

VARI®

Brush cutter / Trimmer

KC-435



Instructions for use

EN English – Translation of the original instructions for use

Content

1 EN Instructions for use

3

EN Basic information

- ① **Ask your dealer to unpack the machine and provide you with instructions as a part of the pre-sale services!**

EN Type	KC-435	EN Stick the identification plate here:
EN Engine type	HONDA GX35	
EN Identification number ¹	10052 ____.____.____	
EN Serial No./year of mnf.		
EN Date of sale/delivery		
EN Supplier (stamp)		

- It is recommended to make a copy of this page for a case that the original instructions for use will be lost or stolen.

¹ Fill in the number from the type label or stick the identification plate.

1 **EN** Instructions for use

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1 EN Instructions for use

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The manufacturer **reserves** the right to make technical modifications and innovations which have no influence on the function and safety of the machine. These changes needn't be shown in these instructions for use. Printing errors reserved.

1.1 Introduction

Dear customer and user!

Thank you for the confidence you demonstrated by purchasing our product. You have become the owner of a machine from a broad range of gardening, farming, small agricultural and municipal machinery, produced by VARI, a.s.

The brush cutter/trimmer is a light and compact machine for cutting grass for example along kerbs, around trees, under fences, in ditches and at other places that are not accessible for a common lawnmower. The KC-435 brush cutter/trimmer is equipped with the silent four-stroke HONDA GX 35 engine. Its advantages (compared with two-stroke brush cutter) are lower noise, engine revolutions, fuel consumption and emissions as well as easier starting. The KC-435 brush cutter/trimmer is a light machine, it is easy to operate it and it is equipped with a sophisticated anti-vibration system. Working with it is very comfortable and pleasant.

Please read through this user manual thoroughly. The product will service you reliably for many years to come, provided that you follow the instructions provided.

1.1.1 Basic notices

The user is **obliged** to familiarize him(her)self with this user manual and follow all operating instructions to ensure that no injury or damage to the user or possibly other persons occurs.

The safety instructions provided in this user manual do not include all possibilities, conditions, and scenarios that may arise in practise. Contributing safety factors, such as common sense, caution and care, are not included in this manual but it is assumed that every operator or maintenance worker, who operates the machine, shall apply them.

The machine must only be used by persons who are physically and mentally healthy. Professional use of this machine requires training of operating personnel in its safe use and operation, and a log of such training should be administered. **The owner must also adopt "categorization" of work according to corresponding national legislation.**

If any of the information provided to you in the manual is unclear, contact **your retailer**² or contact **the machine manufacturer**³ directly.

The user manuals included with this machine are considered an integral component. They must always be available for reference and located in an accessible, safe, and protected area to prevent their damage. If the machine is re-sold to another individual, the user manuals must be provided to the new owner. The manufacturer waives all responsibility for any risk, harm, emergency, or injury incurred during operation of the machine if the above specified conditions are not fulfilled.

The manufacturer shall not be liable for any damage incurred by unauthorized use, improper maintenance, and damage incurred by any modification of the machine without the consent of the manufacturer.

It is particularly important to observe the safety guidelines to prevent personal injury or damage to the environment or property. These instructions are marked in the user manual by the following cautionary safety symbols:

	If you see this symbol in the manual, carefully read through the following information!
	This international safety symbol indicates important information, relating to safety. When you see this symbol, pay careful attention to personal harm or harm to others and carefully read the information that follows.

Table 1: Symbols

1.2 Operation safety

The brush cutter/trimmer is designed to ensure safe and reliable operation when following instructions are followed. Before you start to operate the machine, read this user manual carefully and familiarize yourself thoroughly with its operation in order to prevent serious injuries or damage of the machine. If the maintenance and operation principles mentioned in these Instructions for use are not observed in any way as well as if original spare parts and accessories are not used and/or any unauthorized modifications are done, the warranty claim will expire.

1.2.1 Safety instructions

- !** The machine operator must be **18 years** or older. He/she **must** read through the machine operating manuals and adhere to general work safety precautions.

² Fill in the retailer's address into the table at the beginning of this manual (if not already completed by the retailer).

³ The manufacturer's address is specified at the end of this manual

- ! Read and study all instructions carefully. Familiarize yourself well with control elements and with principles of their correct usage. Learn the correct way to stop the engine quickly.
- ! Use the brush cutter/trimmer only for the purposes it is intended for, i.e. for cutting grass using the nylon string grass blade as finishing work in places hardly accessible for mowers. Any other usage could be dangerous and could result in damaging the machine or injuring the operator.
- ! Never let children and persons who are not familiar with these regulations work with the machine or manipulate it in any way. Local legal regulations may limit the minimum age of the operator.
- ! Don't use the brush cutter/trimmer if:
 - there are people (pay special attention to children) or domestic animals in near vicinity;
 - the operator is under the influence of alcohol, medication or if he/she ingested substances known for affecting the judgment or quick response ability.
- ! Keep in mind that the owner or user of the machine is responsible for possible accidents and/or dangers he/she exposes other people or their property to.
- ! Always use sturdy shoes and appropriate working clothing (long trousers) when cutting. Never operate the brush cutter/trimmer barefoot or wearing sandals! Use protective aids for sight and hearing and work in protective gloves.
- ! Carefully check the grass area where the brush cutter/trimmer shall be used and remove all objects which could possibly be catapulted by the brush cutter (stones, branches, wires, tins, etc.)
- ! Warning!!!!
 - The engine fuel is highly flammable.
 - Store the fuel only in containers intended for this purpose.
 - Refuel only at open or well-ventilated area. Do not smoke or handle open fire during refuelling and any other handling with the fuel.
 - Refuel only when the engine is in still stand. Never open the fuel tank and refuel when the engine is running or hot.
 - If the petrol is spilled, don't start the engine. Remove the brush cutter/trimmer from the area where the fuel was spilled and prevent making any source of ignition. Continue using the brush cutter/trimmer after the spilled fuel is evaporated and the fuel fumes are dispersed.
 - Safely close the caps of the fuel tank and the fuel container.
- ! If the exhaust silencer is damaged, replace it.
- ! Always inspect the brush cutter/trimmer carefully before using it, especially the cutting tool blade; check whether the connection of safety covers is in good condition whether the cutting tools are not worn out or damaged. Always replace worn out and/or damaged blades and safety covers.
- ! Make sure that the control handle and the harness are in the right position and that the brush cutter/trimmer is properly balanced. The proper balancing is described lower in the instructions for use.
- ! The idle revolutions have to be set in such a way that the cutting tool is not running at idle revolutions.
- ! When using the grass blade, always put the safety cover on the blade when the work is finished.
 - Move the engine switch to the position STOP and take off the spark plug cap.
 - Use protective gloves during the work.
- ! The exhaust fumes contain carbon monoxide, a toxic, colourless and odourless gas. Inhaling this gas can cause loss of consciousness or even death. Don't start the engine in closed rooms. Make sure that there are sufficient ventilation and access of fresh air in the place where the engine is started.
- ! Cut only at daylight or under good artificial lighting.
- ! If possible, avoid using the brush cutter/trimmer in wet grass as it is slippery.
- ! When working with the brush cutter/trimmer, always pay attention to the safe distance between the operator and the cutting tool when the engine is running; except for adjusting the engine revolutions, the operator must always be in safe distance behind the handlebar.
- ! Always walk, never run when working with the brush cutter/trimmer.
- ! When cutting near building, always go in the direction from the buildings, not towards them; if an object gets catapulted, property could be damaged.
- ! Always keep stable position when cutting grass on a slope and always cut across the slope (alongside the contour line), never up and down.
- ! When moving on a slope, be especially cautious when changing the moving direction.
- ! Never adjust the engine in such a way that the working revolutions exceed the allowed limit.
- ! Before starting the engine, see to it that there is no one and no undesirable objects in the space of the cutting tool. Make sure that the brush cutter/trimmer is lying on the ground in a stable position.
- ! Pay attention to all safety rules when starting the engine, so that no persons get injured.
- ! Stop the engine and disconnect the spark plug in following cases:
 - before performing any activities in the space of the cutting tool
 - before starting any service work, checking and cleaning the brush cutter/trimmer

