

KM 111 R, 131 R

***STIHL***



2 - 19      Instruction Manual  
19 - 39     Notice d'emploi



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## 1 Introduction

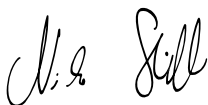
Dear Customer,

Thank you for choosing a quality engineered STIHL product.

It has been built using modern production techniques and comprehensive quality assurance. Every effort has been made to ensure your satisfaction and trouble-free use of the product.

Please contact your dealer or our sales company if you have any queries concerning this product.

Your



Dr. Nikolas Stihl

## 2 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 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.

## 3 Guide to Using this Manual

### 3.1 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

### 3.2 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.

### 3.3 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.

## 4 Safety Precautions and Working Techniques



Special safety precautions must be observed when operating a power tool.



Both user manuals (KombiEngine and KombiTool) must be read through attentively before using the unit for the first time and kept in a safe place for future reference. Non-compliance with the user manuals may cause serious or even fatal injury.

Observe all applicable local safety regulations, e.g. by trade organizations, social insurance institutions, labor safety authorities etc.

If you have never used a power tool before: Have your dealer or other experienced user show you how to operate your machine – or attend a special course to learn how to operate it.

Minors should never be allowed to use the machine – except for apprentices over the age of 16 when working under supervision.

Children, animals and bystanders must not be allowed near the machine.

When not using the machine, it must be laid down in such a way that it does not endanger anyone. Ensure that the machine cannot be used without authorization.

The user is responsible for accidents or risks involving third parties or their property.

The machine should only be provided or loaned to people familiar with this model and its operation. The KombiEngine and KombiTool user manuals should always be handed over with the machine.

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

Anyone operating the machine must be well rested, in good physical health and in good mental condition.

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

If you have a pacemaker: The ignition system of your machine produces an electromagnetic field of 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.

Anyone who has consumed alcohol or drugs or medicines affecting their ability to react must not operate a power tool.

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

The machine must not be used for any other purposes – **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 your dealer. Use only high quality parts and accessories. in order to avoid the risk of accidents and damage to the machine.

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

Never attempt to modify your power tool 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 high-pressure washer to clean the power tool. The solid jet of water may damage parts of the unit.

#### 4.1 Clothing and equipment

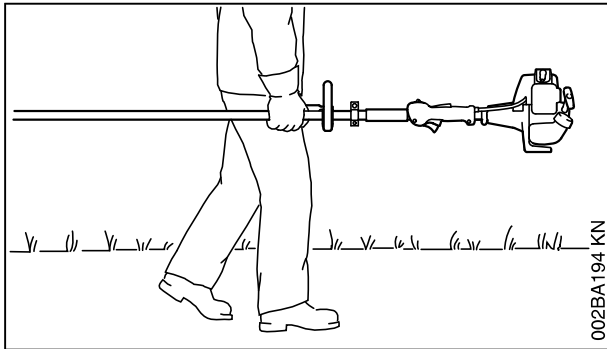
Wear proper protective clothing and equipment.



Do not wear clothing which could become trapped in wood, brush or moving parts of the machine. Do not wear a scarf, necktie or jewelry. Tie up and confine long hair above your shoulders.

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

#### 4.2 Transporting the machine



Always stop the engine.

By vehicle: When transporting in a vehicle, properly secure your machine to prevent turnover, damage and fuel spillage.

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

#### 4.3 Refueling



**Gasoline is highly flammable** – keep away from fire or flame – do not spill any fuel – no smoking.

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.

Only refuel the machine in a well ventilated place. If fuel has been spilled, immediately clean the machine – do not allow your clothes to be

splashed with fuel. If that happens, change your clothes at once.



After refueling, close the fuel cap as tightly as possible.

This helps reduce the risk of unit vibrations causing an incorrectly tightened fuel cap to loosen or come off and spill quantities of fuel.

Check for leaks. Do not start the engine if there is a fuel leak – **serious or fatal burns could result!**

#### 4.4 Before starting

Check that your power tool is properly assembled and in good condition – refer to appropriate chapters in the User Manuals:

- Check the fuel system for leaks, especially the visible parts, e. g., fuel cap, hose connections, manual fuel pump (only in machines with a manual fuel pump). In case of leakage and damage, do not start the engine – **risk of fire!** Have the machine serviced by a dealer before using it
- Use only an approved combination of cutting attachment, deflector, handle and harness. All parts must be assembled properly and securely
- The stop switch must be easy to push
- Check the choke lever, throttle trigger and throttle trigger lockout for smooth action - throttle trigger must return automatically to idle position. The choke lever must spring back from the  and  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 sparking that could ignite combustible fumes **and cause a fire!**
- Never attempt to modify the controls or safety devices
- Keep the handles dry and clean – free from oil and dirt – this is important for safe control of the machine
- Adjust the harness and handle(s) to suit your height and reach

**To reduce the risk of personal injury**, do not operate your power tool if it is damaged or not properly assembled!

To prepare for emergencies when using a harness: Practice setting down the machine quickly. To avoid damage, do not throw the machine to the ground when practicing.

