KM 111 R, 131, 131 R

STIHL



2 - 20 Instruction Manual



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1 KombiSystem

In the STIHL KombiSystem a number of different KombiEngines and KombiTools can be combined to produce a power tool. In this instruction manual the functional unit formed by the KombiEngine **and** KombiTool is referred to as the power tool.

Therefore, the separate instruction manuals for the KombiEngine and KombiTool should be used together for the power tool.

Always read and and make sure you understand **both** instruction manuals before using your power tool for the first time and keep them in a safe place for future reference.

2 Guide to Using this Manual

2.1 Pictograms

The meanings of the pictograms attached to the machine are explained in this manual.

Depending on the model concerned, the following pictograms may be attached to your machine.



Fuel tank; fuel mixture of gasoline and engine oil



Operate decompression valve



Manual fuel pump



Operate manual fuel pump



Tube of grease



Intake air: Summer operation



Intake air: Winter operation



Handle heating

2.2 Symbols in text

WARNING

Warning where there is a risk of an accident or personal injury or serious damage to property.

NOTICE

Caution where there is a risk of damaging the machine or its individual components.

2.3 Engineering improvements

STIHL's philosophy is to continually improve all of its products. For this reason we may modify the design, engineering and appearance of our products periodically.

Therefore, some changes, modifications and improvements may not be covered in this manual.

3 Safety Precautions and Working Techniques



Special safety precautions must be observed when working with a power tool.



Always read and and make sure you understand both instruction manuals (KombiMotor and KombiTool) before using your power tool for the first time and keep them in a safe place for future reference. Non-observance of

Original Instruction Manual
0000007393_018_GB

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0458-436-0121-B. VA8.E26.

the safety precautions may result in serious or even fatal injury.

Observe all applicable local safety regulations, standards and ordinances.

If you have not used this type of power tool before: Have your dealer or other experienced user show you how it is operated or attend a special course in its operation.

Minors should never be allowed to use a power tool.

Keep bystanders, especially children, and animals away from the work area.

When the power tool is not in use, shut it off so that it does not endanger others. Secure it against unauthorized use.

The user is responsible for avoiding injury to third parties or damage to their property.

Lend or rent your power tool only to persons who are familiar with this model and its operation – do not lend your power tool without the KombiMotor and KombiTool instruction manuals.

The use of noise emitting power tools may be restricted to certain times by national or local regulations.

To operate the power tool you must be rested, in good physical condition and mental health.

If you have any condition that might be aggravated by strenuous work, check with your doctor before operating a power tool.

Persons with pacemakers only: The ignition system of your power tool produces an electromagnetic field of a very low intensity. This field may interfere with some pacemakers. STIHL recommends that persons with pacemakers consult their physician and the pacemaker manufacturer to reduce any health risk.

Do not operate the power tool if you are under the influence of any substance (drugs, alcohol) which might impair vision, dexterity or judgment.

Use your power tool only for the applications described in the instruction manual of the KombiTool you are using.

Do not use your power tool for any other purpose because of the **increased risk of accidents**.

Do not operate the KombiEngine without a properly mounted KombiTool since this may result in damage to the machine.

Only use KombiTools and accessories that are explicitly approved for this power tool by STIHL or are technically identical. It is important that you read the chapter on "Approved KombiTools". If you have any questions in this respect, consult a servicing dealer. Use only high quality tools and accessories in order to avoid the risk of accidents and damage to the machine.

STIHL recommends the use of genuine STIHL tools and accessories. They are specifically designed to match the product and meet your performance requirements.

Never attempt to modify your machine in any way since this may increase the risk of personal injury. STIHL excludes all liability for personal injury and damage to property caused while using unauthorized attachments.

Do not use a pressure washer to clean your power tool. The solid jet of water may damage parts of the power tool.

3.1 Clothing and Equipment

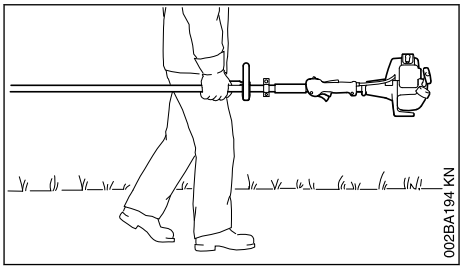
Wear proper protective clothing and equipment.

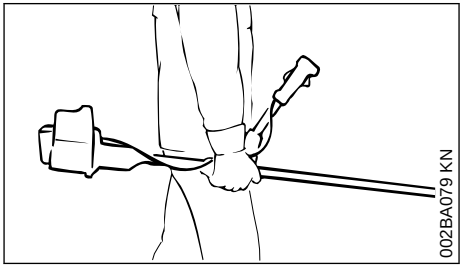


Avoid clothing that could get caught on branches or brush or moving parts of the machine. Do not wear a scarf, necktie or jewelry. Tie up long hair so that it is above shoulder level.

See also notes on "Clothing and Equipment" in the instruction manual of the KombiTool you are using.

3.2 Transporting the Power Tool





Always shut off the engine.

Transporting by vehicle: Properly secure your power tool to prevent turnover, fuel spillage and damage.

See also notes on "Transporting the Machine" in the instruction manual of the KombiTool you are using.

3.3 Fueling



Gasoline is an extremely flammable fuel. Keep clear of naked flames. Do not spill any fuel – do not smoke.

Always shut off the engine before refueling.

Do not fuel a hot engine – fuel may spill and **cause a fire**.

Open the fuel cap carefully to allow any pressure build-up in the tank to release slowly and avoid fuel spillage.

Fuel your power tool only in well-ventilated areas. If you spill fuel, wipe the machine immediately – if fuel gets on your clothing, change immediately.



After fueling, tighten down the fuel tank cap as securely as possible.

This reduces the risk of unit vibrations causing the fuel cap to loosen or come off and spill quantities of fuel.

To reduce the risk of serious or fatal burn injuries, check for fuel leakage. If fuel leak is found, do not start the engine.

3.4 Before Starting

Check that your power tool is properly assembled and in good condition – refer to appropriate chapters in the instruction manuals.

– Check the fuel system for leaks, paying special attention to visible parts such as the tank cap, hose connections and the manual fuel pump (on machines so equipped). If there are any leaks or damage, do not start the engine – **risk of fire**. Have your machine repaired by a servicing dealer before using it again.
– Use only an approved combination of cutting attachment, deflector, handle and harness. All parts must be assembled properly and securely.
– The stop switch must move freely.
– Check smooth action of choke knob, throttle trigger lockout and throttle trigger – the throttle trigger must return automatically to the idle position. The choke knob must spring back from the $\overline{I}$ and $\overline{\overline{I}}$ positions to the run position I when the throttle trigger lockout and throttle trigger are squeezed.
– Check that the spark plug boot is secure – a loose boot may cause arcing that could ignite combustible fumes **and cause a fire**.
– Never attempt to modify the controls or safety devices in any way.
– Keep the handles dry and clean – free from oil and dirt – for safe control of the power tool.
– Adjust the harness and handle(s) to suit your height and reach.