- when any persons or animals appear nearby
 - the engine can only be running when adjusting the carburettor or the engine revolutions
 - if a foreign object is hit. Check whether the brush cutter/trimmer is damaged; repair it when necessary and continue the work only after it is put into normal condition.
 - if the brush cutter/trimmer shows unusual vibrations (find out and remove the cause of the vibrations immediately).
- ! Stop the engine in following cases:
- always when you leave the brush cutter/trimmer unattended
 - before every refuelling
 - during every transportation or carrying.
- ! All nuts, bolts and screws have to be properly tightened, so that the device is in safe and working order. Regular maintenance is the basic condition for ensuring the safety of the operator and keeping the brush cutter/trimmer in working order as well as preserving its perfect performance.
- ! For safety reasons, don't use the machine with worn out or damaged parts. The parts have to be replaced, not repaired. Use original spare parts as a replacement (the blades should always be marked with the proper symbols). Spare parts of insufficient quality can damage the device and can put your safety in danger. The warranty claim will expire if non-original spare parts are used.
- ! Use strong working gloves when dismantling or installing the cutting tool.
- ! Never store the device with petrol in its tank inside a building where the fumes can get in touch with open fire, spark or a source of high temperature.
- ! Store the machine in a dry, clean place, out of reach of children.
- ! Let the engine cool down before storing the machine in a closed space.
- ! Make sure that remains of grass, leaves and excessive grease are removed from the brush cutter/trimmer and especially from the engine, exhaust silencer and ventilation fins as well as from the place where reserve petrol is stored. There is a risk of fire.
- ! It is necessary to install the safety cover on the cutting blade for transport and before storing.
- ! Drain the fuel in well-ventilated space only; the engine has to be cold. Don't smoke and avoid access with open fire.
- ! To protect the environment, follow generally valid regulations when handling oil substances.

1.2.2 Noise and vibration values

With the 3-teeth blade / with the nylon head		
Emission level of acoustic pressure A at operator's place⁴		
Average emission level of acoustic pressure A for idle running (L_{pAid})	76 dB	76 dB
Average emission level of acoustic pressure A for running w/o load (L_{pARa})	98,2 dB	97,8 dB
Equivalent emission level of acoustic pressure A (L_{pAeq})	95,0 dB	95,0 dB
Declared equivalent emission level of acoustic pressure A (L_{pAeq})	99,0 dB	99,0 dB
Acoustic power⁵		
Guaranteed level of acoustic power (L_{WA})	111 dB	113 dB
Vibrations transmitted on the operator hands⁶		
Average overall vibration values for idle running (a_{hv})	1,75 ms ⁻²	1,4 ms ⁻²
Average overall vibration values for running without load (a_{hv})	6,3 ms ⁻²	4,35 ms ⁻²
Equivalent overall vibration values ($a_{hv.eq}$)	4,6 ms ⁻²	3,2 ms ⁻²
Declared overall vibration value (a_{hvd})	6,9 ms ⁻²	4,8 ms ⁻²

Table 2: Noise and vibration values

- ! Due to exceeded recommended values of noise and vibrations you should follow these instructions when working with the machine:

⁴ Measured according to CSN EN ISO 11201 and CSN EN ISO 22868

⁵ According to the Directive 2000/14/EG

⁶ Measured according to CSN EN ISO 20643 and CSN EN ISO 22867

- Protect the hearing with suitable protective aids according to EN 352-1 (shell hearing protectors) or EN 352-2 (plug hearing protectors). Ask your dealer for these aids.
- Interrupt the work with the machine after no more than 20 minutes with breaks of at least 10 minutes. The operator can't be exposed to effects of any other sources of noise and/or vibrations during these breaks.

1.2.3 Safety pictographs

! The user is obliged to keep the pictographs on the machine legible and arrange their replacement if they get damaged.

	<p>1 – Warning!!! Read the instructions for use carefully before using the brush cutter/trimmer.</p> <p>2 – Always use sturdy shoes and appropriate working clothing (long trousers) when cutting. Never operate the brush cutter/trimmer barefoot or wearing sandals! Use protective aids for sight and hearing and work in protective gloves.</p> <p>3 – Warning!!! Danger of catapulted objects. No other persons may occur in the working space of the brush cutter/trimmer and in its dangerous vicinity of 15 m.</p>
	<p>4 – The brush cutter/trimmer is designed for using only grass blades and nylon head.</p> <p>! The brush cutter/trimmer is not adapted for using saw blades.</p>
	<p>5 – Max. allowed revolutions of the cutting tool.</p>

Table 3: Safety pictographs

1.3 Basic information

1.3.1 Machine use

The brush cutter/trimmer is intended to cut grass using the nylon string or grass blade as finishing work. The nylon string is intended to cut in hardly accessible areas or places around various obstacles where you can get with a lawn mower. The three-tooth grass blade is intended to cut grass in hardly accessible places, high and overgrown vegetation and even wooden sprouts with a diameter of up to 2 cm.

- !** It is forbidden to remove any protective devices and covers from the machines.
- !** The brush cutter/trimmer can't be used to cut shrubbery, trees, prune trees, etc.