See also notes on "Before Starting" in the User Manual of the KombiTool you are using.

## 4.5 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 User Manual. Note that the attachment continues to run for a short period after you let go of the throttle trigger – fly-wheel effect.

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

Keep easily combustible materials (e. g., wood chips, bark, dry grass, fuel) away from hot exhaust gases and hot muffler surfaces – **risk of fire!**

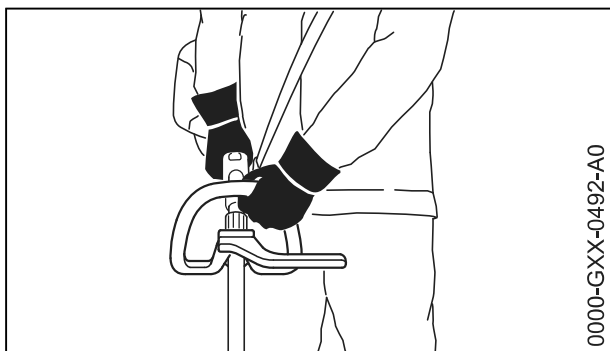
See also notes on "Starting / Stopping the Engine" in the user manual of the KombiTool you are using.

## 4.6 Holding and guiding the machine

Always hold the unit firmly with both hands on the handles.

Make sure you always have good balance and secure footing.

### 4.6.1 For versions with loop handle



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

## 4.7 While working

In the event of impending danger or in an emergency, switch off the engine immediately by pressing 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 working tool still moves at idle speed, have your dealer make proper adjustments or repairs. Check and correct the idle speed setting at regular intervals. STIHL recommends you have this work done by a STIHL servicing dealer.

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

Take breaks when you start getting tired or feeling fatigue – **risk of accidents!**

Work calmly and carefully – in daylight conditions and only when visibility is good. Proceed with caution, do not put others in danger.

Use your power tool only in the areas specified in the KombiTool User Manual.



As soon as the engine is running, the power machine generates toxic exhaust gas. These gases may be odorless and invisible and may contain unburned hydrocarbons and benzene. 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.

Stop work immediately if you start suffering from nausea, headaches, impaired vision (e.g. your field of vision gets smaller), impaired hearing, dizziness, or impaired concentration – these symptoms may possibly be the result of too-high exhaust gas concentration – **Risk of accidents!**

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. Combustible fuel vapor may escape from the fuel system.

Dust, fumes and smoke produced while working may be hazardous 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 in particular that the fuel system has no leaks and the safety equipment is fully operative. Never use a power tool that is no longer safe to operate. In case of doubt, contact a 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 working tool.

## 4.8 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.

## 4.9 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.

**Maintenance, replacement, or repair of the emission control devices and systems may be performed by any nonroad engine repair establishment or individual. However, if you make a warranty claim for a component which has not been serviced or maintained properly, STIHL may deny coverage.**

For any maintenance please refer to the maintenance chart and to the warranty statement near the end of the instruction manual.

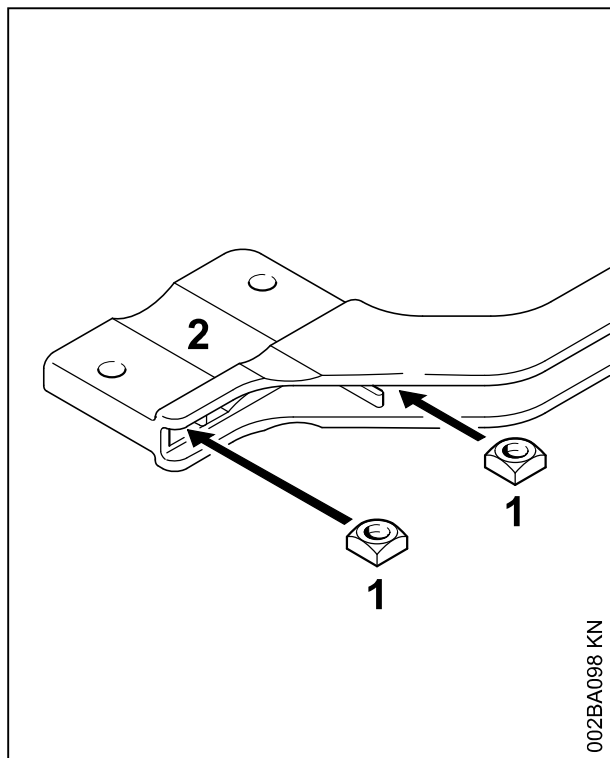
## 5 Approved KombiTools

The following STIHL KombiTools may be attached to the KombiEngine:

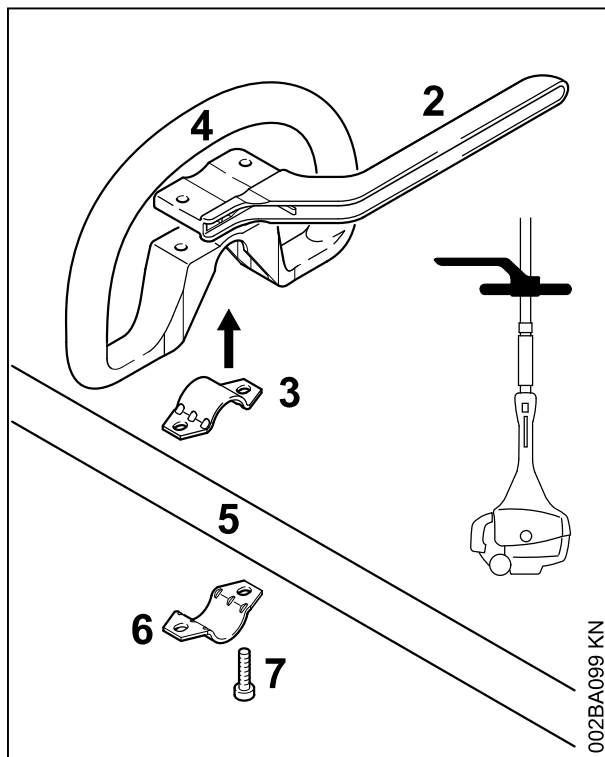
| KombiTool               | Intended use                         |
|-------------------------|--------------------------------------|
| FS-KM                   | Scythe with mowing head              |
| FS-KM <sup>1)</sup>     | Scythe with grass cutting blade      |
| FSS-KM <sup>2)</sup>    | Scythe with mowing head              |
| FSS-KM <sup>1) 2)</sup> | Scythe with metal cutting attachment |
| RG-KM <sup>1)</sup>     | Weeder                               |
| HL-KM 145°              | Long reach hedge trimmer, adjustable |
| HL-KM 0°                | Long-reach hedge trimmer             |
| FH-KM 145°              | Scrub cutter                         |
| BG-KM                   | Blower                               |
| HT-KM                   | Pole pruner                          |
| BF-KM                   | Cultivator                           |
| FBD-KM                  | Cutting bed edges                    |
| FCB-KM                  | Cutting lawn edges                   |
| FCS-KM                  | Cutting lawn edges                   |
| KB-KM                   | Bristle brush                        |
| KW-KM                   | Sweeper drum assembly                |

## 6 Mounting the Loop Handle

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



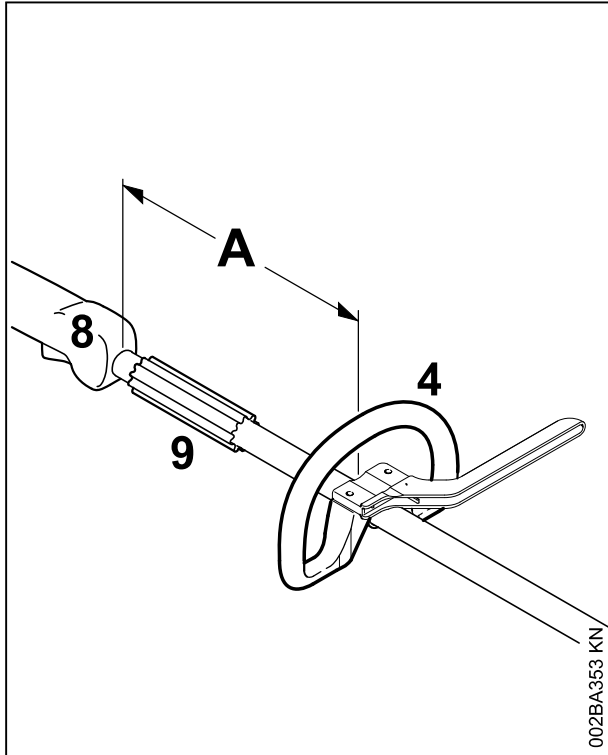
- Insert square nuts (1) in the barrier bar (2) – the holes must line up



- 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

<sup>1)</sup> The included barrier bar on the loop handle must be used - see also "Installing the loop handle"

