

STIHL BC 230

***STIHL***



2 - 17      **Instruction Manual**



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## 1 Introduction


Dear Customer,

Thank you for choosing STIHL. We develop and manufacture our quality products to meet our customers' requirements. The products are designed for reliability even under extreme conditions.

STIHL also stands for premium service quality. Our dealers guarantee competent advice and instruction as well as comprehensive service support.

STIHL expressly commit themselves to a sustainable and responsible handling of natural resources. This user manual is intended to help you use your STIHL product safely and in an environmentally friendly manner over a long service life.

We thank you for your confidence in us and hope you will enjoy working with your STIHL product.



Dr. Nikolas Stihl

**IMPORTANT! READ BEFORE USING AND  
KEEP IN A SAFE PLACE FOR REFERENCE.**

## 2 Guide to Using this Manual

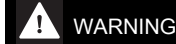
### 2.1 Applicable Documentation

Local safety regulations apply.

### 2.2 Warning Notices in Text



- This notice refers to risks which result in serious or fatal injury.
  - ▶ Serious or fatal injuries can be avoided by taking the precautions mentioned.



- This notice refers to risks which **can** result in serious or fatal injury.
  - ▶ Serious or fatal injuries can be avoided by taking the precautions mentioned.

#### NOTICE

- This notice refers to risks which can result in damage to property.
  - ▶ Damage to property can be avoided by taking the precautions mentioned.

### 2.3 Symbols in Text



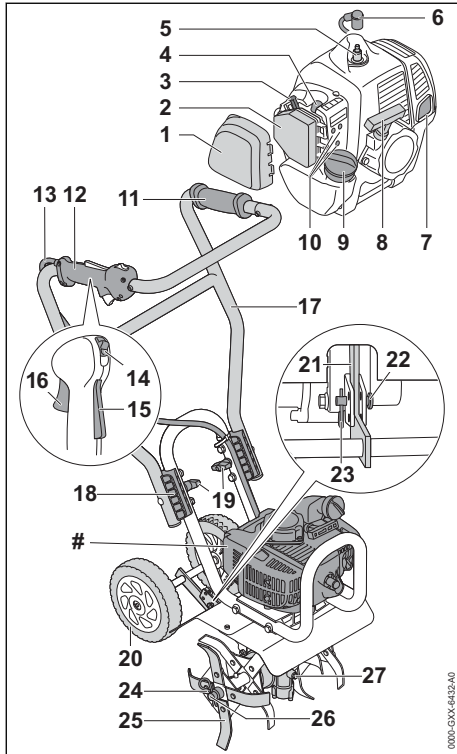
This symbol refers to a chapter in this instruction manual.



A video is available for this chapter

## 3 Overview

### 3.1 Cultivator



- 1 Filter Cover**  
Covers the air filter.
- 2 Air Filter**  
Filters the air entering the engine.
- 3 Choke Lever**  
Helps start the engine.
- 4 Manual Fuel Pump**  
Eases engine starts.
- 5 Spark Plug**  
Ignites fuel-air mixture in the engine.
- 6 Spark Plug Boot**  
Connects ignition lead to spark plug
- 7 Muffler**  
Reduces engine noise emissions.
- 8 Starter Grip**  
Serves to crank the engine.
- 9 Fuel Tank Cap**  
Closes the fuel tank.

#### 10 Carburetor Adjusting Screws

For tuning the carburetor.

#### 11 Handle

For holding and controlling the cultivator.

#### 12 Control Handle

For operating, holding and controlling the cultivator.

#### 13 Throttle Cable

Connects the throttle trigger to the engine.

#### 14 Slide Control

For starting, running and stopping the engine.

#### 15 Throttle Trigger Lockout

Unlocks the throttle trigger.

#### 16 Throttle Trigger

Controls engine speed.

#### 17 Handlebar

Connects control handle and left handle to cultivator.

#### 18 Bracket

Holds the handlebar in position.

#### 19 Wing Screw

Secures the handlebar to the cultivator.

#### 20 Wheels

For transporting the cultivator.

#### 21 Cultivator Spur

Serves to regulate working speed and depth.

#### 22 Pin

Connects wheels and spur to the cultivator.

#### 23 Cotter Pin

Secures the pin.

#### 24 Cotter Pin

Secures the blade.

#### 25 Rotor blade

For tilling the soil.

#### 26 Output Shaft

Drives the rotor blades.

#### 27 Screw Plug

Closes filler opening for gear grease.

#### # Rating Label with Serial Number

### 3.2 Symbols

Meanings of symbols that may be on the cultivator:



This symbol marks the fuel tank.





This symbol denotes the manual fuel pump.


**START** This symbol denotes the starter grip and the engine is started with the slide control in this position.

**I** Engine is operated with the slide control in this position.

**STOP-0** Engine is stopped when the slide control is in this position.

 Slide control is moved in this direction to stop the engine.


 Engine is started with the choke lever in this position.


 Engine is made ready for start with the choke lever in this position.


## 4 Safety Precautions


### 4.1 Warning Symbols


Meanings of warning signs on the cultivator:


 Observe safety notices and take the necessary precautions.

 Read, understand and save the instruction manual.

 Wear safety glasses and hearing protection.

 Wear safety boots.

 Do not touch rotating blades.

 Avoid inhaling exhaust gas.

 Maintain safe distance.

### 4.2 Intended Use

The STIHL BC 230 cultivator is designed loosening and preparing soil, working in mulches and furrowing.

The working width of 300 mm defined by the rotor blades must not be exceeded.

## ⚠ WARNING

- Using the cultivator for purposes for which it is not designed may result in serious or fatal injuries and damage to property.

- ▶ Use the cultivator as described in this instruction manual.

### 4.3 The Operator

## ⚠ WARNING

- Users without adequate training or instruction cannot recognize or assess the risks involved in using the cultivator. The user or other persons may sustain serious or fatal injuries.
  - ▶ Read, understand and save the instruction manual.
- ▶ If you pass the cultivator on to another person: Always give them the instruction manual.
- ▶ Make sure the user meets the following requirements:
  - The user must be rested.
  - The user must be in good physical condition and mental health to operate and work with the cultivator. If the user's physical, sensory or mental ability is restricted, he or she may work only under the supervision of or as instructed by a responsible person.
  - The user is able to recognize and assess the risks involved in using the cultivator.
  - The user must be of legal age or is being trained in a trade under supervision in accordance with national rules and regulations.
  - The user has received instruction from a STIHL servicing dealer or other experienced user before working with the cultivator for the first time.
  - The user must not be under the influence of alcohol, medication or drugs.
- ▶ If you have any queries: Contact a STIHL servicing dealer for assistance.
- The cultivator's ignition system produces an electromagnetic field. This field may interfere with some pacemakers. This can result in serious or fatal injuries.
  - ▶ If the user has a pacemaker: Make sure the pacemaker is not affected.