1.3.1.1 Technical data

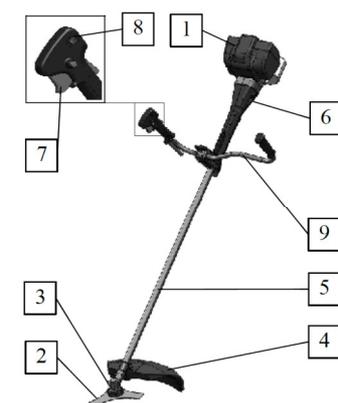
KC-435 brush cutter/trimmer	Unit	Value
Dimensions (L x W x H)	mm	1890 x 700 x 500
Weight (without fuel, cutting accessories and safety cover)	kg	9
Turning direction (from the operator's view)	to the left	
Max. revolutions of the spindle ⁷	min ⁻¹	7730
3-teeth blade (blade Ø x thickness / attachment hole Ø)	mm	255 x 1,4 / 25,4
Length of the nylon cutting string Ø 2,4 mm	m	6
Area capacity of the machine ⁸	m ² .h ⁻¹	100-300

⁷ Real revolutions without load.

Honda GX 35 engine		
Displacement	cm ³	35,8
Bore / Stroke	mm	39 x 30
Max. engine revolutions	min ⁻¹	10000
Engine revolutions at idle running	min ⁻¹	3100 ± 200
Valve train system	OHC	
Cooling system	air	
Ignition system	transistor	
Power (according to ISO 8893)	kW (HP)	1,0 (1,3) / 7000 min ⁻¹
Power (according to SAE J1995)	kW (PS)	1,2 (1,6) / 7000 min ⁻¹
Fuel tank volume	l (litre)	0,65
Oil volume in engine	l (litre)	0,1
Fuel consumption	g/kWh (l/h)	360 (0,71)
Spark plug		NGK CMR5H

Table 4: Technical information on KC-435

1.3.2 Description of the machine and its parts



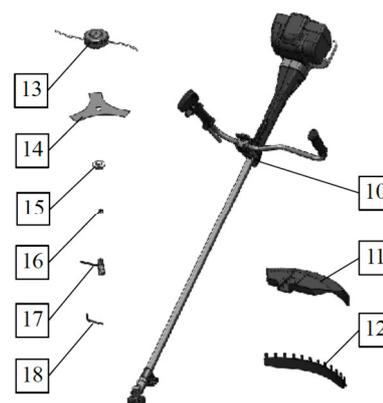
Brush cutter/trimmer

Brush cutter/trimmer:

- 1) Honda GX35 engine⁹
- 2) Blade
- 3) Angular gearbox
- 4) Cutting tool cover
- 5) Shaft tube
- 6) Springing
- 7) Accelerator lever
- 8) Switch
- 9) Handle

Contents of the packing:

- 10) Brush cutter/trimmer
 - 11) Cutting tool cover
 - 12) Cover brim
 - 13) Nylon head
 - 14) Blade
 - 15) Cap
 - 16) Nut
 - 17) Tubular box spanner with Torx screwdriver
 - 18) Hex key
- Instructions for use – not in the picture
Harness – not in the picture



Contents of the package

1.4 Instructions for use

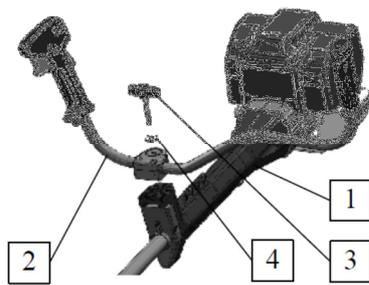
1.4.1 Assembly of the machine

- ① Ask your dealer to unpack the machine and provide you with instructions as a part of the pre-sale services!
- ① The right and left sides of the machines are meant as viewed from the operator's place.

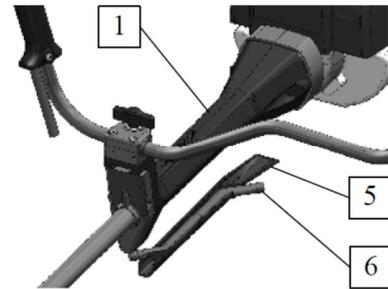
⁸ The area capacity of the machine depends on the type of the cut vegetation.

⁹ Description of the engine – see the separate instructions for use, part of the machine

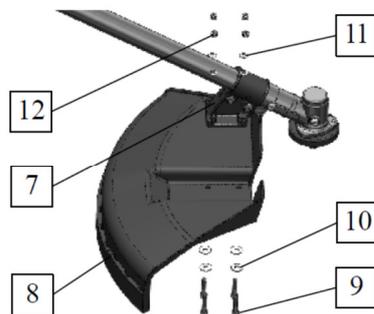
1.4.1.1 Handlebar assembly



- Put the handlebars (1) on the anti-vibration element (2) and screw it using bolts (3) and washers (4).
 - Remove the cable cover (5) from the anti-vibration element (1), pass the cables (6) and put the cover back on the anti-vibration element.
- ⓘ **The cables and the accelerator bowden cable must pass freely and smoothly.**

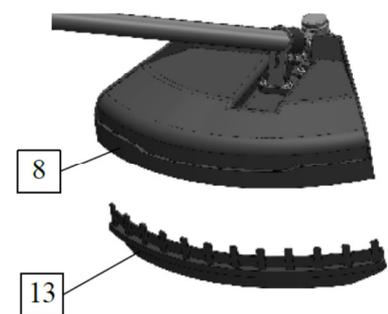


1.4.1.2 Cutting tool cover assembly

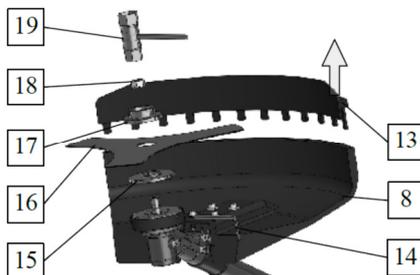


- Screw the cover (8) on the cover holder (7) using four M5x25 bolts (9), washers (10, 11) and M5 nuts (12).
- When using the nylon head, install the cover brim (13) on the cover (8).

When using the grass blade, the cover brim (13) is not used.

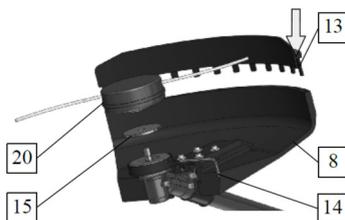


1.4.1.3 Installing the blade



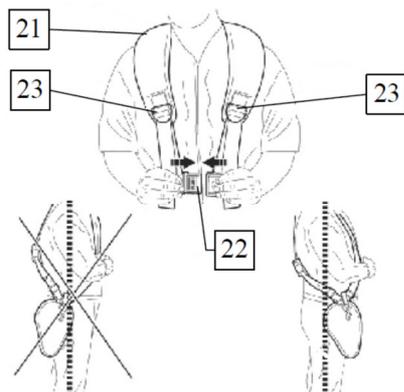
- Remove the cover brim (13) from the cover (8).
 - Block the shaft by inserting the hex key (14) into the side openings of the blade holder and the angular gearbox.
 - Put the friction washer (15), blade (16) and washer with cap (17) on the shaft and screw the nut (18).
- ⓘ **Attention! The shaft and the nut are equipped with a left-handed thread!!**
- Screw the nut tight using the tubular box spanner (19).