To reduce the risk of accidents, operate your power tool only if it is in a safe condition.

If you use a shoulder strap or full harness: Practice removing and putting down the machine as you would in an emergency. To avoid damage, do not throw the machine to the ground when practicing.

See also notes on "Before Starting" in the instruction manual of the KombiTool you are using.

3.5 Starting the Engine

Start the engine at least 3 meters from the fueling spot, outdoors only.

Place the power tool on firm ground in an open area. Make sure you have good balance and secure footing. Hold the power tool securely. The attachment must be clear of the ground and all other obstructions because it may begin to run when the engine starts.

To reduce the risk of injury, avoid contact with the attachment.

Do not drop start the power tool – start the engine as described in the instruction manual. Note that the attachment continues to run for a short period after you let go of the throttle trigger – flywheel effect.

Check idle speed setting: The attachment must be stationary when the engine is idling with the throttle trigger released.

To reduce the risk of fire, keep hot exhaust gases and hot muffler away from easily combustible materials (e.g. wood chips, bark, dry grass, fuel).

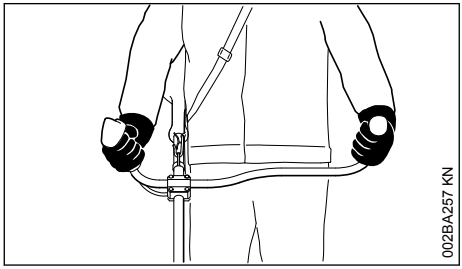
See also notes on "Starting / Stopping the Engine" in the instruction manual of the KombiTool you are using.

3.6 Holding and Controlling the Power Tool

Always hold the power tool firmly with both hands on the handles.

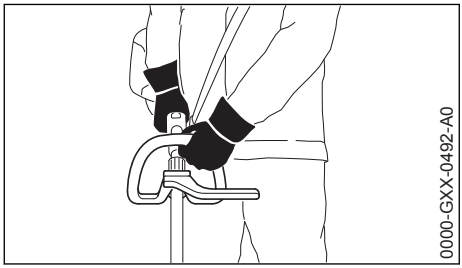
Make sure you always have good balance and secure footing.

3.6.1 Models with bike handle



Right handle on control handle, left hand on left handle.

3.6.2 Models with loop handle



Left hand on loop handle, right hand on control handle, even if you are left-handed.

3.7 During Operation

In the event of imminent danger or in an emergency, switch off the engine immediately – operate the stop switch.

The correct engine idle speed is important to ensure that the attachment stops moving when you let go of the throttle trigger. If the attachment continues to run when the engine is idling, have your dealer check your machine and make proper adjustments or repairs. Check and correct the idle speed setting regularly. STIHL recommends an authorized STIHL servicing dealer.

Be particularly alert and cautious when wearing hearing protection because your ability to hear warnings (shouts, alarms, etc.) is restricted.

To reduce the risk of accidents, take a break in good time to avoid tiredness or exhaustion.

Work calmly and carefully – in daylight conditions and only when visibility is good. Stay alert so as not to endanger others.

Use your power tool only in the areas specified in the KombiTool instruction manual.



Your power tool produces toxic exhaust fumes as soon as the engine is running. These fumes may be colorless and odorless and contain unburned hydrocarbons and benzol. Never run the engine indoors or in poorly ventilated locations, even if your model is equipped with a catalytic converter.

To reduce the risk of serious or fatal injury from breathing toxic fumes, ensure proper ventilation when working in trenches, hollows or other confined locations.

To reduce the risk of accidents, stop work immediately in the event of nausea, headache, visual disturbances (e.g. reduced field of vision), problems with hearing, dizziness, deterioration in ability to concentrate. Apart from other possibilities, these symptoms may be caused by an excessively high concentration of exhaust gases in the work area.

Operate your power tool so that it produces a minimum of noise and emissions – do not run the engine unnecessarily, accelerate the engine only when working.

To reduce the risk of fire, do not smoke while operating or standing near your power tool. Note that combustible fuel vapor may escape from the fuel system.

The dusts, vapor and smoke produced during operation may be dangerous to health. Wear a suitable respirator in very dusty or smoky conditions.

If your power tool is subjected to unusually high loads for which it was not designed (e.g. heavy impact or a fall), always check that it is in good condition before continuing work – see also "Before Starting". Check the fuel system in particular for leaks and make sure the safety devices are working properly. Do not continue operating your power tool if it is damaged. In case of doubt, consult your servicing dealer.

Do not operate your power tool in the starting throttle position – engine speed cannot be controlled in this position.

Before leaving the power tool unattended: Shut off the engine.

To reduce the risk of injury, always shut off the engine before changing the KombiTool or attachment.

3.8 Vibrations

Prolonged use of the power tool may result in vibration-induced circulation problems in the hands (whitefinger disease).

No general recommendation can be given for the length of usage because it depends on several factors.

The period of usage is prolonged by:
– Hand protection (wearing warm gloves)
– Work breaks

The period of usage is shortened by:
– Any personal tendency to suffer from poor circulation (symptoms: frequently cold fingers, tingling sensations).
– Low outside temperatures.
– The force with which the handles are held (a tight grip restricts circulation).

Continual and regular users should monitor closely the condition of their hands and fingers. If any of the above symptoms appear (e.g. tingling sensation in fingers), seek medical advice.

3.9 Maintenance and Repairs

Service the machine regularly. Do not attempt any maintenance or repair work not described in the instruction manual. Have all other work performed by a servicing dealer.

STIHL recommends that you have servicing and repair work carried out exclusively by an authorized STIHL servicing dealer. STIHL dealers are regularly given the opportunity to attend training courses and are supplied with the necessary technical information.

Only use high-quality replacement parts in order to avoid the risk of accidents and damage to the machine. If you have any questions in this respect, consult a servicing dealer.

STIHL recommends the use of original STIHL replacement parts. They are specifically designed to match your model and meet your performance requirements.

To reduce the risk of injury from unintentional engine startup, **always shut off the engine and disconnect the spark plug boot** before performing any repairs, maintenance or cleaning work. – Exception: Carburetor and idle speed adjustments.

Do not turn the engine over on the starter with the spark plug boot or spark plug removed since there is otherwise a **risk of fire** from uncontained sparking.

To reduce the **risk of fire**, do not service or store your machine near open flames.

Check the fuel filler cap for leaks at regular intervals.

Use only a spark plug of the type approved by STIHL and make sure it is in good condition – see "Specifications".

Inspect the ignition lead (insulation in good condition, secure connection).

Check the condition of the muffler.

To reduce the **risk of fire and damage to hearing**, do not operate your machine if the muffler is damaged or missing. –

Do not touch a hot muffler since **burn injury** will result.

Vibration behavior is influenced by the condition of the AV elements – check the AV elements at regular intervals.