### 4.4 Clothing and equipment

## ⚠ WARNING

- Long hair can be sucked into the cultivator during operation. This may result in serious injury to the user.

- ▶ Tie up and confine long hair above your shoulders.
- Objects can be thrown at high speed during operation. This may result in injury to the user.



- ▶ Wear close-fitting safety glasses. Suitable safety glasses are tested in accordance with EN 166 or national regulations and available commercially with the corresponding marking.

- ▶ Wear long trousers made from resistant material.
- Noise is generated during operation. Noise can damage your hearing.



- ▶ Wear ear protection.

- Dust can be whipped up during operation. Whipped up dust can damage the respiratory passages and cause allergic reactions.
  - ▶ If dust is generated: Wear a dust respirator mask.
- Inappropriate clothing can snag on wood, brush or the cultivator. Users not wearing suitable clothing are at risk of serious injury.
  - ▶ Wear close-fitting clothing.
  - ▶ Remove scarves and jewelry.
- The user can come into contact with the rotating blades during operation. This may result in serious injury to the user.



- ▶ Wear steel-toed safety boots.

- ▶ Wear long trousers made from resistant material.
- The user can come into contact with the blades during cleaning and maintenance work. This may result in injury to the user.
  - ▶ Wear work gloves made from resistant material.
- Wearing unsuitable footwear may cause the user to slip. This may result in injury to the user.
  - ▶ Wear sturdy, closed-toed footwear with high-grip soles.

## 4.5 Working Area and Surroundings

### ▲ WARNING

- Bystanders, children and animals cannot recognize or assess the dangers of the cultivator or flying debris. This may result in serious injury to bystanders, children and animals and damage to property.



- ▶ Do not allow bystanders, children or animals within 5 meters of the work area.

- ▶ Maintain a clearance of 5 meters from objects.
- ▶ Do not leave the cultivator unattended.
- ▶ Make sure that children cannot play with the cultivator.
- Hot exhaust gas is emitted through the muffler while the engine is running. Hot exhaust gas can ignite easily flammable materials and cause a fire.
  - ▶ Keep exhaust gas well away from easily flammable materials.

## 4.6 Safe Condition

### 4.6.1 Cultivator

The cultivator is in a safe condition if the following points are observed:

- The cultivator is not damaged.
- There is no fuel leaking from the cultivator.
- The fuel tank cap is closed.
- The cultivator is clean.
- The controls function properly and have not been modified.
- The blades are properly mounted.
- Original STIHL accessories designed for this cultivator model are fitted.
- The accessories are correctly attached.

### ▲ WARNING

- If not in safe condition, components may no longer operate correctly, safety devices may be disabled and fuel leakage may occur. This may result in serious or fatal injury to people.
  - ▶ Work only with an undamaged cultivator.
  - ▶ If fuel is leaking from the cultivator: Do not use the cultivator and contact a STIHL dealer for assistance.
  - ▶ Close the fuel tank cap.
  - ▶ If the saw is dirty: Clean the cultivator.
  - ▶ Do not modify your cultivator. Exception: Mounting rotor blades.
  - ▶ If the controls do not function properly: Do not use your cultivator.
  - ▶ Fit original STIHL accessories designed for this cultivator model.
  - ▶ Mount the blades as described in this instruction manual.
  - ▶ Attach accessories as described in this User Manual or in the User Manual for the accessories.
  - ▶ Never insert objects in the cultivator's openings.
  - ▶ Replace worn or damaged labels.

- ▶ If you have any doubts, be sure to consult a STIHL dealer.

#### 4.6.2 Rotor Blades

The blades are in a safe condition if the following points are observed:

- The blades are not damaged.
- The blades are not deformed.
- The blades are properly mounted.

### ▲ WARNING

- The user can lose control of the cultivator if it is not in a safe condition. This can result in serious injuries.
  - ▶ Work with undamaged rotor blades.
  - ▶ If you have any queries: Contact your STIHL servicing dealer for assistance.

#### 4.7 Fuel Mixture and Refueling

### ▲ WARNING

- This cultivator requires a fuel mixture of gasoline and two-stroke engine oil. Fuel mixture and gasoline are extremely flammable. If fuel mixture or gasoline make contact with open fire or hot objects, they can cause a fire or explosions. Persons may be seriously or fatally injured and property may be damaged.
  - ▶ Protect fuel mixture and gasoline from heat and fire.
  - ▶ Do not spill fuel mixture and gasoline.
  - ▶ If fuel has been spilled: Wipe up fuel with a cloth and do not attempt to start engine until all parts of the cultivator are dry.
  - ▶ Do not smoke.
  - ▶ Never refuel near a fire.
  - ▶ Shut off the engine and allow it to cool down before refueling.
  - ▶ Start the engine at least 3 meters from the fueling spot, outdoors only.
- Inhaling fuel fumes and gasoline fumes can have toxic effects.
  - ▶ Avoid inhaling fuel fumes or gasoline fumes.
  - ▶ Refuel in a well-ventilated location.
- The cultivator becomes hot during operation. The fuel expands and excess pressure can build up in the tank. Fuel can escape as a spray when the fuel tank cap is opened. The escaping fuel can ignite. This may result in serious injury to the user.
  - ▶ Allow the machine to cool down first and then open the tank cap carefully.
- Clothing that has been in contact with fuel or gasoline is more easily flammable. Persons may be seriously or fatally injured and property may be damaged.
  - ▶ If your clothing comes into contact with fuel or gasoline: Change your clothing.
- Fuel mix, gasoline and two-stroke engine oil can harm the environment.
  - ▶ Do not spill fuel, gasoline or two-stroke engine oil.
  - ▶ Dispose of fuel mix, gasoline and two-stroke engine oil in accordance with local regulations and environmental requirements.
- Fuel, gasoline or two-stroke engine oil can cause irritation if they come into direct contact with the skin or eyes.
  - ▶ Avoid contact with fuel, gasoline and two-stroke engine oil.
  - ▶ If skin contact occurs: Wash affected areas of skin with plenty of water and soap.
  - ▶ If eye contact occurs: Flush eyes with plenty of water for at least 15 minutes and consult a doctor.
- The cultivator's ignition system produces sparks. Unconfined sparks may cause a fire or an explosion in an easily combustible or explosive environment. Persons may be seriously or fatally injured and property may be damaged.
  - ▶ Use the spark plugs described in this instruction manual.
  - ▶ Insert and tighten down the spark plug.
  - ▶ Connect the spark plug boot and press it down firmly.
- The cultivator can be damaged if it is run on a fuel mixture consisting of unsuitable gasoline or an unsuitable two-stroke engine oil or if an incorrect mix ratio of gasoline and two-stroke engine oil is used.
  - ▶ Mix the fuel as described in this instruction manual.
- The mixture of gasoline and two-stroke engine oil can separate if it is stored for a long period. The cultivator can be damaged if it is used with a fuel mix that has separated.
  - ▶ Before refueling the cultivator: Thoroughly mix the fuel.
  - ▶ Use a mixture of gasoline and two-stroke engine oil that is not older than 30 days (STIHL MotoMix: 2 years).