1.4.1.4 Installing the nylon head



- Install the cover brim (13) on the cover (8).
 - Block the shaft by inserting the hex key (14) into the side openings of the blade holder and the angular gearbox.
 - Put the friction washer (15) on the shaft and screw the nylon head (20).
- ⓘ **Attention! The shaft and the nylon head are equipped with a left-handed thread!!**
- Tighten the nylon head well with your hand.

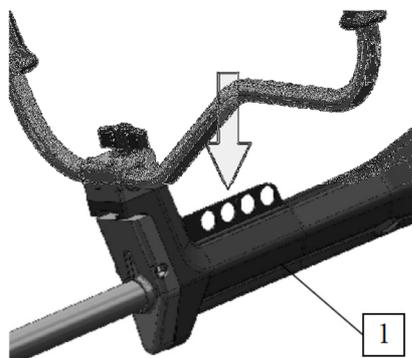
1.4.1.5 Mounting and adjustment of the harness



- ① For safety and comfort of the operator it is very important to properly adjust the harness for the particular figure, so that it is possible to operate the brush cutter/trimmer with the highest possible comfort and the hanging brush cutter/trimmer is properly balanced.
- The brush cutter/trimmer is delivered with a comfortable harness (21) for both shoulders.
- Put on the harness and secure it with the buckle (22).
- Adjust the length of each strap using the tightening buckles (23).

1.4.2 Preparation before use

1.4.2.1 Balancing the machine



- Put on the harness in such a way that the quick-clamping clasp is on your right hip.
- Hang the brush cutter/trimmer on one of the four openings on the anti-vibration element (1) using the snap-hook. Change the openings until the brush cutter/trimmer is balanced.

Grasp the brush cutter/trimmer in such a way that the cutting tool is parallel to the ground when holding the machine with both hands.

The optimal position is reached when just imperceptible effort of the hands is needed to lift the cutting tool above the ground.

- ① If the cutting tool is falling to the ground, it is necessary to move the snap-hook for one opening forward. On the contrary if the cutting tool tends to go up, it is necessary to move the snap-hook for one opening backwards.
- ① It is necessary to check the machine balance when the cutting tool is mounted and the fuel tank is half-full.

1.4.2.2 Adding the fuel

- ① Use unleaded or low-leaded petrol commonly used for motor vehicles – min. octane number 91. It is recommended to use the petrol marked BA-95 as it is the most used and most often available petrol. The unleaded fuel reduces the quantity of the sediments in the combustion chamber. If the fuel level is low, refuel. Don't overfill the tank.
- ① Never use petrol mixed with oil, dirty or contaminated. Avoid dirt, dust and water getting into the fuel tank.
- ① If the machine shall be stored for more than 3 weeks, drain the remaining fuel from the tank and remove the petrol from the carburettor – the fuel goes stale.
- ! The pressure inside the fuel tank naturally rises with the rising temperature of the surroundings. Be careful when opening the fuel tank, so that the fuel doesn't squirt out. The petrol can should be stored in a cold place and it can't get in touch with direct sunshine in any case.
- ! The petrol is very easily ignitable and explosive.
- ! Refuel in a well-ventilated space and when the engine is turned off. Don't smoke and avoid access with open fire during refuelling and at places where the fuel is placed.
- ! Don't overfill the tank (don't fill it up to the tank edge) and close the tank when the refuelling is finished, so that the tank cap is well fastened.
- ! Pay attention not to spill any petrol. The petrol fumes as well as the spilled petrol can ignite. If the petrol is spilled, it is unconditionally necessary to dry up the surroundings and let the petrol fumes disperse.
- ! Avoid repeated and/or longer contact with skin as well as inhalation of the fumes. Store petrol in sufficient distance from children.
- ① Stop the engine before each refuelling and clean surroundings of the fuel tank neck.
- ① Use a suitable funnel for pouring the fuel, or use a can with a suitable pouring neck.

- ① Place the brush cutter/trimmer in a working position to make the work easier.
- ① Make sure that the brush cutter/trimmer is in a stable position, so that the fuel can't be spilled unintentionally.

See detailed information in the instructions for use of the engine¹⁰.

1.4.2.3 Adding the motor oil

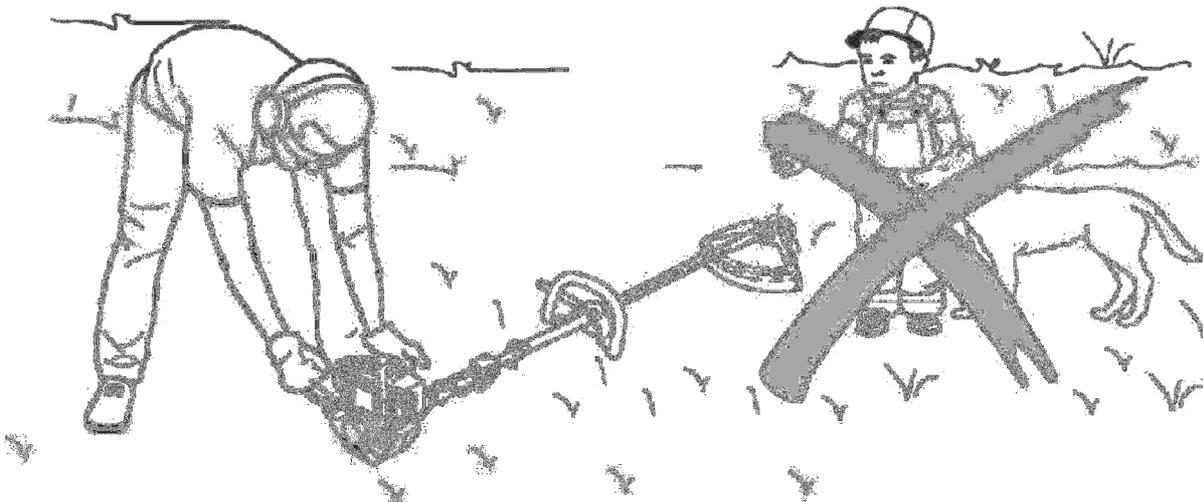
- ① If the engine operates with insufficient quantity of oil, it can be seriously damaged and the warranty claim can't be made.
- ① Check the oil level before each starting; carry it out on a flat surface and with the engine being switched off.
- ① The operator is obliged to check the oil level before each engine starting according to the table of required maintenance¹¹.