<sup>2)</sup> Not approved for KM 111 R



- 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

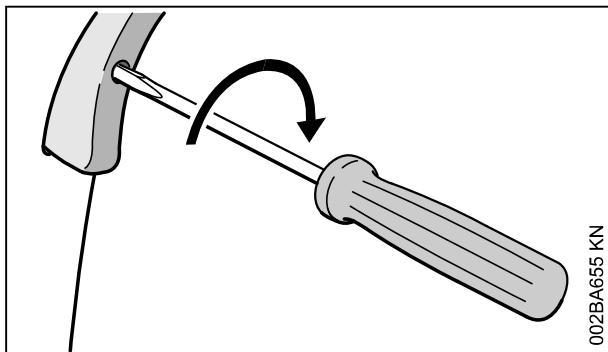
The sleeve (9) is present depending on the country and must be located between the loop handle and control handle.

**Always leave the barrier bar attached.**

## 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

This engine is certified to operate on unleaded gasoline and the STIHL two-stroke engine oil at a mix ratio of 50:1.

Your engine requires a mixture of high-quality gasoline and two-stroke air cooled engine oil.

Use mid-grade unleaded gasoline with a minimum octane rating of 89 ((R+M)/2) and no more than 10% ethanol content.

Fuel with an octane rating below 89 may increase engine temperatures. This, in turn, increases the risk of piston seizure and damage to the engine.

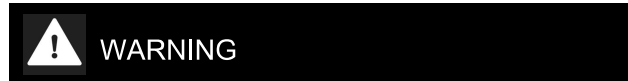
The chemical composition of the fuel is also important. Some fuel additives not only detrimentally affect elastomers (carburetor diaphragms, oil seals, fuel lines, etc.), but magnesium castings and catalytic converters as well. This could cause running problems or damage the engine. For this reason STIHL recommends that you use only quality unleaded gasoline.

Gasoline with an ethanol content of more than 10% can cause running problems and major damage in engines and should not be used.

For further details, see

[www.STIHLusa.com/ethanol](http://www.STIHLusa.com/ethanol)

The ethanol content in gasoline affects engine speed – it may be necessary to readjust the carburetor if you use fuels with various ethanol contents.



### WARNING

To reduce the risk of personal injury from loss of control and / or contact with the running cutting tool, do not use your unit with incorrect idle adjustment. At correct idle speed, the cutting tool should not move.

If your power tool's idle speed is incorrectly adjusted, have your authorized STIHL servicing dealer check your machine and make the proper adjustments and repairs.

The idle speed and maximum speed of the engine change if you switch from a fuel with a certain ethanol content to another fuel with a much higher or lower ethanol content.

This problem can be avoided by always using fuel with the same ethanol content.

To ensure the maximum performance of your STIHL engine, use a high quality 2-cycle engine oil, such as STIHL 2-cycle engine oils. STIHL 2-cycle engine oils are specially designed for STIHL engines. To help your engine run cleaner and reduce harmful carbon deposits, STIHL recommends using STIHL HP Ultra 2-cycle engine oil, or use an equivalent high quality 2-cycle engine oil.

To meet the requirements of EPA and CARB we recommend to use STIHL HP Ultra oil or equivalent.

Do not use NMMA or TCW rated (two-stroke water cooled) mix oils or other mix oils that state they are for use in both water cooled and air cooled engines (e.g., outboard motors, snowmobiles, chain saws, mopeds, etc.).

Take care when handling gasoline. Avoid direct contact with the skin and avoid inhaling fuel vapor. When filling at the pump, first remove the container from your vehicle and place the container on the ground before filling. To reduce the risk of sparks from static discharge and resulting fire and/or explosion, do not fill fuel containers that are sitting in or on a vehicle or trailer.

The container should be kept tightly closed in order to limit the amount of moisture that gets into the mixture.

The machine's fuel tank should be cleaned as necessary.

## 8.1 STIHL MotoMix

STIHL recommends the use of STIHL MotoMix. STIHL MotoMix has a high octane rating and ensures that you always use the right gasoline/oil mix ratio.

STIHL MotoMix uses STIHL HP Ultra two-stroke engine oil suited for high performance engines.