4 Approved KombiTools

The following STIHL KombiTools may be attached to the KombiEngine:

KombiTools	Intended use
FS-KM	Scythe with mowing head

[1] For KombiEngines with loop handle: The barrier bar supplied with the loop handle must be used – see also "Mounting the Loop Handle"

[2] Not approved for KombiEngines with bike handle

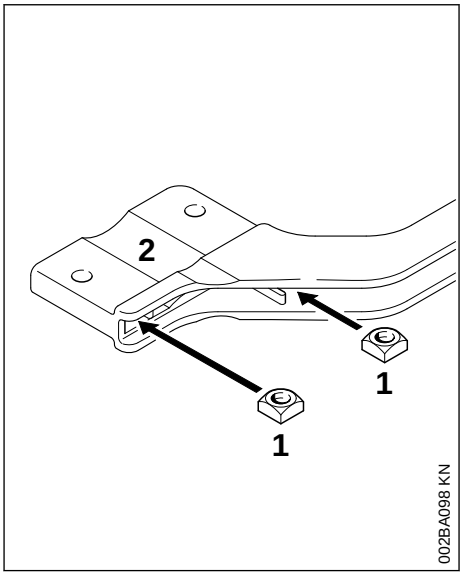
[3] Limited ergonomic suitability for KombiEngines with bike handle

[4] Not approved for KM 131 and KM 131 R

KombiTools	Intended use
FS-KM [1]	Scythe with grass cutting blade
FSS-KM [5]	Scythe with mowing head
FSS-KM [1] [5]	Scythe with metal cutting attachment
FSB-KM [3] [4] [5]	Scythe with mowing head
RG-KM [1]	Weeder
HL-KM 145° [3]	Long reach hedge trimmer, adjustable
HL-KM 0° [2]	Long-reach hedge trimmer
FH-KM 145°	Scrub cutter
BG-KM [3]	Blower
HT-KM [2]	Pole pruner
BF-KM	Cultivator
FCB-KM [3]	Edger
FCS-KM [3]	Edger
SP-KM [2] [4]	Harvesters
KB-KM [2]	Bristle brush
KW-KM [2]	Sweeper Drum Assembly

5 Mounting the Loop Handle

A barrier bar is supplied with the machine. Attach the barrier bar to the loop handle.



► Insert square nuts (1) in the barrier bar (2) – the holes must line up

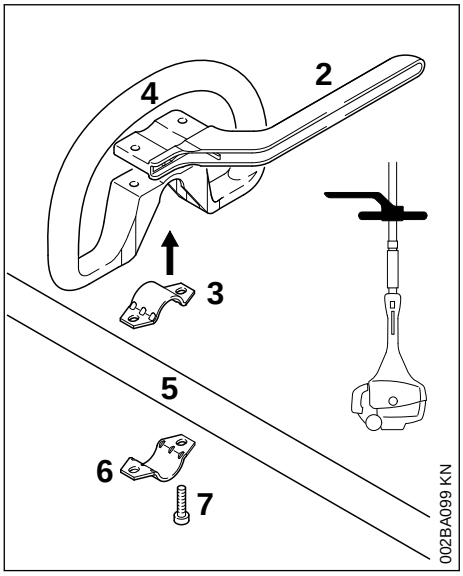
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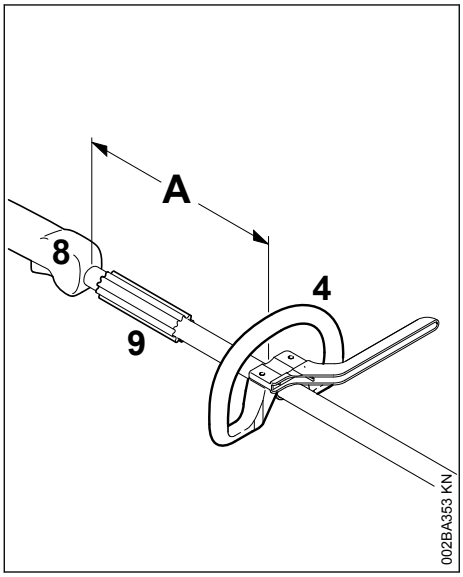
[3] Limited ergonomic suitability for KombiEngines with bike handle

[4] Not approved for KM 131 and KM 131 R

[5] Not approved for KM 111 R



- Insert the clamp (3) in the loop handle (4) and position them together on the shaft (5)
- Position clamp (6)
- Position barrier bar (2) – note position!
- Line up the holes
- Insert bolts (7) in the holes – and screw them into the barrier bar as far as possible



- Fit the loop handle (4) at a distance of (A) approx. 20 cm (8 in) forward of the control handle (8)
- Orient the loop handle
- Tighten the bolts – lock the nuts if necessary

The sleeve (9) is present depending on the country and must be located between the loop handle and control handle.

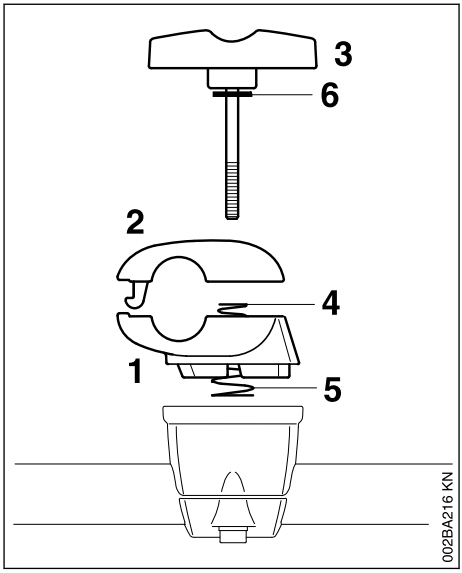
Always leave the barrier bar attached.

6 Mounting the Bike Handle

6.1 Mounting Bike Handle with Swiveling Handle Support

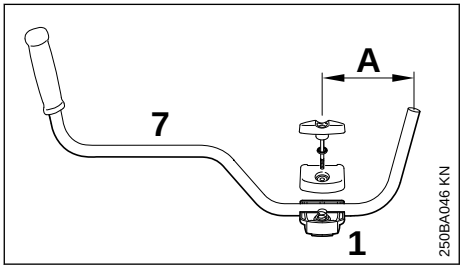
The machine is supplied with the swiveling handle support already mounted on the shaft. To mount the handlebar it is necessary to remove the clamp moldings.