See detailed information in the instructions for use of the engine¹².

1.4.2.4 Before starting



- Put on the prescribed clothing and safety aids, make sure that the brush cutter/trimmer is equipped with all the prescribed safety covers and that the cutting tool is properly tightened.
- Make sure that the control handle is properly tightened.
- Place the brush cutter/trimmer on a solid, free surface and make sure that the operator is standing on a solid and flat surface as well.
- Check whether the spark plug is tightened.



1.4.3 Starting and stopping the engine

1.4.3.1 Cold start

The engine start is considered to be cold start if the engine hasn't been running for more than 5 minutes longer than 10 minutes ago.

If the air temperature is very high (summer day), it is possible that it won't be necessary to use the choke.

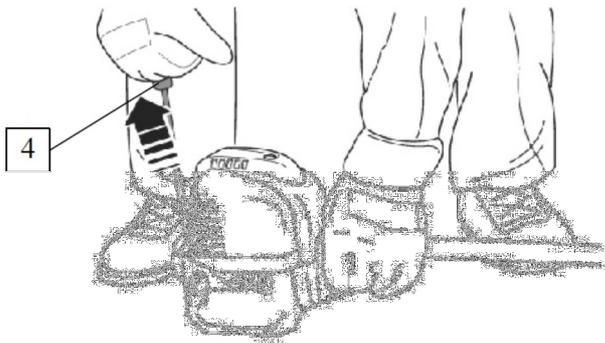
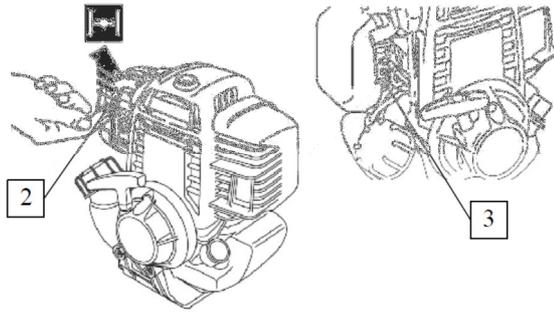
¹⁰ The original instructions for use and its translation are a part of the machine.

¹¹ See the instructions for use of the engine.

¹² The original instructions for use and its translation are a part of the machine.



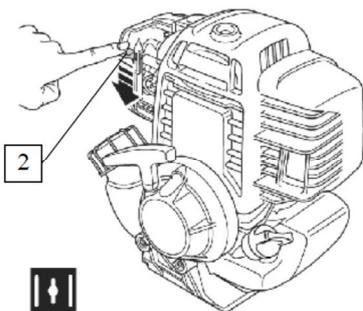
- Move the engine switch (1) to the position "START" (I).
- Move the choke lever (2) to the upper position (choke on).
- Push the fuel pump balloon (3) under the carburettor several times.



- Pull the starter handle (4) slowly until you feel a resistance.
- Then tug quickly, so that the engine starts up.
- After starting the engine move the choke lever back to the lower position (choke off).
- ⓘ **Don't let the starter handle go back to the engine uncontrolled. Return the starter handle slowly to avoid starter cover damage.**
- ⓘ **Always start with pulling the handle quickly. Otherwise the engine may not start up.**
- ⓘ **Never hold the brush cutter/trimmer on the ground using your feet. The drive tube could be bent; the machine would be damaged without possibility to repair it and claim the warranty.**
- ! **The exhaust fumes contain carbon monoxide, a colourless and odourless gas. Inhaling this gas can cause loss of consciousness or even death. Don't start the engine in closed rooms. Make sure that there are sufficient ventilation and access of fresh air in the place where the engine is started.**

1.4.3.2 Warm start

The engine start is considered to be warm start if the engine has been running for more than 5 minutes during the last 10 minutes before starting.

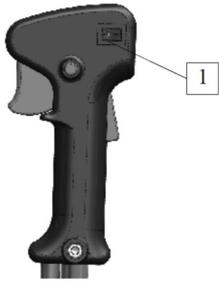


The procedure for the warm start is the same as for the cold start, except for the choke switching. The choke lever (2) has to stay in the lower position.

If it is difficult to start the warm engine, follow these instructions:

1. Move the engine switch to the position OFF.
 2. Make sure that the choke lever is in the lower position – choke off.
 3. Push the accelerator lever several times and hold it in the position "Full throttle".
 4. Pull the starter handle several times (3-5 times) and release the accelerator lever.
 5. Then tug quickly, so that the engine starts up.
 6. Try to start the engine according to the above mentioned instructions.
- ⓘ **Make sure that the engine switch is in the position OFF. Otherwise the engine could start up and subsequently the cutting tool would start to rotate. Danger of injury.**
 - ! **The exhaust fumes contain carbon monoxide, a colourless and odourless gas. Inhaling this gas can cause loss of consciousness or even death. Don't start the engine in closed rooms. Make sure that there are sufficient ventilation and access of fresh air in the place where the engine is started.**

1.4.3.3 Switching off the engine



- Move the engine switch (2) to position STOP (O) to switch the engine off.
- Use the same procedure for engine emergency stop.
- ! **Always keep in mind that the cutting tool is rotating by inertia force for some time after the engine is switched off.**

1.4.4 Working with the machine



After the brush cutter/trimmer is started, hang it on the harness and grasp the handlebars properly.

- ! **When handling the brush cutter/trimmer, pay attention to avoid contact with foreign objects and bystanders and avoid injuring yourself as the operator.**
- ! **Hold the brush cutter/trimmer firmly with your hands, so that the fingers and thumbs surround the handles as shown in the picture.**
- ① **Release the accelerator lever during short breaks in the cutting, so that the engine runs at idle revolutions. The engine could be severely damaged if running at full speed without load for long time.**

1.4.4.1 Using the nylon head

The nylon string is intended for cutting at hardly accessible places and around various obstacles where it is not possible to use a lawn mower.