#### 4.8 Operation

### ▲ WARNING

- If the engine is not started properly, the user may lose control of the cultivator. This can result in serious injuries.

- ▶ Start the engine as described in this instruction manual.
- ▶ If the blades are touching the ground or objects: Do not start the engine.
- The slide control is in position **START** for engine starts. Engine RPM in position **START** is higher than idle speed and the blades may rotate as soon as the engine runs. This can result in serious injuries.
  - ▶ Do not touch the blades.
  - ▶ Start the engine as described in this instruction manual.
- The user cannot concentrate on the work in certain situations. The user can lose control of the cultivator, stumble or fall and be seriously injured.
  - ▶ Work calmly and carefully.
  - ▶ If light and visibility are poor: Do not use your cultivator.
  - ▶ Operate the cultivator without assistance.
  - ▶ Keep the blades close to the ground.
  - ▶ Watch out for obstacles.
  - ▶ If you use the cultivator on stony or hard soil: Do not operate at full throttle.
  - ▶ Stand on the ground while working and keep a good balance.
  - ▶ If you begin to feel tired: Take a break.
  - ▶ If it is necessary to work on a slope: Work across the slope.
  - ▶ Do not work on steep slopes.
- Exhaust gas is produced when the engine is running. Breathing in exhaust gas can have toxic effects.



- ▶ Avoid inhaling exhaust gas.

- ▶ Operate the cultivator in a well ventilated location.
- ▶ In the event of nausea, headache, visual disturbances, problems with hearing or dizziness: Stop work and seek medical advice.
- The user's ability to hear and assess noises is restricted when wearing hearing protection with the engine running.
  - ▶ Work calmly and carefully.
- The user will not be able to control the cultivator if it is operated with the slide control in position **START**. This can result in serious injuries.
  - ▶ Check that the slide control is in position **I** during operation.
  - ▶ Start the engine as described in this instruction manual.
- The rotating blades can cut the user. This can result in serious injuries.



- ▶ Do not touch rotating blades.
- ▶ If the blades are blocked by an object: Shut off the engine. Then remove the object causing the blockage.
- The cultivator can be damaged if you open the throttle when the blades are blocked by an object.
  - ▶ Shut off the engine. Then remove the object causing the blockage.
- If the behavior of the cultivator changes during operation or feels unusual, it may no longer be in a safe condition. This can result in serious injuries and damage to property.
  - ▶ Stop work and contact your STIHL dealer for assistance.
- Vibrations may occur while using the cultivator.
  - ▶ Wear gloves.
  - ▶ Take regular breaks.
  - ▶ If signs of circulation problems occur: Seek medical advice.
- Note that the blades continue to rotate for a short period after you release the throttle trigger. This can result in serious injuries.
  - ▶ Wait until the blades come to a complete standstill.

## DANGER

- Working near live electric cables can result in accidental contact with the blades and damage the cables. This can result in serious or fatal injuries.
  - ▶ Do not work near live electric cables.

## 4.9 Transporting

### WARNING

- The gearbox can get hot during operation. There is a risk of burn injuries.
  - ▶ Do not touch a hot gearbox.
- The cultivator may turn over or shift during transport. This may result in personal injuries and damage to property.
  - ▶ Shut off the engine.
  - ▶ Secure the cultivator with lashing straps or a net to prevent it turning over and moving.
- The muffler and engine may be hot after a period of operation. There is a risk of burn injuries.
  - ▶ Tilt the cultivator onto its wheels for transportation.

## 4.10 Storing

### ▲ WARNING

- Children are not aware of and cannot assess the dangers of a cultivator and can be seriously injured.
  - ▶ Shut off the engine.
  - ▶ Store the cultivator out of the reach of children.
- Dampness can corrode the electrical contacts on the cultivator and metal components. This can damage the cultivator.
  - ▶ Store your cultivator in a clean and dry condition.

## 4.11 Cleaning, Maintenance and Repair

### ▲ WARNING

- The blades can start rotating unintentionally if the engine is running during cleaning, maintenance or repair operations. This may result in serious injury to people and damage to property.
  - ▶ Shut off the engine.
- The muffler and engine may be hot after a period of operation. This can result in burn injuries.
  - ▶ Wait until the muffler and engine cool down.
- The gear housing can get hot during operation. There is a risk of burn injuries.
  - ▶ Do not touch a hot gear housing.
- Aggressive cleaning agents, cleaning with a jet of water or pointed objects can damage the cultivator and the blades. If the cultivator or blades are not cleaned correctly, components may no longer function properly or safety devices may be rendered inoperative. They may cause serious injury to persons.
  - ▶ Clean the cultivator and blades as described in this instruction manual.
- If the cultivator or blades are not serviced or repaired correctly, components may no longer function properly or safety devices may be rendered inoperative. This may result in serious or fatal injury to people.
  - ▶ Do not attempt to service or repair the cultivator or blades.
  - ▶ If the cultivator or the blades require servicing or repairs: Contact your STIHL servicing dealer for assistance.
- The user can be cut by the sharp cutting edges while cleaning the blades. This may result in injury to the user.

- ▶ Wear work gloves made from resistant material.

## 5 Preparing Cultivator for Operation

### 5.1 Preparing Cultivator for Operation

Perform the following steps before starting work:

- ▶ Make sure the following components are in a safe condition:
  - Cultivator, 4.6.1
  - Rotor blades, 4.6.2
- ▶ Clean the cultivator, 14.1.
- ▶ Mount the assist handle and control handle, 6.1.
- ▶ Mount the wheels, 6.2.1.
- ▶ Mount the rotor blades, 6.3.1.
- ▶ Refuel the cultivator, 7.2.
- ▶ Check the controls, 9.1.
- ▶ If you cannot carry out these steps: Do not use your cultivator and contact your STIHL servicing dealer for assistance.

