer period of time	• Fuel tank • Carburetor	• Empty • Run empty
Yearly	Complete brushcutter	Let this be checked by a MAKITA service center!
After 200 hours of operation	• Gasoline hoses • Valve play	• Let this be replaced by a MAKITA service center! • Let this be adjusted by a MAKITA service center!

Putting out of operation and storage

If the brushcutter is not used for more than six weeks, please note the following recommendations:

- Perform maintenance (see chapter "Maintenance").
- Empty the fuel tank completely and run the carburetor until dry, due to the fact that fuels can only be stored for limited period of time and also because deposits can be formed in the tank or carburetor.
- Use the remaining fuel in reserve canisters for other engines or dispose of such fuel properly.
- Clean metal cutting tools and lubricate them with a small amount of oil.
- Fill up the brushcutter with fresh fuel before putting it into renewed operation.

Service, spare parts and guarantee

Maintenance and repairs

The maintenance and repair of modern brushcutters and safety-related components and assemblies requires qualified technical training and a workshop equipped with special tools and testing devices.

We therefore recommend that you consult a MAKITA service center for all work not described in this instruction manual.

In the case of repair work attempts performed by third persons or by non-authorized persons, the right to claim under guarantee shall expire.

The specialist has the required training, experience and equipment at his disposal in order to provide you with the most cost-effective solution and advise you in all matters.

You will find you're the service center nearest to you in the enclosed list of service centers.

Spare parts

Reliable long-term operation, as well as the safety of your brushcutter, depends, among other things, on the quality of the spare parts used. Use ORIGINAL MAKITA SPARE PARTS only.

Only the original parts come from the production of the machine and guarantee the highest quality in material, dimensions, functioning and safety.

Original spare parts and accessories can be obtained from your local dealer. He will also have the spare part lists to determine the required spare part numbers, and will be constantly informed about the latest improvements and innovations regarding the spare parts being offered.

Please note also that if non-original MAKITA parts are used, this will automatically invalidate the MAKITA product guarantee.

Guarantee

MAKITA guarantees the highest quality and will therefore reimburse all costs for repair by replacement of damaged parts resulting from material or production faults occurring within the guarantee period after purchase. Please note that in some countries particular guarantee conditions may exist. If you have any questions, please contact your salesman, who is responsible for the guarantee of the product.

Please note that we cannot accept any responsibility for damage caused by:

- Disregard of the instruction manual.
- Non-performance of the required maintenance and cleaning.
- Exceeding of the maximum admissible speed due to incorrect carburetor adjustment.
- Incorrect carburetor adjustment.
- Normal wear and tear.
- Obvious overloading due to permanent exceeding of the upper performance limits.
- Use of force, improper use, misuse or accidents.
- Overheating due to dirty cooling air supply.
- Interventions by unskilled persons or inappropriate repair work attempts.
- Use of unsuitable spare parts or non-original MAKITA parts, insofar as they have caused the damage.
- Use of unsuitable or excessively stored operating materials.
- Damage related to conditions arising from lease or rent contracts.
- Damages caused by disregarding loose outer bolted connections.

Cleaning, servicing and adjustment work is not covered by the guarantee. All repairs covered by the guarantee must be performed by a MAKITA service center.