- ! **Make sure that the safety cover of the brush cutter/trimmer is properly fastened and fully functional.**

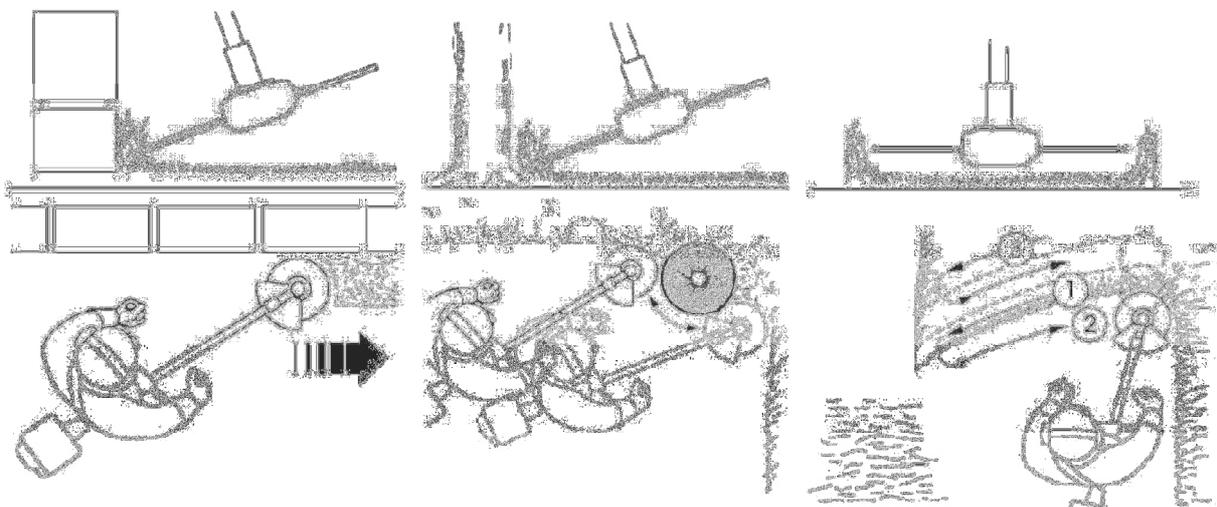
Pulling out the nylon string

When working, slightly tap the nylon head on the ground at maximum engine revolutions. The string will be shortly loosened and thus pulled out. It is possible to tap repeatedly until the string is pulled out to requested length. Too long string will be cut automatically.

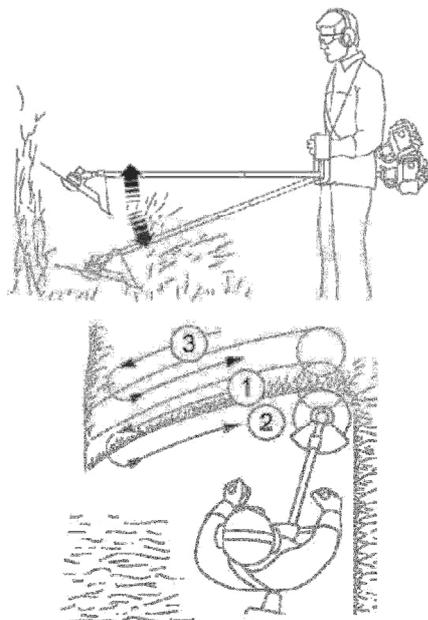
Cutting

The nylon string ensures clean cutting of grass without damaging tree trunks or other obstacles, such as stones, kerbs, walls, etc. If cutting too close to solid obstacles for a longer time, it results in excessive consumption of the nylon string.

When cutting larger areas, proceed slowly forward and move the brush cutter/trimmer continuously from left to right and back (as if cutting with a scythe).



1.4.4.2 Using the grass blade



- ① The maximum diameter of the blade has to be 255 mm.

Cutting

The three-tooth grass blade is intended for cutting grass at hardly accessible places, cutting high and overgrown vegetation and even woody sprouts with a diameter of up to 2 cm.

If the high vegetation is cut from top downwards, it is ground into small pieces.

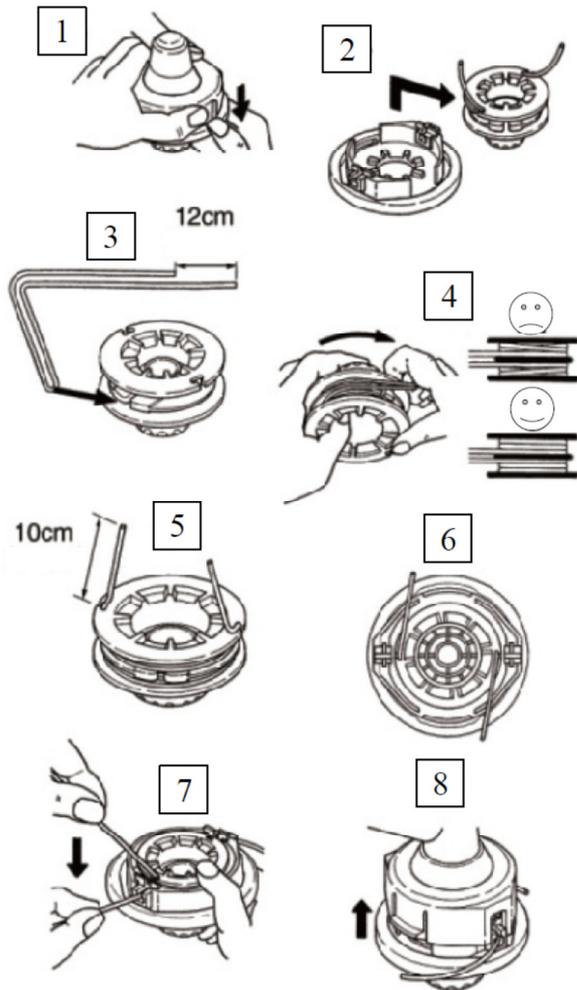
- ! Be cautious when cutting stronger vegetation or hard wood. The blade can rebound and injure bystanders or the operator or the machine could be damaged.
- ! The brush cutter/trimmer is not intended for using the saw blade.

1.5 Maintenance, care

To ensure long-time satisfaction with our product, it is necessary to take proper care of it at maintenance and care. The regular maintenance of the machine prevents the machine from wear out quickly and ensures proper function of all of its parts.

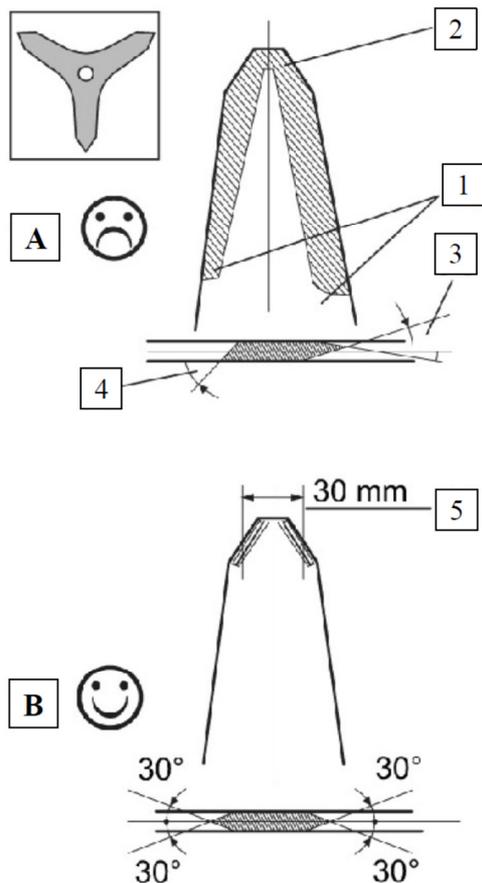
Follow all the instructions regarding the intervals for machine maintenance and adjustment. It is recommended to make notes of working hours of the machine and of the conditions under which it worked (for service purposes). It is recommended to entrust the after-season maintenance to one of our authorized services; the common maintenance as well if you are not sure of your technical skills.