## 6 Assembling the Cultivator

### 6.1 Mounting the Assist Handle and Control Handle

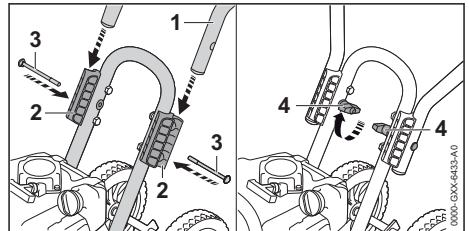


A video is available for this chapter



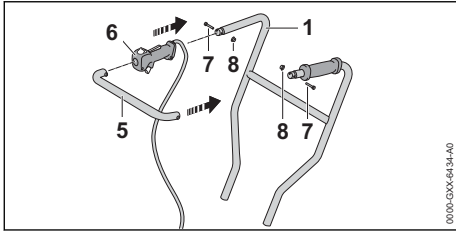
[www.stihl.com/sxOIGN](http://www.stihl.com/sxOIGN)

- ▶ Shut off the engine.

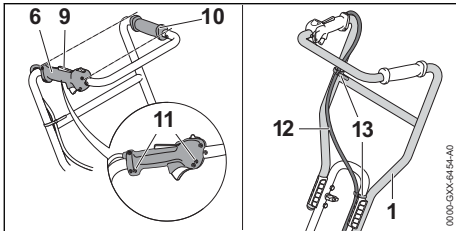


- ▶ Fit the handlebar (1) in the brackets (2) so that the holes line up.
- ▶ Fit the screws (3) in the holes.
- ▶ Fit and tighten down the wing screws (4) firmly.





- ▶ Push the control handle (6) onto the handlebar (1).
- ▶ Push the crossbar (5) onto the handlebar (1) so that the holes are in alignment.
- ▶ Fit the screws (7) in the holes.
- ▶ Fit and tighten down the nuts (8) firmly.



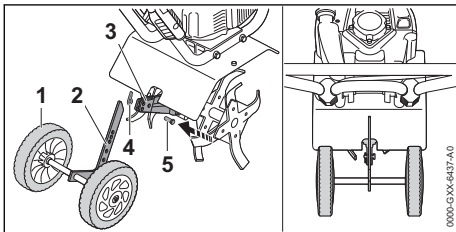
- ▶ Line up the control handle (6), throttle trigger lockout (9) pointing vertically upwards, so that it is parallel to the assist handle (10).
- ▶ Insert and tighten down the screws (11) firmly.
- ▶ Secure throttle cable (12) to handlebar (1) with two cable ties (13).

The assist and control handles do not need to be removed again.

## 6.2 Fitting and Removing the Wheels

### 6.2.1 Mounting the Wheels

- ▶ Shut off the engine.

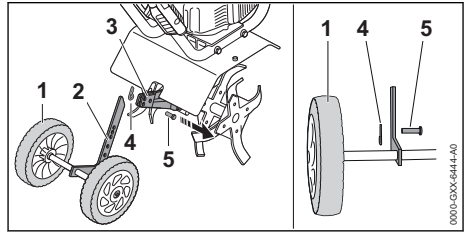


- ▶ Align the wheels (1) so that the cultivator spur (2) points in direction of the engine and the lowest hole in the spur (2) lines up with the hole in the bracket (3).
- ▶ Fit the pin (5) through the hole in the bracket (3).

- ▶ Fit the cotter pin (4) in the hole in the pin (5). The pin (5) is now secure.

### 6.2.2 Removing the Wheels

- ▶ Shut off the engine.



- ▶ Pull out the cotter pin (4).
- ▶ Remove the pin (5).
- ▶ Lift away the wheels (1).
- ▶ Fit the pin (5) through a hole in the bracket (1).
- ▶ Fit the cotter pin (4) in the hole in the pin (5). The pin (5) is now secure.

## 6.3 Fitting and Removing the Blades

### 6.3.1 Mounting the Rotor Blades

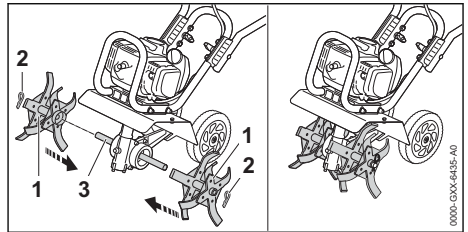


A video is available for this chapter



[www.stihl.com/sxLLXe](http://www.stihl.com/sxLLXe)

- ▶ Shut off the engine.



- ▶ Pull out the cotter pins (2).
- ▶ Push the blades (1) onto the output shaft (3).
- ▶ Fit the cotter pins (2) through the holes in the output shaft (3). The blades (1) are secure.

### 6.3.2 Removing the Rotor Blades

- ▶ Shut off the engine.
- ▶ Pull out the cotter pins.
- ▶ Remove the blades.
- ▶ Fit the cotter pins through the holes in the output shaft. The cotter pins are secure.

## 7 Mixing Fuel and Refueling the Cultivator

### 7.1 Mixing fuel



A video is available for this chapter.



[www.stihl.com/sxpweh](http://www.stihl.com/sxpweh)

The fuel required for this cultivator is a mixture of two-stroke engine oil and gasoline, in a mixing ratio of 1:50.

STIHL recommends you use STIHL MotoMix.

If you mix the fuel yourself, use only STIHL two-stroke engine oil or another high-performance engine oil in accordance with JASO FB, JASO FC, JASO FD, ISO-L-EGB, ISO-L-EGC or ISO-L-EGD.

STIHL specifies STIHL HP Ultra two-stroke engine oil or an equivalent high-performance engine oil in order to maintain emission limits over the machine's service life.

- ▶ Make sure that the octane number of the gasoline is at least 90 RON and the ethanol content is not more than 10%.
- ▶ Make sure the two-stroke engine oil you are using meets the requirements.
- ▶ Depending on the desired amount of fuel, determine the correct amounts of two-stroke engine oil and gasoline in a mixing ratio of 1:50. Examples for fuel mixes:
  - 20 ml Two-stroke engine oil, 1 l gasoline
  - 60 ml Two-stroke engine oil, 3 l gasoline
  - 100 ml Two-stroke engine oil, 5 l gasoline
- ▶ Pour two-stroke engine oil into a clean approved fuel canister first and then add gasoline.
- ▶ Stir the fuel before topping up.