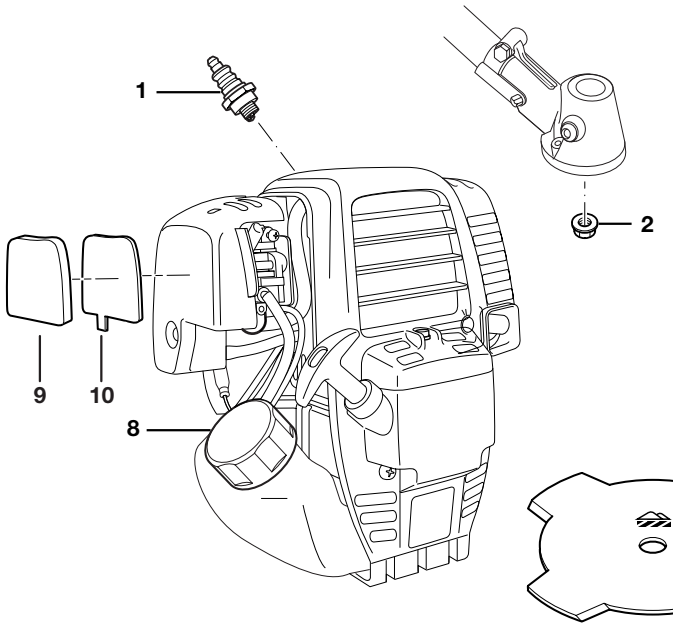
Troubleshooting

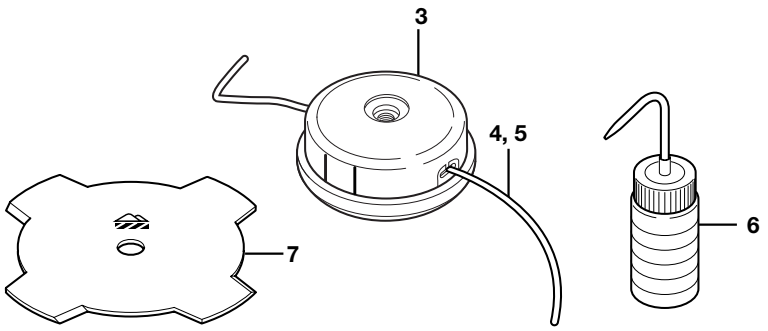
Malfunction	System	Observation	Cause/remedy
Engine does not start or only starts very badly	• Ignition system	• Igniting spark available • No igniting spark	• Defect in fuel supply system, compression system, mechanical defect (service case) • Start/Stop switch to STOP • Defect in fuel supply system, compression system, mechanical defect (service case) • Spark plug connector or ignition module defective (service case) • Spark plug defective (see chapter "Maintenance").
	• Fuel supply	• Fuel has been filled	• Choke lever in wrong position • Carburetor defective (service case) • Suction head soiled (see chapter "Maintenance") • Fuel line kinked or interrupted (service case)
	• Compression system	• Inside the machine	• Cylinder base gasket, radial shaft seal rings, cylinder, valves or piston rings defective (service case)
		• Outside the machine	• Spark plug does not seal up (see chapter "Maintenance").
	• Mechanical defect	• Starter unit does not engage	• Spring in the starter broken, broken parts inside the engine (service case)
Warm starting problems		Fuel in the tank and igniting spark available	Carburetor soiled (service case)
Engine starts up, but it dies immediately	Fuel supply	Fuel in the tank	• Idle setting not correct (see chapter "Operation"). • Suction head soiled (see chapter "Maintenance") • Carburetor soiled (service case) • Tank vent defective, fuel line interrupted, cable or Start/Stop switch defective (service case)
Insufficient power	Several systems can be affected simultaneously	Machine runs at idle speed	• Air filter soiled (see chapter "Maintenance") • Carburetor soiled, muffler clogged, exhaust gas passage in the cylinder clogged (service case)

Extract from the spare parts list

Use original MAKITA spare parts only. Your MAKITA service center is responsible for repairs and for the replacement of other parts.

BCX3400
BCX3410





Item	MAKITA No.	Quantity	Designation
1	367 010 995	1	Spark plug NGK-CMR 6A
2	365 060 470	1	Fastening nut
3	366 224 010	1	2-line trimmer head complete
4	369 224 070	1	Mowing line ø 3.0 mm x 15 meters
5	369 224 072	1	Mowing line ø 3.0 mm x 120 meters
6	367 210 460	1	Oil bottle (without oil)
7	362 224 140	1	4-tooth star blade
8	367 601 300	1	Tank cap complete
9	374 350 120	1	Air filter
10	374 350 090	1	Air filter

Technical data of the brushcutters BCX3410/BCX3400

Cubic capacity	34.5 cm^3
Power rating according to ISO 8893	1.2 kW
Rated speed	7,000 rpm
Max. engine speed with one-piece metal cutting tool[1)]	10,000 rpm
Max. speed of the tool spindle with one-piece metal cutting tool[1)]	7,300 rpm
Idle speed	3,000 rpm
Engaging speed	4,100 rpm
Carburetor (diaphragm carburetor)	WALBRO WYL
Ignition system	Transistor ignition
Spark plug	NGK-CMR 6A
Electrode gap	0.7-0.8 mm
Sound power level $L_{WA\,av}$ according to ISO 10884[2)4)5)]	100.5 dB (A)[4] / 100.3 dB (A)[5]
Sound pressure level $L_{pA\,av}$ at the workplace according to ISO 7912[2)4)5)]	91.1 dB (A)[4] / 92.4 dB (A)[5]
Vibration acceleration $a_{h,w}$ according to ISO 7916[4)] – right handle (idle/maximum speed) – left handle (idle/maximum speed)	**BCX3400** 3.5/5.4 m/s^2 2.0/5.4 m/s^2
Vibration acceleration $a_{h,w}$ according to ISO 7916[4)] – front handle (idle/maximum speed) – rear handle (idle/maximum speed)	**BCX3410** 2.1/7.7 m/s^2 2.5/11.8 m/s^2
Fuel consumption according to ISO 8893[3)]	0.458 kg/h
Specific consumption according to ISO 8893[3)]	426 g/kWh
Capacity of the fuel tank	0.65 l
Fuel	Regular gasoline
Engine oil (SAE 10W-30, classification API SF or higher)	80 cm^3
Transmission ratio	1.37
Dimensions, length x width x height (without cutting tool)	1760 x 600 x 405 mm
Weight (without cutter guard, cutting tool, fuel)	MS-352 U 7.4 kg, MS-352 C 6.6 kg

1) In case of the use of the MAKITA line trimmer head, Part No. 366 224 010, the permissible maximum speed of the line trimmer head is not exceeded.
2) Data takes into account the idle and maximum speed operating states equally.
3) At max. engine power
4) With one-piece metal cutting tool
5) With 2-line trimmer head

Makita Werkzeug GmbH
Postfach 70 04 20
D–22004 Hamburg
Germany

Subject to alterations

Form: 995 707 508 (8.06 GB)