1.5.1 Refilling the cutting string



- Block the gearbox using the hex key.
- Unscrew the nylon head from the angular gearbox shaft, turning it clockwise.
- Push latches (1) on sides of the nylon head and remove the cover with the spool.
- Take off the spool (2) and remove the rest of the nylon string.
- Prepare 6 m of new nylon string max. Ø 2,4 mm and fold it in the middle (3), creating a loop.
- Put the loop created in the middle of the string into the groove in the spool (3) and wind both ends of the string up on the coil (4). Pay attention to the correct direction of winding.
- Secure both ends of the string in the side notches of the coil (5), so that about 10 cm of the string remain free at both sides of the coil.
- Put the coil into the nylon head cover (6).
- Release the string ends from the coil notches and draw them through the openings in the nylon head cover.
- Install the nylon head cover with the coil back and secure it with the latches.
 - ① Use only original nylon string with recommended diameters according to the technical specification. If a nylon string with too big diameter is used, it can result in incorrect function of the nylon head and lower cutting performance.
- ! Never replace the nylon string with another type of material, such as steel wire, etc.
- ! Don't use strings reinforced with a metal.

1.5.2 Sharpening the cutting blades of the grass blade



Perfect results of the cutting tool can only be ensured if the blades are properly sharpened. Slight sharpening can be done with a hand sharpening stone. For bigger blunting it is necessary to use a tool sharpener.

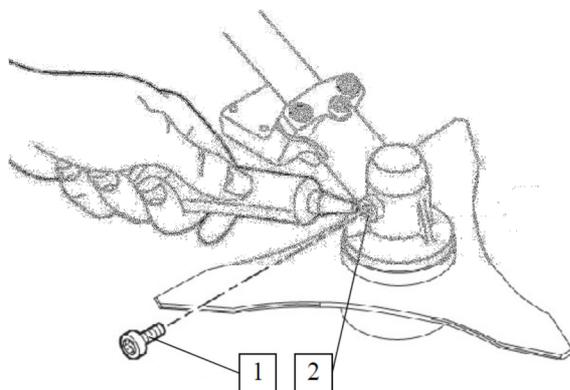
- ⓘ In any case it is necessary to pay attention to perfect balancing of the blade during the sharpening. If you don't have suitable tools or you are not sure about the correct balancing of the blade, contact a service shop.
- Dismount the cutting blade and inspect it properly to find out if it is not burst, bent or in another way damaged. If any damage occurs, replace the blade with a new one. The cutting blade can be used from both sides. If the blades become blunt at one side, the blade can be turned over and the blades on the other side can be used.
- Sharpen the blades only on the part intended for sharpening. When sharpening, pay attention to keep the sharpening profile, so that the cutting blade is not destroyed at work. All the teeth of the blade are to be sharpened in the same way.
- ⓘ If you notice abnormal vibrations after sharpening, it is obvious that the blade is not balanced correctly. In such a case, contact your service and give them your blade to check it. If the blades are worn out over the given limit, replace the blade with a new one.

- A – wrong sharpening
- B – right sharpening
- 1 – Place of possible destruction
- 2 – Limit for the tooth shape
- 3 – Wrong sharpening angles
- 4 – Sharpening boundary
- 5 – Sharpening limit

1.5.3 Maintenance and adjusting of the engine

Maintenance and adjusting of the engine – see the instructions for use of the engine¹³

1.5.4 Angle gearbox lubrication



- Remove the bolt (1) at the side of the gearbox.
- Squeeze a special lithium Vaseline (available at Honda dealers) into the opening (2) and continue squeezing the Vaseline until it starts to get back from the opening (2).
- Close the lubrication opening with the bolt (1) and tighten it properly.
- ! When working with lubricants, observe the basic hygienic rules and regulations and laws concerning the environmental protection.

¹³ The original instructions for use and its translation are part of the machine.

1.5.5 Servicing intervals

Maintenance intervals – carry out in given monthly intervals or after given working hours, depending on what comes sooner	Before each use	The first month or 10 working hours	Each 3 months or 25 working hours	Each 6 months or 50 working hours	Each year or 100 working hours
Maintenance item					
Engine fins				Cleaning ¹⁴	
Condition of cutting tool and safety covers	Check ¹⁵				
Angle gearbox surroundings	Cleaning				
Angle gearbox			Lubrication		
Accelerator control	Check				
Engine switch	Check				
Air filter	Check		Cleaning ¹⁵		
Intake			Cleaning		
Spark plug space				Cleaning	
Spark plug					Cleaning – Adjustment
Carburettor space			Cleaning		
Cabling			Check		
Fuel tubes	Check each 2 years (replace if needed) ¹⁶				
Fuel filter					Check
Clutch jaw and spring				Check ¹⁶	
Idle revolutions					Adjustment ¹⁶
Engine oil	Level check	Replace-ment		Replace-ment	
Valve clearance					Adjustment ¹⁶
Fuel tank					Cleaning ¹⁶
Bolts and nuts	Check – Tightening				

Table 5: Servicing intervals

¹⁴ If operated in an extremely dusty environment, carry the operation out more frequently.

¹⁵ Replace with a new one if damaged. Use original spare parts only.

¹⁶ Ask an authorized service to carry this operation out.

1.5.6 Problems and their solutions

Problem	Cause	Solution
The engine does not start	Not enough fuel in the tank	Fill in the fuel
	Engine switch in STOP (0) position	Move the switch to START (I) position
	Spark plug not installed correctly or not connected	Check connection and tightening of the spark plug
	Incorrect spark plug or spark plug not correctly adjusted	Replace the spark plug with the right one, or clean the spark plug and adjust the electrode gap
	Engine overfilled with fuel	Dismount the spark plug and dry it out correctly; install it back
	Fuel filter clogged, defective carburettor, defective ignition, stammering valves, etc.	Take the machine to an authorized service
It is difficult to start the engine or the engine loses power	Dirty air filter	Clean the filter
	Bad fuel, dirt or water in fuel tank and/or in carburettor	Drain, clean and dry out the fuel tank and the carburettor, fill in fresh fuel
	Fuel tank bleeding clogged	Clean the bleeding opening of the fuel tank cap
	Engine is hot and choke is on	Turn the choke off
The engine run is unstable	Incorrect spark plug or spark plug not correctly adjusted	Replace the spark plug with the right one, or clean the spark plug and adjust the electrode gap
	Dirty air filter	Clean the filter
The engine is overheating	Incorrect spark plug or spark plug not correctly adjusted	Replace the spark plug with the right one, or clean the spark plug and adjust the electrode gap
	Dirty air filter	Clean the filter
	Dirty fins of engine cooling, clogged starter intake, etc.	Clean the fins and starter surroundings
	Low oil level in engine	Fill in the oil
Excessive machine vibrations	Cutting tool not balanced or incorrectly installed	Check fastening of the cutting tool, replace it with a new one
	Bolts holding the engine are loosened	Tighten the bolts