For further details, see

[www.STIHLusa.com/ethanol](http://www.STIHLusa.com/ethanol)

## 8.2 Fuel mix ages

If not using STIHL MotoMix, only mix sufficient fuel for a few days of work, not to exceed 30 days of storage. Store in approved fuel-containers only. When mixing, pour oil into the container first, and then add gasoline. Close the container and shake it vigorously by hand to ensure proper mix of oil and gasoline.

| Gasoline | Oil (STIHL 50:1 or equivalent high-quality oils) |       |
|----------|--------------------------------------------------|-------|
| Liters   | Liters                                           | (ml)  |
| 1        | 0.02                                             | (20)  |
| 5        | 0.10                                             | (100) |
| 10       | 0.20                                             | (200) |
| 20       | 0.40                                             | (400) |

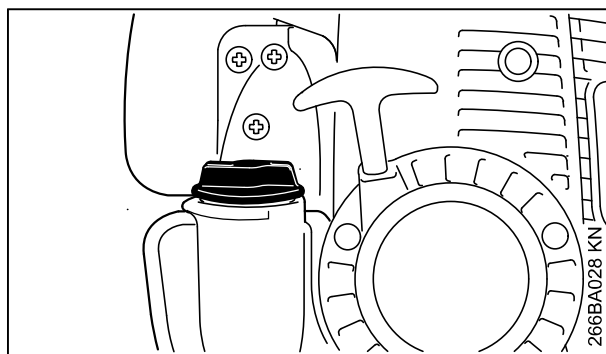
| US gal. | US fl. oz. |
|---------|------------|
| 1       | 2.6        |
| 2 1/2   | 6.4        |
| 5       | 12.8       |

Dispose of empty mixing-oil containers only at authorized disposal locations.

## 9 Fueling

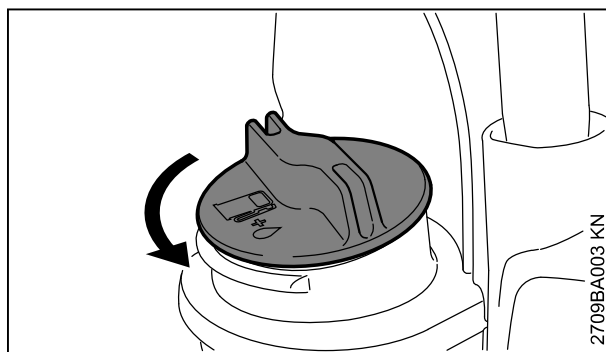


### 9.1 Preparations



- 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 filler cap



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

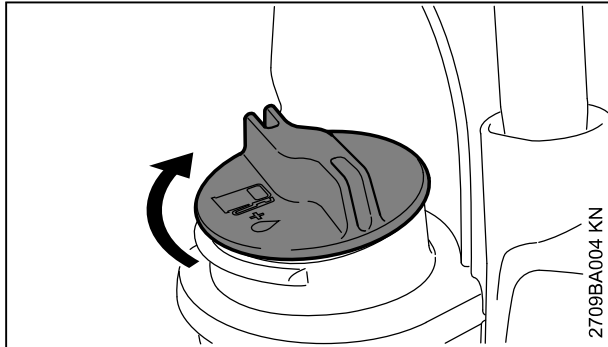
### 9.3 Filling Up with Fuel

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.

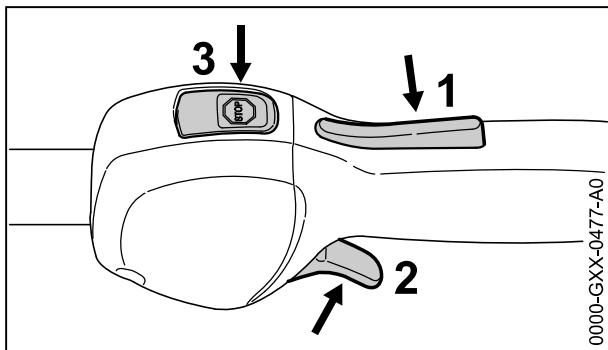
## 9.4 Closing the filler cap



- 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

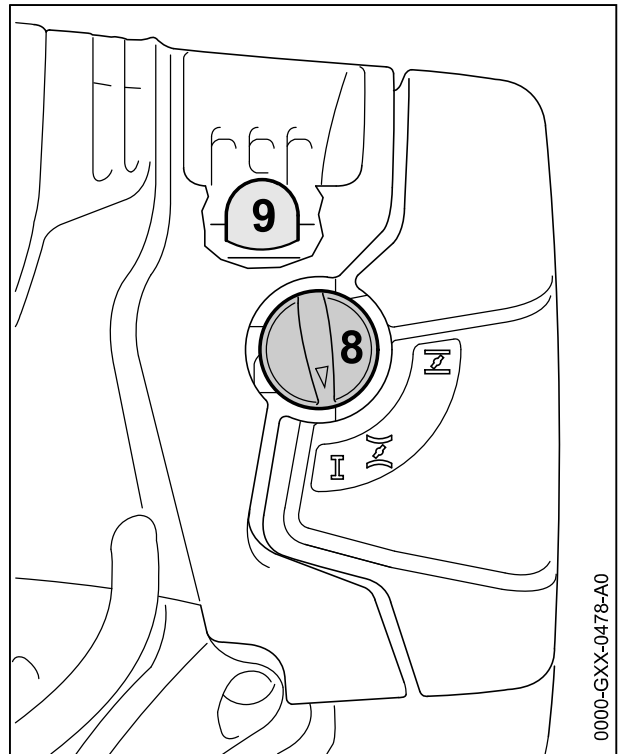


- 1 Throttle trigger lockout
- 2 Throttle trigger
- 3 Stop switch with Run and Stop positions. Depress the stop switch (  ) to switch off the ignition – see "Function of stop switch and ignition system".