### 7.2 Refueling the Cultivator

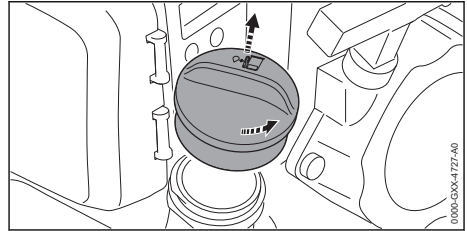


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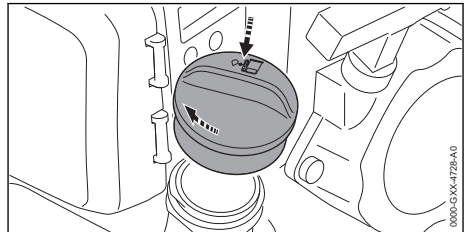
- ▶ Shut off the engine.
- ▶ Place your cultivator on a level surface so that the fuel tank cap faces up.
- ▶ Use a damp cloth to clean the tank cap and the area around it.



- ▶ Turn the tank cap counterclockwise until it can be removed.
- ▶ Remove the fuel tank cap.

#### NOTICE

- Bright light, sunlight and extreme temperatures can cause the fuel mix to separate much faster. The cultivator can be damaged if it is used with a fuel mix that has become separated.
  - ▶ Thoroughly mix the fuel.
  - ▶ Do not use fuel mix that has been stored for more than 30 days.
- ▶ Fill the tank to within no more than 15 mm of the brim, taking care not to spill any fuel.



- ▶ Fit the tank cap on the tank opening.
- ▶ Turn the tank cap clockwise and tighten it down firmly by hand.  
The fuel tank is closed.



## 8 Starting and Stopping the Engine

### 8.1 Selecting the correct starting procedure

#### When must the engine be prepared for starting?


The engine must be prepared for starting if one of the following conditions apply:

- The engine is at ambient temperature.
- The engine stopped when accelerated for the first time.
- The engine stopped because the fuel tank was empty.

- ▶ Prepare engine for start,  8.2 and then start the engine,  8.3.

### When can the engine be started without preparation?

The engine can be started without preparation if it has been running for at least 1 minute and only shut down for a short work break.

- ▶ Starting the engine,  8.3.

## 8.2 Preparing Engine for Start

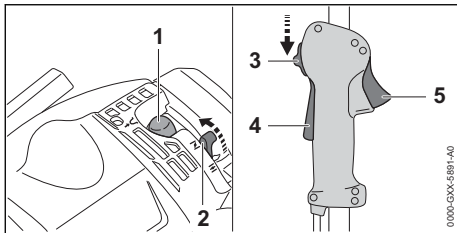



A video is available for this chapter

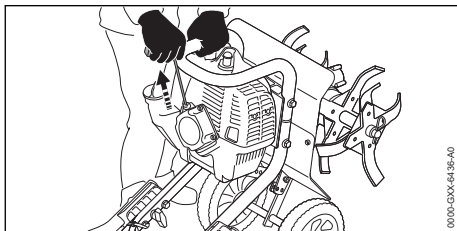


[www.stihl.com/sxaYXy](http://www.stihl.com/sxaYXy)


- ▶ Select the correct starting procedure.
- ▶ Place the cultivator on a level surface so that the blades do not touch the ground or other objects.



- ▶ Press the manual fuel pump bulb (1) at least five times.
- ▶ Move the choke lever (2) to position .
- ▶ Press down the throttle trigger lockout (4) and hold it there.
- ▶ Pull the throttle trigger (5) and hold it there.
- ▶ Move the slide control (3) to position **START** and hold it there.
- ▶ Release the throttle trigger (5) and lockout lever (4).  
The slide control (3) engages in position **START**.



- ▶ Hold the cultivator firmly with your left hand on the frame and press down.

- ▶ Pull the starter grip slowly with your right hand until you feel it engage.
- ▶ Pull the starter grip quickly and allow the starter rope to rewind several times until the engine fires and stops.
- ▶ If the engine does not stop: Move the choke lever (2) to position  so that the engine does not flood.  
The engine stops.

## 8.3 Starting the Engine

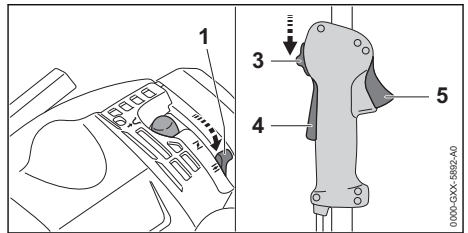



A video is available for this chapter

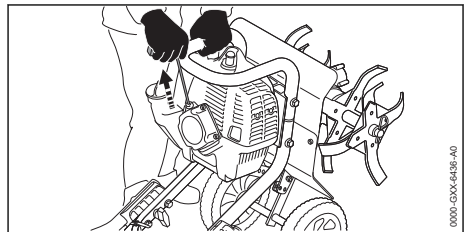


[www.stihl.com/sxaYXy](http://www.stihl.com/sxaYXy)

- ▶ Select the correct starting procedure.
- ▶ Place the cultivator on a level surface so that the blades do not touch the ground or other objects.



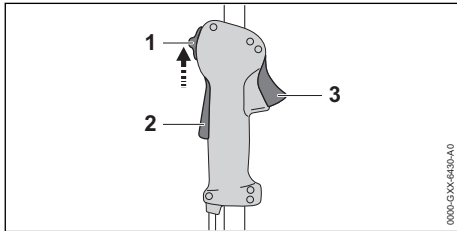
- ▶ Move the choke lever (1) to position .
- ▶ Press down the throttle trigger lockout (4) and hold it there.
- ▶ Pull the throttle trigger (5) and hold it there.
- ▶ Move the slide control (3) to position **START** and hold it there.
- ▶ Release the throttle trigger (5) and lockout lever (4).  
The slide control (3) engages in position **START**.



- ▶ Hold the cultivator firmly with your left hand on the frame and press down.
- ▶ Pull the starter grip slowly with your right hand until you feel it engage.

- ▶ Pull the starter grip quickly and allow the starter rope to rewind several times until the engine runs.
- ▶ Blip the throttle trigger (5).  
The slide control springs (3) to position **I**. The engine runs at idling speed.
- ▶ If the blades rotate while the engine is idling: Rectify the malfunction.  
Idle speed adjustment is not correct.
- ▶ If the engine does not start: Prepare the engine for the start and then try again to start the engine.