6.1.1 Removing the Clamp Moldings

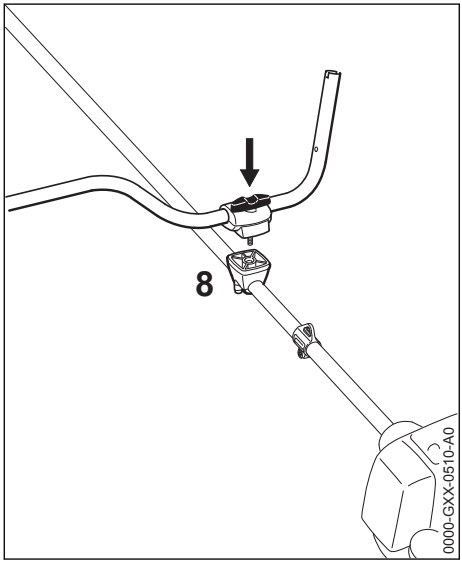


- Hold the lower clamp (1) and upper clamp (2) firmly together.
- Release the wing screw (3) – the clamps are loose once the wing screw has been released. They are pushed apart by the two springs (4 and 5).
- Pull out the wing screw – the washer (6) remains on the wing screw.
- Separate the clamp moldings – the springs (4 and 5) remain in the lower clamp.

6.1.2 Securing the Handlebar

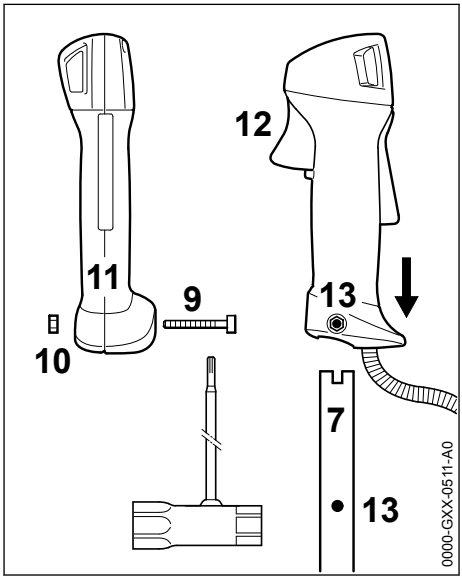


- Place the handlebar (7) in the lower clamp (1) so that distance A is no more than 15 cm (6 in).
- Place the upper clamp in position and hold both clamp moldings together.
- Push the wing screw through the two clamps as far as stop – hold all parts together and secure them.



- Place the secured assembly on the handle support (8) with the wing screw at the side nearest the engine.
- Push the wing screw into the handle support as far as stop and then screw it down – but do not finally tighten yet.
- Line up the handlebar at a right angle to the drive tube – check distance A again.
- Tighten down the wing screw firmly.

6.1.3 Mounting the Control Handle

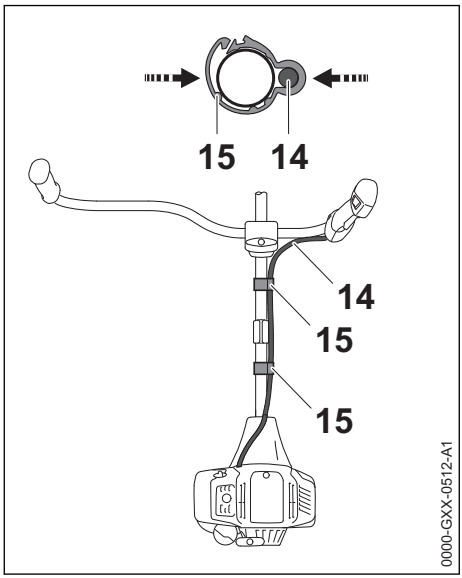


- Take out the screw (9) – the nut (10) remains in the control handle (11).
- Push the control handle onto the handlebar (7) until the holes (13) line up – the throttle trigger (12) must point towards the gearbox.
- Insert the screw (9) and tighten it down firmly.

6.1.4 Fitting the Throttle Cable

NOTICE

Do not kink the throttle cable or lay it in tight radii – make sure the throttle trigger moves freely.



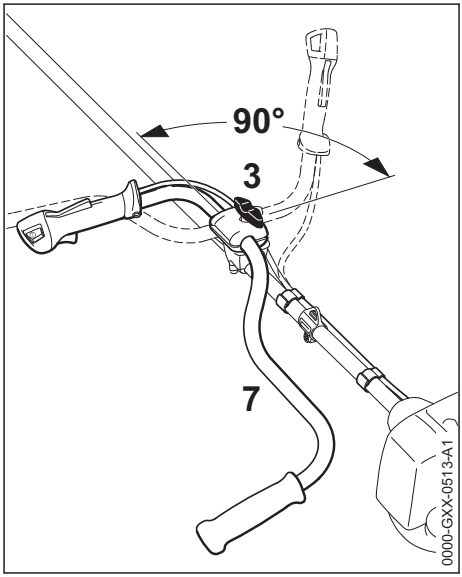
- Position the clamp (15) and handle support (14) against the drive tube.
- Close the throttle cable retainer (15). The retainer (15) snaps into place.

6.1.5 Adjusting the Throttle Cable

- Check adjustment of throttle cable – see chapter on "Adjusting the Throttle Cable".

6.1.6 Swiveling the Handlebar

Transport position



- Loosen the wing screw (3) and unscrew it until the handlebar (7) can be rotated.
- Rotate the handlebar 90° counterclockwise and then swing the handles down.
- Tighten down the wing screw (3) firmly.

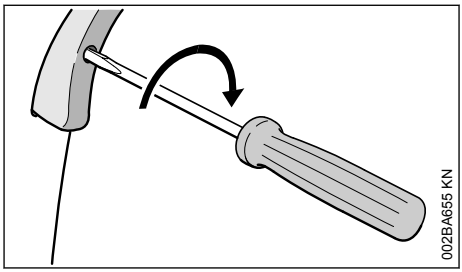
Working position

- Reverse the sequence described above to swing the handles up and turn the handlebar clockwise.

7 Adjusting the Throttle Cable

It may be necessary to correct the adjustment of the throttle cable after assembling the machine or after a prolonged period of operation.

Adjust the throttle cable only when the unit is completely and properly assembled.



- Set the throttle trigger to the full throttle position.
- Carefully rotate the screw in the throttle trigger in the direction of the arrow until you feel initial resistance. Then rotate it another half turn in the same direction.

8 Fuel

The engine requires a mixture of gasoline and engine oil.

WARNING

Avoid direct skin contact with fuel and breathing in of gasoline fumes.

8.1 STIHL MotoMix

STIHL recommends using STIHL MotoMix. This pre-blended fuel is free of benzene and lead, is distinguished by a high octane rating, and always provides the proper mixing ratio.

STIHL MotoMix uses STIHL HP Ultra two-stroke engine oil for optimum engine life.

MotoMix is not available in all markets.

8.2 Mixing fuel

NOTICE

Unsuitable fuels or a mixing ratio that deviates from the specification can lead to severe engine damage. The engine, seals, fuel lines and fuel tank may be damaged if low-quality gasoline or engine oil is used.

8.2.1 Gasoline

Use only **high-quality gasoline** with an octane rating of at least 90 ROC – leaded or unleaded.

Gasoline with an alcohol component exceeding 10% can cause impaired engine performance in engines with manually adjustable carburetors and thus should not be used in these engines.

Engines with M-Tronic deliver full engine performance using gasoline with an alcohol component of up to 27% (E27).