### 10.1.1 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.

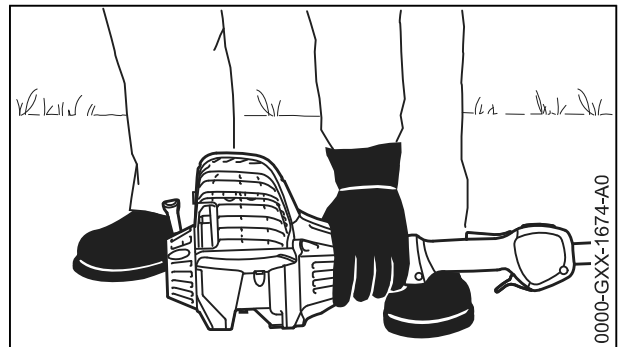
## 10.2 Starting the Engine

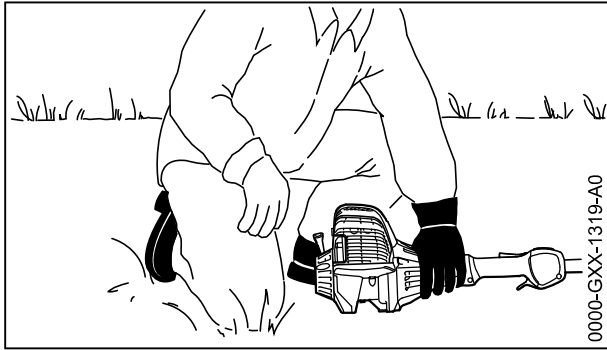


- Press the manual fuel pump bulb (9) at least five times – even if the bulb is already filled with fuel.
- Press in the choke knob (8) and turn it to the position that suits the engine temperature:  
 if the engine is cold  
 for warm start – also use this position if the engine has been running but is still cold.

The choke knob must engage in position.

### 10.2.1 Cranking

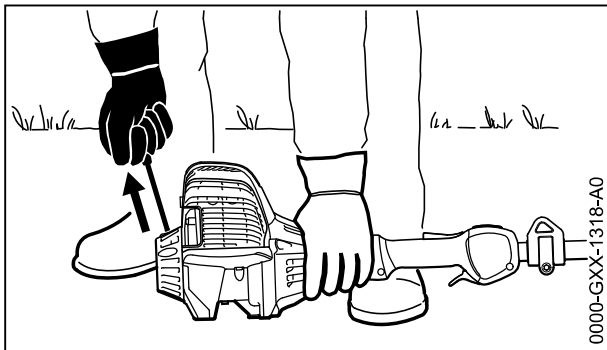




- ▶ Place the power tool on the ground so that it rests on the machine support: Check that the working tool is not touching the ground or any other obstacles – see also "Starting / Stopping the Engine" in the KombiTool instruction manual.
- ▶ Make sure you have a safe and secure footing.
- ▶ Hold the 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.



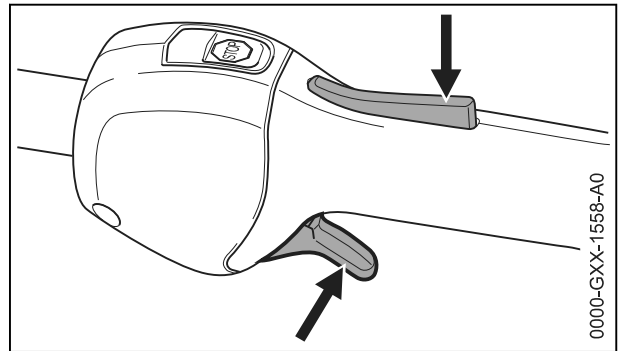
- ▶ Hold the starter grip with your right hand.
- ▶ Pull the starter grip slowly until you feel it engage and then give it a brisk strong pull.