## 8.4 Stopping the Engine



- ▶ Release the throttle trigger (3) and lockout lever (2).  
The blades stop rotating.
- ▶ Move the slide control (1) to position **STOP-0**.  
The engine stops.
- ▶ If the engine does not stop:
  - ▶ Move the choke lever to position **I/L**.  
The engine stops.
  - ▶ Do not use your cultivator and contact your STIHL servicing dealer for assistance.  
There is a malfunction in the slide control.

## 9 Checking the Cultivator

### 9.1 Checking the Controls

#### Throttle trigger lockout and throttle trigger

- ▶ Shut off the engine.
- ▶ Attempt to pull the trigger without depressing the lockout lever.
- ▶ If the trigger can be pulled: Do not use your cultivator and contact your STIHL servicing dealer for assistance.  
There is a malfunction in the throttle trigger lockout.
- ▶ Press down the throttle trigger lockout and hold it there.
- ▶ Depress the throttle trigger.
- ▶ Release the throttle trigger and throttle trigger lockout.

- ▶ If the trigger or trigger lockout is stiff or does not spring back to the idle position: Do not use your cultivator and contact your STIHL servicing dealer for assistance.  
Trigger or trigger lockout is faulty.

#### Throttle cable adjustment

- ▶ Start the engine.
- ▶ Attempt to pull the trigger without depressing the lockout lever.
- ▶ If the engine accelerates: Adjust the throttle cable.  
Throttle cable adjustment is not correct.

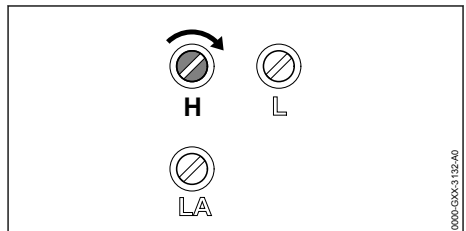
#### Stopping the engine

- ▶ Start the engine.
- ▶ Move the slide control to position **STOP-0**.  
The engine stops.
- ▶ If the engine does not stop:
  - ▶ Move the choke lever to position **I/L**.  
The engine stops.
  - ▶ Do not use your cultivator and contact your STIHL servicing dealer for assistance.  
There is a malfunction in the slide control.

## 10 Working with the Cultivator

### 10.1 Adjusting Carburetor for Operation at High Altitude

- If you use the cultivator at high altitude, the engine will not deliver optimum power. The carburetor setting can be adjusted to obtain optimum engine power.
- ▶ Start the engine.
  - ▶ Warm up the engine by opening and closing the throttle for about 1 minute.



#### NOTICE

- If the cultivator is again used at a low altitude, the engine may overheat.
  - ▶ Carry out the standard setting.
- ▶ Rotate the high speed screw (H) clockwise until the engine delivers optimum power.

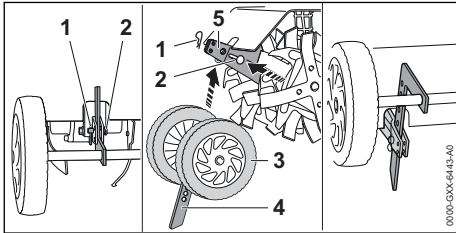
## 10.2 Holding and Controlling the Cultivator



- ▶ Hold the cultivator with your right hand on the control handle – wrap your thumb around the control handle.
- ▶ Hold the cultivator with your the left hand on the assist handle – wrap your thumb around the handle.

## 10.3 Mounting the Cultivator Spur

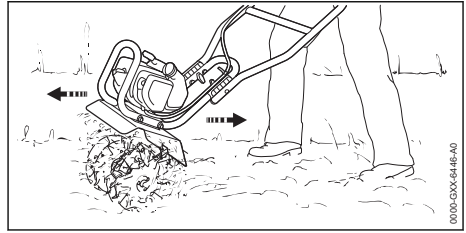
- ▶ Shut off the engine.



- ▶ Pull out the cotter pin (1).
- ▶ Remove the pin (2).
- ▶ Line up the wheels (3) so that the spur (4) points down.
- ▶ Adjust the spur (4) on the bracket (5) so that the holes line up and the required depth is obtained.
- ▶ Fit the pin (2) through the hole in the bracket (5).
- ▶ Fit the cotter pin (1) in the hole in the pin (2). The pin (2) is now secure.

## 10.4 Loosening Packed Soil or Working in Mulches in Loose Soil

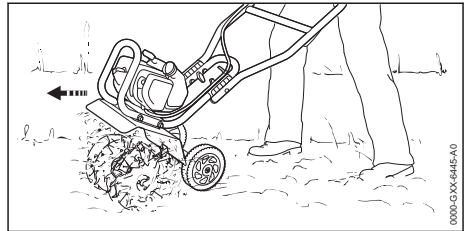
- ▶ Remove the wheels.



- ▶ Alternate between guiding the cultivator forwards and pulling it backwards.
- ▶ Walk slowly and steadily forwards and backwards.

## 10.5 Preparing Loose Soil

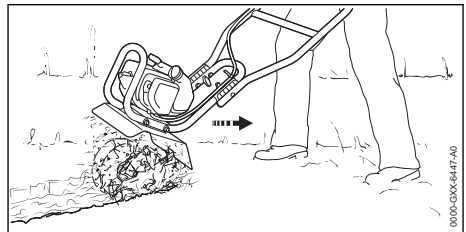
- ▶ Mount the cultivator spur.



- ▶ Guide the cultivator forwards and regulate your working speed and depth with the cultivator spur.
- ▶ Walk slowly and steadily forwards.

## 10.6 Furrowing

- ▶ Remove the wheels.



- ▶ Pull the cultivator backwards.
- ▶ Walk slowly and steadily backwards.

## 11 After Finishing Work

### 11.1 After Finishing Work

- ▶ Shut off the engine.
- ▶ Allow cultivator to cool down.
- ▶ If the cultivator is dirty: Allow cultivator to dry.
- ▶ Clean the cultivator.
- ▶ Clean the air filter.
- ▶ Clean the rotor blades.

## 12 Transporting

### 12.1 Transporting the Cultivator

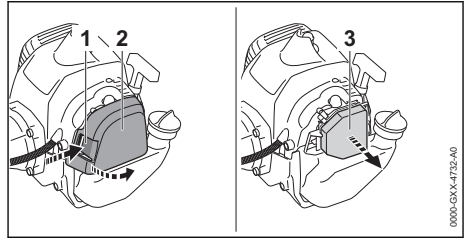
- ▶ Shut off the engine.