8.2.2 Engine oil

If you mix the fuel yourself, use only STIHL two-stroke engine oil or another high-performance engine oil classified as 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.

8.2.3 Mixing ratio

with STIHL two-stroke engine oil 1:50; 1:50 = 1 part oil + 50 parts gasoline

8.2.4 Examples

Quantity of gasoline	STIHL two-stroke engine oil 1:50	
Liters	Liters	(ml)
1	0.02	(20)
5	0.10	(100)
10	0.20	(200)
15	0.30	(300)
20	0.40	(400)
25	0.50	(500)

- Pour oil into an approved safety fuel canister first, then add gasoline and mix thoroughly

8.3 Storing fuel mixture

Store in approved safety fuel canisters only in a dry, cool and secure place protected against light and sunlight.

Fuel mixture deteriorates with age – mix only as much as needed for a few weeks. Do not store fuel mixture for longer than 30 days. The fuel mixture can become unusable more quickly if exposed to light, sunlight or low or high temperatures.

STIHL MotoMix however can be stored for up to 5 years without any problems.

- Shake the canister containing the fuel mixture thoroughly before refueling

WARNING

Pressure may have built up in the canister – open it carefully.

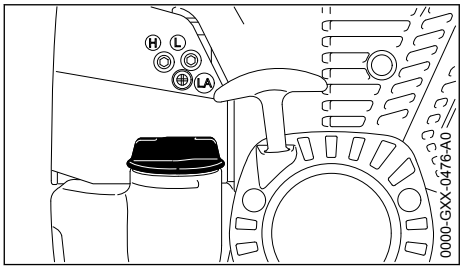
- The fuel tank and the canister in which fuel mixture is stored should be cleaned thoroughly from time to time

Residual fuel and the liquid used for cleaning must be disposed of in accordance with regulations and without harming the environment!

9 Fueling

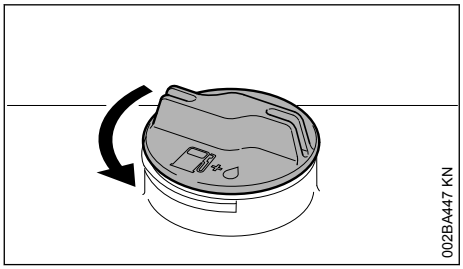


9.1 Preparations



- ► Before fueling, clean the filler cap and the area around it to ensure that no dirt falls into the tank.
- ► Position the machine so that the tank cap faces up.

9.2 Opening the Tank Cap



- ► Turn the cap counterclockwise until it can be removed from the tank opening.
- ► Remove the tank cap.

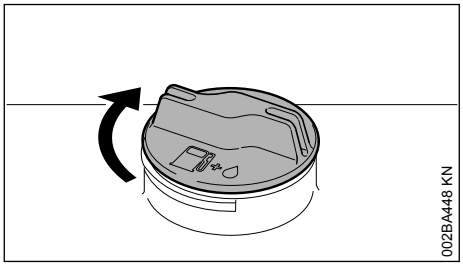
9.3 Filling Up with Fuel

Take care not to spill fuel while fueling and do not overfill the tank.

STIHL recommends you use the STIHL filler nozzle for fuel (special accessory).

- ► Fill up with fuel.

9.4 Closing the Tank Cap

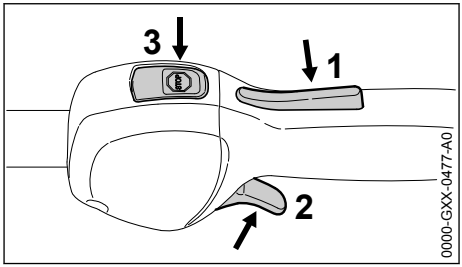


- ► Place the cap in the opening.
- ► Turn the cap clockwise as far as stop and tighten it down as firmly as possible by hand.

10 Starting / Stopping the Engine

10.1 Controls

10.1.1 Version with Loop Handle

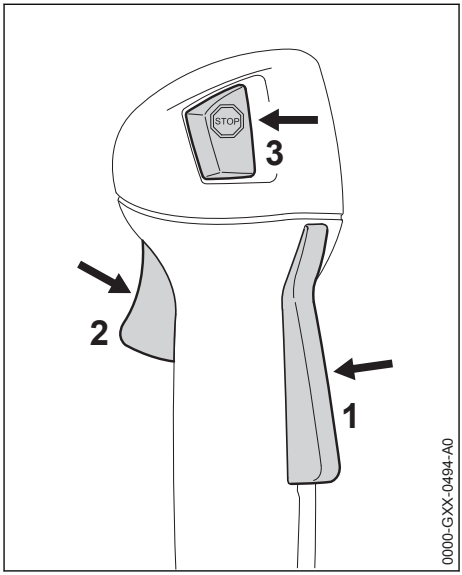


1 Throttle trigger lockout

2 Throttle trigger

3 Stop switch with Run and Stop positions. Depress the stop switch ( ) to switch off the ignition – see "Function of stop switch and ignition system".

10.1.2 Version with Bike Handle



1 Throttle trigger lockout

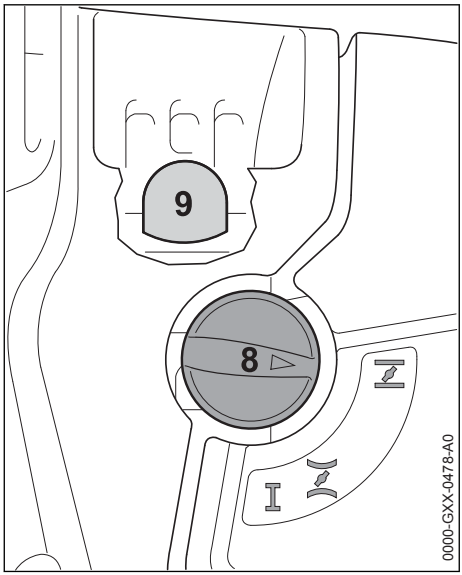
2 Throttle trigger

3 Stop switch with Run and Stop positions. Depress the stop switch (⊘) to switch off the ignition – see "Function of stop switch and ignition system".

10.1.3 Function of stop switch and ignition system

The ignition is switched off and the engine stopped when the stop switch is pressed. The stop switch returns automatically to the **Run** position when it is released: The ignition is switched on again after the engine stops – the engine is then ready to start.