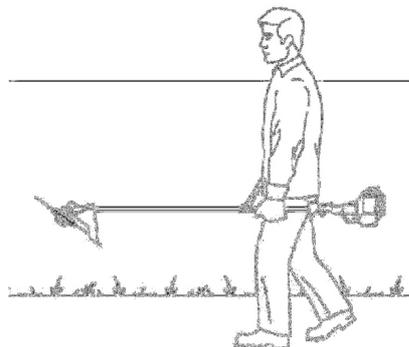
Table 6: Problems and their solutions

1.5.7 Washing and cleaning the machine

- ! When cleaning and washing the machine, observe valid regulations and laws concerning protection of watercourses and other water resources against their pollution and contamination with chemical substances.
- ① Never wash the engine using a water stream! A malfunction of the electric equipment of the engine could appear after starting.
- ① Don't use pressure washers for washing the machine.

1.6 Transportation and storing

1.6.1 Transportation



! The engine must always be off and the safety cover must be put on the cutting tool during transport.

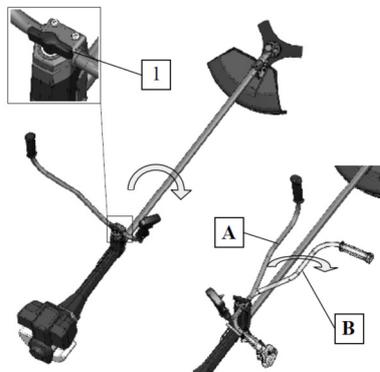
During transport, the brush cutter/trimmer must be properly secured and fastened in such a way that it can't come loose and the oil filling can't run out of the engine.

1.6.2 Storing

If the machine won't be used for more than 2 months, it is recommended to take following measures:

- Drain fuel from the fuel tank and let the engine run until the rest of the fuel in the carburettor is consumed.
- Unscrew the spark plug and put a few drops of clean engine oil into the combustion space of the cylinder.
- Gently pull the starter rope several times, so that the oil can be spread, and install the spark plug back.
- Completely clean the grass rests off the whole brush cutter/trimmer, especially from the engine cooling fins and from the gearbox surroundings.
- Spray the surface of metal parts of the brush cutter/trimmer with a thin film of preservative oil in spray can (such as GT85, WD40, etc.) It prevents corrosion.
- Veil the brush cutter/trimmer and store it in a dry place.
- If it is necessary to store the brush cutter/trimmer in vertical position, store it with the engine facing down. This avoids possible engine fall.

1.6.2.1 Tilting the handlebars



It is possible to tilt and turn the handlebars of your brush cutter/trimmer to a storage position for easier storing. The tilting procedure is described below.

- ① **Turn the handlebars in the clockwise direction only (as seen from above).**
- ① **Never tilt the handlebars for more than ¼ revolutions.**
- Loosen the wing nut (1) and turn the handlebars to position A, after that you can alternatively tilt them into position B. Tighten the wing nut.

1.6.3 Storing the fuel

- Store the fuel only in containers intended for petrol storing. Such containers prevent the petrol from contamination by substances contained in the container walls and thus avoid possible engine damage.
- Such polluted, old or degraded fuel can cause clogging of the carburettor, seizure of the distribution system and subsequently serious damage to the engine – such problems can't be and won't be covered by the warranty. The quality of unleaded petrols is strongly depending on storing conditions, petrol age, etc. Most unleaded petrols lose their qualities during 3-4 weeks. Store only the necessary quantity of the fuel which can be used within a month from the purchase at the latest.

The manufacturer bears no responsibility for defects on the fuel system caused by using incorrect type of fuel, fuel which is polluted and/or otherwise contaminated and degraded, old and/or otherwise deteriorated by age or incorrect storing.

Such defects can't be covered by the warranty.

1.6.4 Putting the machine into operation after longer storing

- Dismount the spark plug and check its condition. If necessary, adjust the required electrode gap and clean it. Pull the starter handle several times and crank the engine.
- Install the spark plug back and fix it properly. As soon as the spark plug fits on the seat, tighten it for 1/8-1/4 revolution only.
- Check the quantity and condition of the engine oil.
- Add the prescribed type of fuel into the fuel tank and start the engine.
- ⓘ **The spark plug must be properly tightened. If it is not tightened sufficiently, there's a risk of spontaneous unscrewing of the spark plug and damage to the engine or injury to the operator. Use only spark plugs with corresponding temperature characteristics. Using spark plugs with other characteristics can result in serious damage to the engine which is not covered by the warranty.**

Note:

If the engine was treated with a preservative oil coating before storing, it will smoke at the beginning.

1.6.5 Disposal of the wrapping and the machine after the end of its life time

After unwrapping the machine the user is obliged to dispose of the wrapping according to the national laws and regulations concerning waste treatment.

Following steps are recommended for the disposal of the machine after the end of its life time:

- Dismount all parts which can still be used.
- Drain the oil from the gearbox into a suitable closable container and take the oil to a waste collection point¹⁷.
- Dismount parts from plastics and non-ferrous metals.
- Dispose of the undressed machine rest and dismantled parts according to the national lawn and regulations concerning waste treatment.

1.6.6 Instructions for ordering spare parts

The spare part list is not included in this manual. The latest version of the catalogue can be downloaded from our web site. If you have no access to the internet, you can ask your dealer for a printed version. Following data are necessary for correct identification of your machine: **Type name (Type)**, **Part number (CN°)** and production **Identification number (N°)**. Only with these data is it possible to find the exact designation of the corresponding spare part.

	Field	Description
	Type	Type name of the machine. (KC-435)
	N°	Unique production identification number. 1005200006.0111.00001 (product.period.quantity)
	CN°	Part (trade) number. (4339)

Table 7: Name plate – example

1.7 Address of the manufacturer

VARI, a.s.
Opolanská 350
Libice nad Cidlinou
289 07 Czech Republic

Phone: (+420) 325 607 111
Fax: (+420) 325 607 264
E-Mail: vari@vari.cz
Web: <http://www.vari.cz>

¹⁷ The place for handing it in will be advised by a local authority.