#### Pushing the cultivator

- ▶ Mount the wheels.
- ▶ Tilt the cultivator onto its wheels for push it.

#### Transporting the cultivator in a vehicle

- ▶ Secure the cultivator to prevent turnover and movement.



- ▶ Depress the locking tab (1) and remove the cover (2).
- ▶ Clean the area around the air filter (3) with a damp cloth or a soft brush.
- ▶ Take out the air filter (3).
- ▶ Knock out the filter (3).
- ▶ If the air filter (3) is damaged. Install a new air filter (3).
- ▶ Wash the air filter (3) in warm soapy water.
- ▶ Rinse the air filter (3) under running water.
- ▶ Allow air filter (3) to dry in the air.
- ▶ Impregnate the air filter evenly with 5 ml of two-stroke engine oil

## 13 Storing

### 13.1 Storing the Cultivator

- ▶ Shut off the engine.
- ▶ Check the following points when storing the cultivator:
  - The cultivator is out of the reach of children.
  - The cultivator is clean and dry.
- ▶ If you store the cultivator for more than 3 months:
  - ▶ Remove the blades.
  - ▶ Open the fuel tank cap.
  - ▶ Drain the fuel tank.
  - ▶ Close the fuel tank.
  - ▶ Have fuel tank cleaned by a STIHL servicing dealer.
  - ▶ Start the engine and run it at idling speed until it stops.

## 14 Cleaning

### 14.1 Cleaning the Cultivator

- ▶ Shut off the engine.
- ▶ Allow cultivator to cool down.
- ▶ Clean the cultivator with a damp cloth or STIHL resin solvent.
- ▶ Clean cooling air slots with a soft brush.
- ▶ Spray output shaft with STIHL Multispray.

### 14.2 Cleaning the Blades

- ▶ Shut off the engine.
- ▶ Clean the blades with a brush and water.
- ▶ Spray blades with STIHL Multispray.

### 14.3 Cleaning the Air Filter

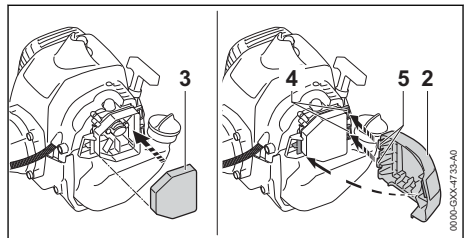


A video is available for this chapter



[www.stihl.com/sxb09t](http://www.stihl.com/sxb09t)

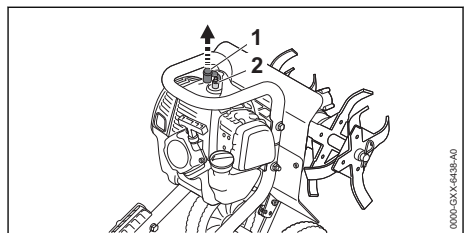
- ▶ Shut off the engine.



- ▶ Install the air filter (3).
- ▶ Fit the filter cover (2) so that the tabs (5) engage the recesses (4).
- ▶ Close the filter cover (2).  
The filter cover (2) snaps into place.

### 14.4 Cleaning the Spark Plug

- ▶ Shut off the engine.
- ▶ Allow cultivator to cool down.



- ▶ Pull off the spark plug boot (1).
- ▶ If the area around the spark plug (2) is soiled: Clean the spark plug (2) with a cloth.
- ▶ Unscrew the spark plug (2).

- ▶ Clean the spark plug (2) with a cloth.
- ▶ If the spark plug (2) is corroded: Install a new spark plug (2).
- ▶ Insert and tighten down the spark plug (2) firmly.
- ▶ Press the spark plug boot (1) firmly home.

## 15 Maintenance

### 15.1 Maintenance Intervals

The maintenance intervals are dependent on the environmental and operating conditions. STIHL recommends the following maintenance intervals:

#### After every 30 hours of operation

- ▶ Lubricate the gearbox.

#### After every 60 hours of operation

- ▶ Have gear grease changed by a STIHL servicing dealer.

#### After every 100 hours of operation

- ▶ Install a new spark plug.


#### Monthly

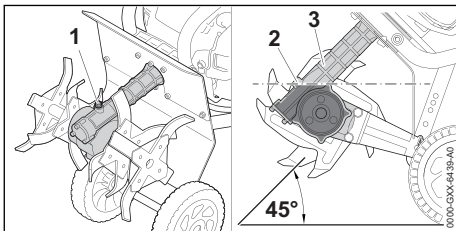
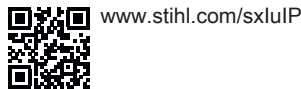
- ▶ Have fuel tank cleaned by a STIHL servicing dealer.
- ▶ Have pickup body (filter) in fuel tank cleaned by a STIHL servicing dealer.

#### Every 12 months

- ▶ Have pickup body (filter) in fuel tank replaced by a STIHL servicing dealer.

### 15.2 Lubricating the Gearbox

 A video is available for this chapter



- ▶ Tilt cultivator backwards and rest it on the ground.
- ▶ Remove the screw plug (1).
- ▶ Tilt the cultivator so that the gear housing (3) is at an angle of 45°.

- ▶ Fill gear housing (3) with grease (NLGI class 00) as far as filler hole (2).
- ▶ Tilt cultivator backwards and rest it on the ground.
- ▶ Refit and tighten down the screw plug (1) firmly.
- ▶ Start the engine and run it for 1 minute at full throttle.  
Gear grease is distributed evenly.

### 15.3 Adjusting the Throttle Cable

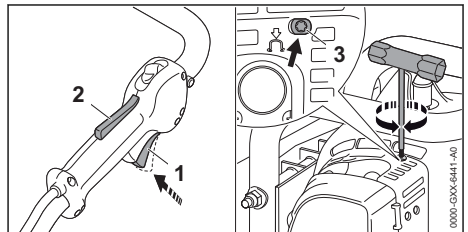


A video is available for this chapter



[www.stihl.com/sxJlaT](http://www.stihl.com/sxJlaT)

- ▶ Start the engine.



- ▶ Attempt to pull the trigger (1) without depressing the lockout lever (2).
- ▶ If the engine accelerates: Hold the trigger (1) depressed and turn screw (3) counterclockwise until there is no further noticeable drop in engine speed.  
The throttle cable was overtensioned.
- ▶ Pull the trigger (1) and hold it there without depressing the lockout lever (2).
- ▶ Turn screw (3) clockwise until the engine accelerates.
- ▶ Back off the screw (3) 1.5 turns counterclockwise.  
The engine idles and the throttle cable adjustment is correct.
- ▶ Shut off the engine.