10.2 Starting the Engine

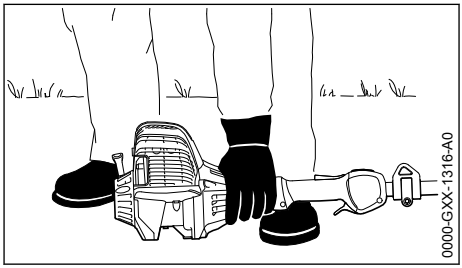


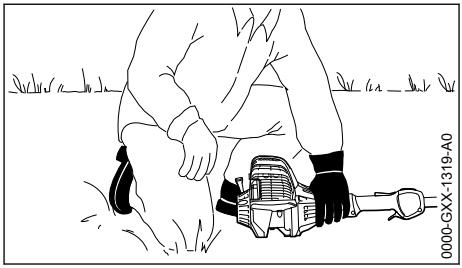
- ► Press the manual fuel pump bulb (9) at least five times – even if the bulb is already filled with fuel.
- ► Press in the choke knob (8) and turn it to the position that suits the engine temperature:

if the engine is cold
for warm start – also use this position if the engine has been running but is still cold.

The choke knob must engage in position.

10.2.1 Cranking

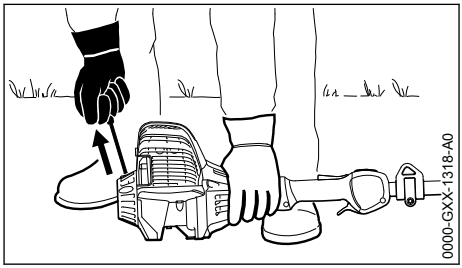




- ► Place the power tool on the ground so that it rests on the machine support: Check that the working tool is not touching the ground or any other obstacles – see also "Starting / Stopping the Engine" in the KombiTool instruction manual.
- ► Make sure you have a safe and secure footing.
- ► Hold the unit with your left hand and press it down **firmly** – your thumb should be under the fan housing.

NOTICE

Do not stand or kneel on the drive tube.



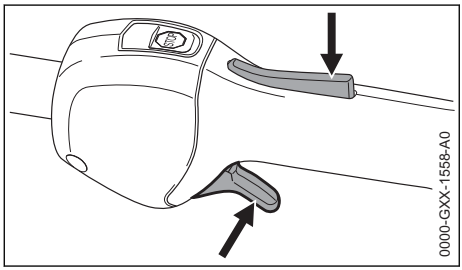
- ► Hold the starter grip with your right hand.
- ► Pull the starter grip slowly until you feel it engage and then give it a brisk strong pull.

NOTICE

Do not pull out the starter rope all the way – **it might otherwise break**.

- Do not let the starter grip snap back. Guide it slowly back into the housing so that the starter rope can rewind properly.
- Continue cranking until the engine runs.

10.2.2 As soon as the engine runs



- Press down the throttle trigger lockout and open the throttle – the choke knob moves to the run position I. After a cold start, warm up the engine by opening the throttle several times.

WARNING

There is a risk of injury if the KombiTool runs when the engine is idling. Adjust the carburetor so that the KombiTool does not run when the engine is idling – see “Adjusting the Carburetor”.

Your machine is now ready for operation.

10.3 Stopping the Engine

- Depress the momentary contact stop switch – the engine stops – release the stop switch – it springs back to the run position.

10.4 Other Hints on Starting

Engine stalls in cold start position or under acceleration.

- Move the choke knob to and continue cranking until the engine runs.

Engine does not start in warm start position

- Move the choke knob to and continue cranking until the engine runs.

If the engine does not start

- Check that all settings are correct.
- Check that there is fuel in the tank and refuel if necessary.
- Check that the spark plug boot is properly connected.
- Repeat the starting procedure.

Engine is flooded

- Move the choke knob to I and continue cranking until the engine runs.

Fuel tank run until completely dry

- After refueling, press the manual fuel pump bulb at least five times – even if the bulb is already filled with fuel.
- Set the choke lever to suit the engine temperature.
- Now start the engine.

11 Operating Instructions

11.1 During break-in period

A factory-new machine should not be run at high revs (full throttle off load) for the first three tank fillings. This avoids unnecessary high loads during the break-in period. As all moving parts have to bed in during the break-in period, the frictional resistances in the engine are greater during this period. The engine develops its maximum power after about 5 to 15 tank fillings.

11.2 During Operation

After a long period of full throttle operation, allow the engine to run for a short while at idle speed so that engine heat can be dissipated by the flow of cooling air. This protects engine-mounted components (ignition, carburetor) from thermal overload.

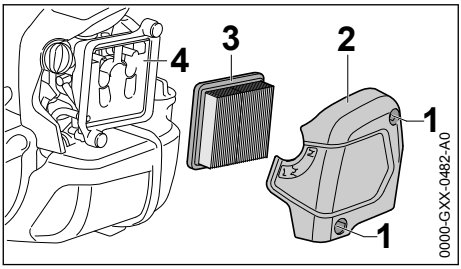
11.3 After Finishing Work

Storing for a short period: Wait for the engine to cool down. Empty the fuel tank and keep the machine in a dry place, well away from sources of ignition, until you need it again. For longer out-of-service periods – see "Storing the Machine".

12 Replacing the Air Filter

Filters have an average life of more than a year. Do not remove the filter cover or replace the air filter as long as there is no noticeable loss of power.

12.1 If there is a noticeable loss of engine power



- Turn the choke knob to ⊼.
- Loosen the screws (1).
- Remove the filter cover (2).
- Clean away loose dirt from around the filter.
- Remove the filter element (3).
- Replace dirty or damaged filter element (3).
- Replace any damaged parts.

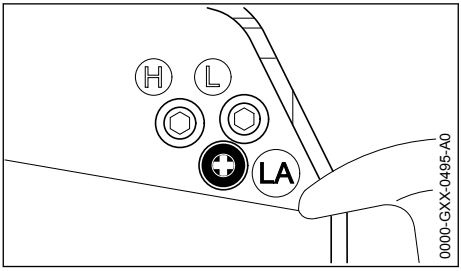
12.2 Installing the Filter Element

- Install the filter element (3) in the filter housing and fit the cover.
- Insert the screws (1) and tighten them down firmly.

13 Adjusting the Carburetor

The carburetor has been set at the factory to provide an optimum fuel-air mixture under most operating conditions.

13.1 Adjusting Idle Speed



Engine stops while idling

- Warm up the engine for about 3 minutes.
- Turn the idle speed screw (LA) slowly clockwise until the engine runs smoothly – the attachment must not run.

Attachment runs when engine is idling

- Turn the idle speed screw (LA) slowly counterclockwise until the cutting attachment stops running and then turn the screw about another 1/2 to 3/4 turn in the same direction.

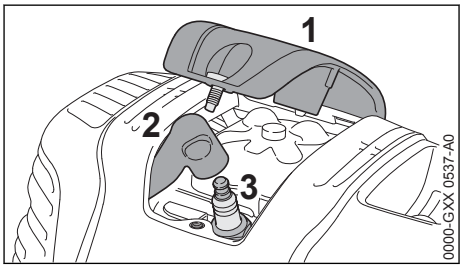
WARNING

If the attachment continues to run when the engine is idling, have your machine checked and repaired by your servicing dealer.