#### 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 **I** or under acceleration.

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

Engine does not start in warm start position **II**

- ▶ Move the choke knob to **I** 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**

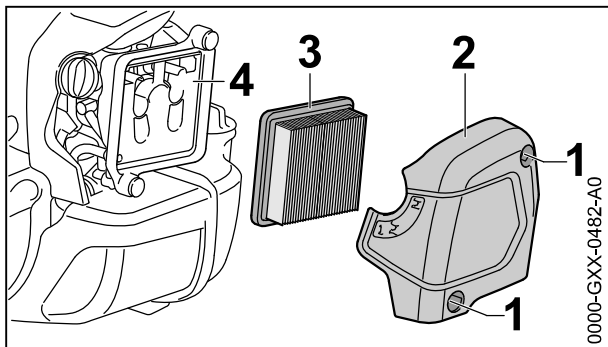
After a long period of full throttle operation, allow the engine to run for a short while at idle speed so that engine heat can be dissipated by the flow of cooling air. This protects engine-mounted components (ignition, carburetor) from thermal overload.

**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 **I**.
- ▶ 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**

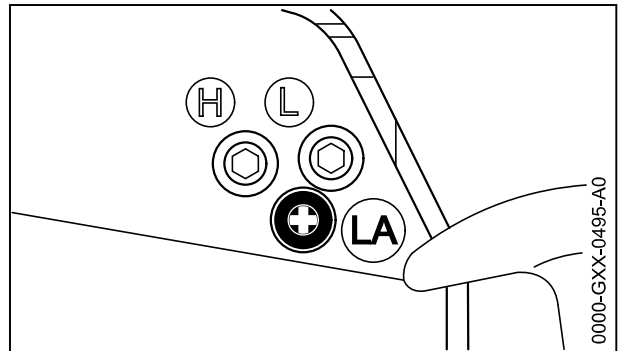
- ▶ Install the filter element (3) in the filter housing and fit the cover.
- ▶ Insert the screws (1) and tighten them down firmly.

**13 Engine Management**

Exhaust emissions are controlled by the design of the engine and components (e.g. carburation, ignition, timing and valve or port timing).

**14 Adjusting the Carburetor**

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

**14.1 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 counter-clockwise 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.

## 15 Spark Arresting Screen in Muffler

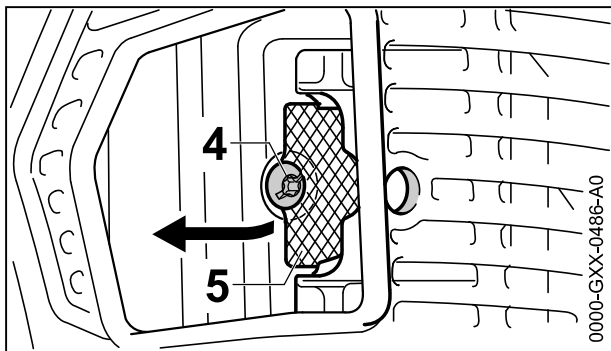
**WARNING**

To reduce the risk of fire caused by hot particles escaping from the machine, never operate the machine without a spark arresting screen, or with the spark arresting screen damaged. Do not modify the muffler or spark arresting screen.

**NOTICE**

According to the law or regulations in some countries or federal states, certain operations may only be carried out if a properly serviced spark arresting screen is provided.

- ▶ If the engine is down on power, check the spark arresting screen in the muffler.
- ▶ Wait for the muffler to cool down



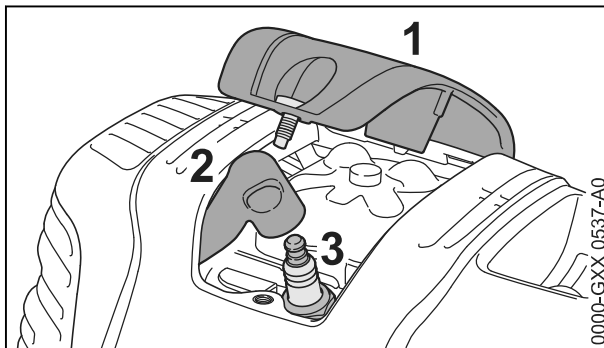
- ▶ Undo screw (4)
- ▶ Lift the spark arresting screen (5) and pull it out.
- ▶ Clean the spark arresting screen (5). If the screen is damaged or heavily carbonized, install a new one.
- ▶ Refit the spark arresting screen (5)
- ▶ Insert and tighten screw (4)

## 16 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

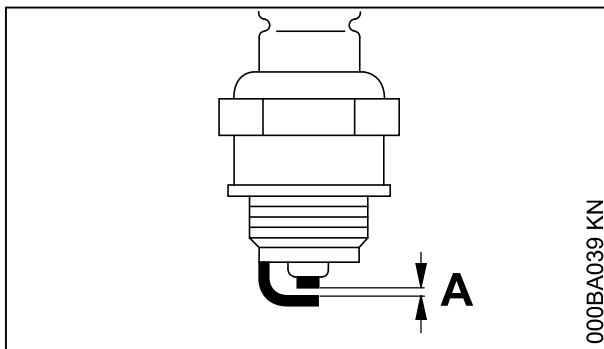
the type approved by STIHL – see "Specifications".