## 16 Repairing

### 16.1 Repairing the Cultivator and Blades

The cultivator and blades cannot be repaired by the user.

- ▶ If the cultivator or blades are damaged: Do not use your cultivator and contact your STIHL servicing dealer for assistance.

## 17 Troubleshooting

### 17.1 Troubleshooting Cultivator

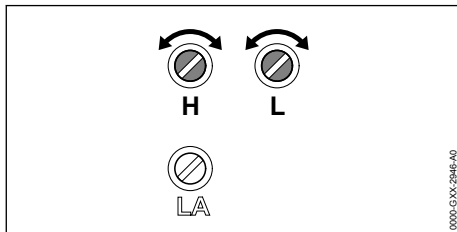
Most malfunctions have the same causes.

- ▶ Perform the following operations:
  - ▶ Clean the air filter.
  - ▶ Clean or replace the spark plug.
  - ▶ Carry out the standard setting.
  - ▶ Adjust idle speed.
  - ▶ Adjust carburetor for operation at high altitude.
- ▶ If the malfunction still exists: Take the action described in the following table.

Condition	Cause	Remedy
Engine does not start.	Insufficient fuel in the tank.	▶ Mix fuel and refuel the cultivator.
	Engine is flooded.	▶ Clear the combustion chamber.
	Carburetor is too hot.	▶ Allow cultivator to cool down. ▶ Before starting the engine: Depress the manual fuel pump bulb at least ten times.
	Carburetor is iced up.	▶ Allow cultivator to warm up to +10°C.
Engine idles erratically.	Carburetor is iced up.	▶ Allow cultivator to warm up to +10°C.
Engine stops while idling	Carburetor is iced up.	▶ Allow cultivator to warm up to +10°C.

### 17.2 Standard Setting

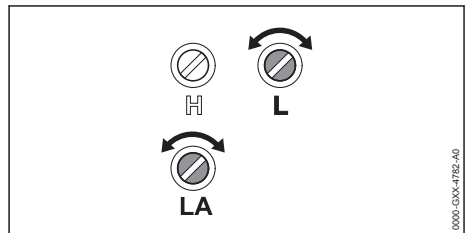
- ▶ Shut off the engine.



- ▶ Turn the high speed screw (H) counterclockwise as far as stop.
- ▶ Turn the low speed screw (L) clockwise as far as stop.
- ▶ Turn the low speed screw (L) 3/4 of a turn counterclockwise.

### 17.3 Adjusting Idle Speed

- ▶ Carry out the standard setting.
- ▶ Start the engine.
- ▶ Warm up the engine by opening and closing the throttle for about 1 minute.



#### Engine stops while idling

- ▶ Turn the idle speed screw (LA) clockwise until the blades begin to rotate.
- ▶ Turn the idle speed screw (LA) one full turn counterclockwise.

#### Erratic idling behavior or poor acceleration

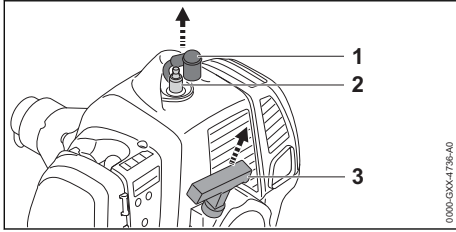
- ▶ Turn the low speed screw (L) clockwise or counterclockwise until the engine runs and accelerates smoothly.

#### Blades rotate when engine is idling

- ▶ Turn the idle speed screw (LA) counterclockwise until the blades stop rotating.
- ▶ Turn the idle speed screw (LA) one full turn counterclockwise.



## 17.4 Clearing the Combustion Chamber



- ▶ Pull off the spark plug boot (1).
- ▶ Unscrew the spark plug (2).
- ▶ Dry the spark plug (2).



### WARNING

- Unconfined sparks may occur if the starter grip is pulled after the spark plug boot has been removed. Sparks may cause a fire or an explosion in an easily combustible or explosive environment. This can result in serious or fatal injuries and damage to property.
  - ▶ Move the slide control to position **STOP-0** before pulling the starter grip.

- ▶ Move the slide control to position .
- ▶ Pull the starter grip (3) several times and guide it back slowly.  
The combustion chamber is cleared.
- ▶ Insert and tighten down the spark plug (2) firmly.
- ▶ Connect the spark plug boot (1) and press it down firmly.

## 18 Specifications

### 18.1 STIHL BC 230 Cultivator

- Displacement: 36.3 cm<sup>3</sup>
- Engine power to ISO 8893: 1.48 kW (2.0 bhp) at 9,000 rpm
- Idle speed : 2,800 rpm
- Max. output shaft speed: 290 rpm
- Approved spark plug: Bosch WSR 6 F from STIHL
- Electrode gap of the spark plug: 0.5 mm
- Dry weight without blades: 20.0 kg
- Max. fuel tank capacity: 810 cc (0.81 l)
- Blade diameter: 250 mm
- Working width: 300 mm

## 18.2 Sound Values and Vibration Values


The K-value for sound pressure levels is 2 dB(A).  
K-value for sound power levels is 2 dB(A).  
The K-value for vibration level is 2 m/s<sup>2</sup>.

- Sound pressure level  $L_{peq}$  measured according to ISO 11201: 90 dB(A)
- Sound power level  $L_w$  measured according to ISO 3744: 103 dB(A)
- Vibration level  $a_{hv}$  measured according to ISO 10333:
  - Control handle: 17.5 m/s<sup>2</sup>
  - Left handle: 19.5 m/s<sup>2</sup>

For information on compliance with Employers' Vibration Directive 2002/44/EC see [www.stihl.com/vib](http://www.stihl.com/vib).

## 19 Spare Parts and Accessories

### 19.1 Spare parts and accessories

**STIHL**  These symbols indicate original STIHL spare parts and original STIHL accessories.

STIHL recommends the use of original STIHL spare parts and accessories.

Despite ongoing market observation, STIHL is unable to judge the reliability, safety and suitability of other manufacturers' spare parts and accessories; accordingly, STIHL cannot warrant for the use of those parts.

Original STIHL spare parts and original STIHL accessories are available from STIHL dealers.

## 20 Disposal

### 20.1 Disposing of the Cultivator

Information on disposal is available from STIHL servicing dealers.

- ▶ Dispose of the cultivator, rotor blades, fuel mix, gasoline, two-stroke engine oil, gear grease, accessories and packaging in accordance with local regulations and environmental requirements.





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