14 Spark Plug

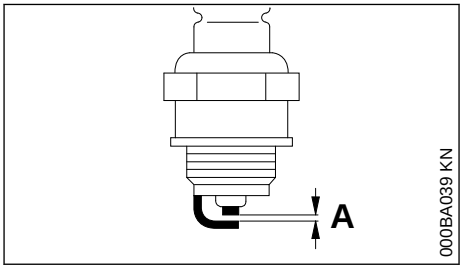
- If the engine is down on power, difficult to start or runs poorly at idle speed, first check the spark plug.
- Fit a new spark plug after about 100 operating hours – or sooner if the electrodes are badly eroded. Install only suppressed spark plugs of the type approved by STIHL – see "Specifications".

14.1 Removing the Spark Plug



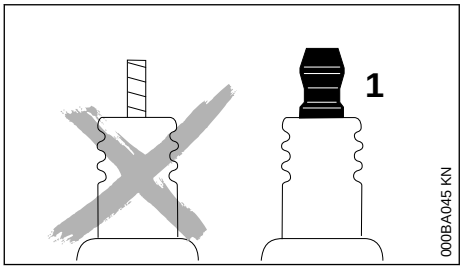
- Remove the cover (1).
- Pull off the spark plug boot (2).
- Unscrew the spark plug (3).

14.2 Checking the Spark Plug



- Clean dirty spark plug.
- Check electrode gap (A) and readjust if necessary – see "Specifications".
- Rectify the problems which have caused fouling of the spark plug.

Possible causes are:
– Too much oil in fuel mix.
– Dirty air filter.
– Unfavorable running conditions.



WARNING

Arcing may occur if the adapter nut (1) is loose or missing. Working in an easily combustible or explosive atmosphere may cause a fire or an explosion. This can result result in serious injuries or damage to property.

- Use resistor type spark plugs with a properly tightened adapter nut.

14.3 Installing the Spark Plug

- Screw the spark plug (3) into the cylinder.
- Tighten down the spark plug (3) with the combination wrench.
- Press the boot (2) firmly onto the spark plug.
- Fit the cover (1) and screw it down firmly.

15 Storing the Machine

If out of use for periods of about 30 days or longer

- Drain and clean the fuel tank in a well-ventilated area.
- Dispose of fuel properly in accordance with local environmental requirements.
- If a manual fuel pump is fitted: Press the manual fuel pump at least 5 times.
- Start the engine and run it at idling speed until it stops
- Thoroughly clean the machine
- Remove, clean and check the attachment. Coat metal parts with corrosion inhibiting oil.
- Store the machine in a dry and secure location. Keep out of the reach of children and other unauthorized persons

16 Maintenance and Care

The following intervals apply for normal operating conditions. If your daily working time is longer or operating conditions are difficult (very dusty work area, etc.), shorten the specified intervals accordingly.		**before starting work**	**after finishing work or daily**	**after each refueling stop**	**weekly**	**monthly**	**every 12 months**	**if problem**	**if damaged**	**as required**
Complete machine	Visual inspection (condition, leaks)	X		X						
	Clean		X							
	Replace any damaged parts	X							X	
Control handle	Function test	X		X						
Air filter	Visual inspection					X		X		
	Replace[1)]								X	
Manual fuel pump (if fitted)	Check	X								
	Have repaired by servicing dealer[2)]								X	
Pickup body (filter) in fuel tank	Have checked by servicing dealer[2)]							X		
	Have replaced by servicing dealer[2)]						X		X	X
Fuel tank	Clean							X		X

The following intervals apply for normal operating conditions. If your daily working time is longer or operating conditions are difficult (very dusty work area, etc.), shorten the specified intervals accordingly.		before starting work	after finishing work or daily	after each refueling stop	weekly	monthly	every 12 months	if problem	if damaged	as required
Carburetor	Check idle adjustment – the working/cutting attachment must not run	X		X						
	Adjust idle speed									X
Spark plug	Adjust electrode gap							X		
	Replace after every 100 operating hours									
Cooling air inlet	Visual inspection		X							
	Clean									X
Cylinder fins	Have cleaned by servicing dealer[2)]						X			
Valve clearance	If power is low or cranking effort very high, have valve clearance checked and, if necessary, adjusted by servicing dealer[2)]							X		X
Combustion chamber	Have cleaned after every 150 hours of operation by servicing dealer[2)]									X
All accessible screws and nuts (not adjusting screws)	Re-tighten									X
Antivibration elements	Check	X						X		X
	Have replaced by servicing dealer[2)]								X	
Safety labels	Replace								X	

[1)]Only if there is a noticeable loss of engine power
[2)]STIHL recommends an authorized STIHL servicing dealer.

17 Minimize Wear and Avoid Damage

Observing the instructions in this manual helps reduce the risk of unnecessary wear and damage to the power tool.

The power tool must be operated, maintained and stored with the due care and attention described in this owner's manual.

The user is responsible for all damage caused by non-observance of the safety precautions, operating and maintenance instructions in this manual. This includes in particular:

– Alterations or modifications to the product not approved by STIHL.
– Using tools or accessories which are neither approved or suitable for the product or are of a poor quality.
– Using the product for purposes for which it was not designed.
– Using the product for sports or competitive events.
– Consequential damage caused by continuing to use the product with defective components.

17.1 Maintenance Work

All the operations described in the "Maintenance Chart" must be performed on a regular basis. If these maintenance operations cannot be performed by the owner, they should be performed by a servicing dealer.

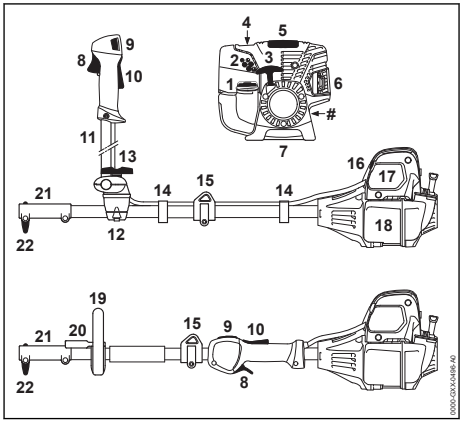
STIHL recommends that you have servicing and repair work carried out exclusively by an authorized STIHL servicing dealer. STIHL dealers are regularly given the opportunity to attend training courses and are supplied with the necessary technical information.

If these maintenance operations are not carried out as specified, the user assumes responsibility for any damage that may occur. Among other parts, this includes:
– Damage to the engine due to neglect or deficient maintenance (e.g. air and fuel filters), incorrect carburetor adjustment or inadequate cleaning of cooling air inlets (intake ports, cylinder fins).
– Corrosion and other consequential damage resulting from improper storage.
– Damage to the machine resulting from the use of poor quality replacement parts.

17.2 Parts Subject to Wear and Tear

Some parts of the power tool are subject to normal wear and tear even during regular operation in accordance with instructions and, depending on the type and duration of use, have to be replaced in good time. Among other parts, this includes:
– Clutch
– Filters (air, fuel)
– Rewind starter
– Spark plug

18 Main Parts



1 Tank cap
2 Carburetor adjusting screws
3 Starter grip
4 Manual fuel pump
5 Cover
6 Muffler
7 Machine support
8 Throttle trigger
9 Stop switch
10 Throttle trigger lockout
11 Bike handle (handlebar)
12 Handle support
13 Wing screw
14 Throttle cable retainer
15 Carrying ring
16 Choke lever
17 Air filter cover
18 Fuel tank
19 Loop handle
20 Barrier bar
21 Coupling sleeve
22 Wing screw
Serial Number

19 Specifications

19.1 Engine

19.1.1 KM 111 R

One-cylinder, four-stroke engine with mixture lubrication

Displacement:	31.4cm^3
Cylinder bore:	40 mm
Piston stroke:	25 mm
Engine power:	1.05 kW (1.40 hp) at 8000 rpm
Idle speed:	2800 rpm
Cut-off speed (nominal value):	9500 rpm
Valve clearance	
Inlet valve:	0.10 mm
Exhaust valve:	0.10 mm

19.1.2 KM 131, KM 131 R

One-cylinder, four-stroke engine with mixture lubrication

Displacement:	36.3cm^3
Cylinder bore:	43 mm
Piston stroke:	25 mm
Engine power:	1.40 kW (1.90 hp) at 8500 rpm
Idle speed:	2800 rpm
Cut-off speed (nominal value):	9500 rpm
Valve clearance	
Inlet valve:	0.10 mm
Exhaust valve:	0.10 mm

19.2 Ignition system

Electronic magneto ignition

Spark plug (suppressed):	NKG CMR 6H, STIHL ZK C 10, BOSCH USR 4AC
Electrode gap:	0.5 mm

19.3 Fuel system

All-position diaphragm carburetor with integral fuel pump

Fuel tank capacity: 710 cm^3 (0.71 l)

19.4 Weight

without fuel, without KombiTool

KM 111 R	4.4 kg
KM 131:	4.8 kg
KM 131 R:	4.4 kg

19.5 Equipment features

R Loop handle

19.6 Noise and vibration values

19.6.1 with KombiTools

For version, see "Approved KombiTools".

For further details on compliance with Vibration Directive 2002/44/EC, see

www.stihl.com/vib

To determine the noise and vibration values, idling and nominal maximum speed are considered in the following ratios:

for FCB-KM, FCS-KM, FH-KM, FS-KM, FSS-KM, RG-KM and HT-KM	1 to 1
for HL-KM	1 to 4
for BF-KM, BG-KM, KB-KM und KW-KM	1 to 6

The exact noise and vibration specifications depend on the KombiTool being used and are described in the user manual of the KombiTool.

19.6.2 Sound pressure level L_{peq} according to ISO 10517, ISO 11201, ISO 22868, uncertainty K: 2 dB(A)

KM 111 R:	92 dB(A) ... 99 dB(A)
KM 131:	94 dB(A) ... 100 dB(A)
KM 131 R:	92 dB(A) ... 101 dB(A)

19.6.3 Sound power level L_w according to ISO 3744, ISO 10517, ISO 22868, uncertainty K: 2 dB(A)

KM 111 R:	108 dB(A)
KM 131:	109 dB(A) ... 110 dB(A)
KM 131 R:	109 dB(A) ... 110 dB(A)

19.6.4 Sound power level L_{weq} according to ISO 3744, ISO 10517, ISO 22868, uncertainty K: 2 dB(A)

KM 111 R:	105 dB(A) ... 110 dB(A)
KM 131:	106 dB(A) ... 108 dB(A)
KM 131 R:	106 dB(A) ... 110 dB(A)

19.6.5 Vibration value $a_{hv,eq}$ according to ISO 8662, ISO 10517, ISO 11789, ISO 20643, ISO 22867, uncertainty K_a: 2.0 m/s^2

Handle, left

KM 111 R:	2.6 m/s^2 ... 7.2 m/s^2
KM 131:	2.3 m/s^2 ... 5.0 m/s^2
KM 131 R:	3.4 m/s^2 ... 7.0 m/s^2

Handle, right

KM 111 R:	2.7 m/s^2 ... 6.4 m/s^2

KM 131: 2.4 m/s^2 ... 4.2 m/s^2
KM 131 R: 3.3 m/s^2 ... 6.5 m/s^2

19.6.6 Vibration value p_F according to EN ISO 5349-3, uncertainty K_p: 69 m/s^2

Handle, left
KM 131: 74 m/s^2... 128 m/s^2
KM 131 R: 51 m/s^2... 314 m/s^2

Handle, right
KM 131: 122 m/s^2... 283 m/s^2
KM 131 R: 79 m/s^2... 345 m/s^2

19.7 REACH

REACH is an EC regulation and stands for the Registration, Evaluation, Authorization and Restriction of Chemical substances.

For information on compliance with the REACH regulation (EC) No. 1907/2006 see

www.stihl.com/reach

19.8 Exhaust Emissions

The CO_2 value measured in the EU type approval procedure is specified at

www.stihl.com/co2

in the product-specific technical data.

The measured CO_2 value was determined on a representative engine in accordance with a standardized test procedure under laboratory conditions and does not represent either an explicit or implied guarantee of the performance of a specific engine.

The applicable exhaust emission requirements are fulfilled by the intended usage and maintenance described in this User Manual. The operating license shall be void if the engine is modified in any way.

20 Maintenance and Repairs

Users of this machine may only carry out the maintenance and service work described in this user manual. All other repairs must be carried out by a servicing dealer.

STIHL recommends that you have servicing and repair work carried out exclusively by an authorized STIHL servicing dealer. STIHL dealers are regularly given the opportunity to attend training courses and are supplied with the necessary technical information.

When repairing the machine, only use replacement parts which have been approved by STIHL for this power tool or are technically identical. Only use high-quality replacement parts in order to avoid the risk of accidents and damage to the machine.

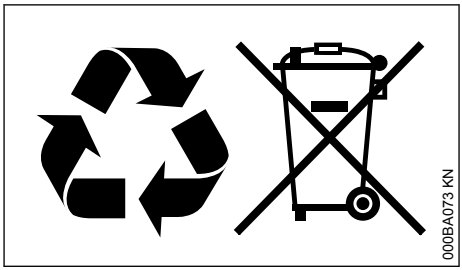
STIHL recommends the use of original STIHL replacement parts.

Original STIHL parts can be identified by the STIHL part number, the STIHL® logo and the STIHL parts symbol (the symbol may appear alone on small parts).

21 Disposal

Contact the local authorities or your STIHL servicing dealer for information on disposal.

Improper disposal can be harmful to health and pollute the environment.



- Take STIHL products including packaging to a suitable collection point for recycling in accordance with local regulations.
- Do not dispose with domestic waste.

22 EU conformity

The EU Declaration of Conformity is available at stihl.link/compliance.

Further information and a form for reporting security vulnerabilities are available at vdp.stihl.com.

CE

23 Addresses

www.stihl.com



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