### 16.1 Removing the Spark Plug



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

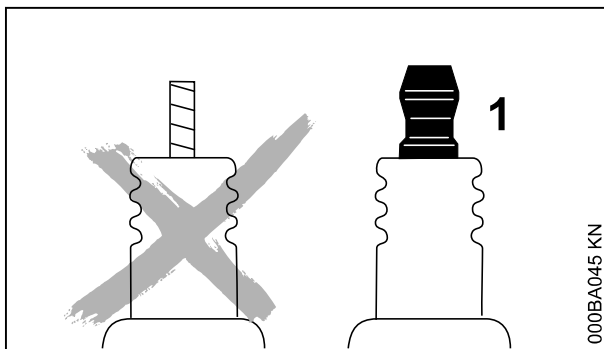
### 16.2 Checking the Spark Plug



- ▶ 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 in serious injuries or damage to property.

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

### 16.3 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.

- 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 – pay special attention to the air filter.
- 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.

## 17 Storing the Machine

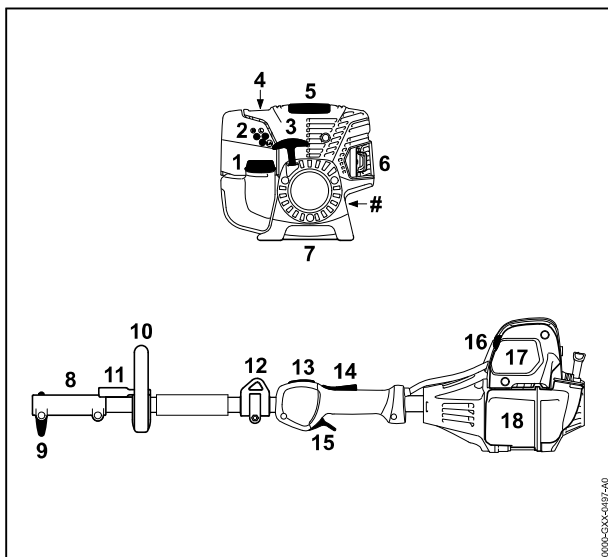
For periods of 30 days or longer

## 18 Maintenance and Care

| The following intervals apply for normal operating conditions. The specified intervals must be shortened accordingly when working for longer than normal or under difficult cutting conditions (extensive dust, etc.). |                                                    | Before starting work | At the end of work and/or daily | Whenever tank is refilled | Weekly | Monthly | Annually | If faulty | If damaged | As required |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------|---------------------------------|---------------------------|--------|---------|----------|-----------|------------|-------------|
| Complete machine                                                                                                                                                                                                       | Visual inspection (condition, leaks)               | X                    |                                 | X                         |        |         |          |           |            |             |
|                                                                                                                                                                                                                        | Clean                                              |                      | X                               |                           |        |         |          |           | X          |             |
|                                                                                                                                                                                                                        | Replace any damaged parts                          | X                    |                                 |                           |        |         |          |           |            |             |
| Control handle                                                                                                                                                                                                         | Function test                                      | X                    |                                 | X                         |        |         |          |           |            |             |
| Air filter                                                                                                                                                                                                             | Visual inspection                                  |                      |                                 |                           |        | X       |          | X         |            |             |
|                                                                                                                                                                                                                        | Replace <sup>1)</sup>                              |                      |                                 |                           |        |         |          |           | X          |             |
| Manual fuel pump (if present)                                                                                                                                                                                          | Check                                              | X                    |                                 |                           |        |         |          |           |            |             |
|                                                                                                                                                                                                                        | Have repaired by a specialist dealer <sup>2)</sup> |                      |                                 |                           |        |         |          |           | X          |             |
| Fuel pickup body in fuel tank                                                                                                                                                                                          | Have checked by dealer <sup>2)</sup>               |                      |                                 |                           |        |         |          | X         |            |             |
|                                                                                                                                                                                                                        | Have replaced by servicing dealer <sup>2)</sup>    |                      |                                 |                           |        |         | X        |           | X          | X           |
| Fuel tank                                                                                                                                                                                                              | Clean                                              |                      |                                 |                           |        |         |          | X         |            | X           |
| Carburettor                                                                                                                                                                                                            | Check idle adjustment, the work tool must not turn | X                    |                                 | X                         |        |         |          |           |            |             |

| The following intervals apply for normal operating conditions. The specified intervals must be shortened accordingly when working for longer than normal or under difficult cutting conditions (extensive dust, etc.). |                                                                                                                                | Before starting work | At the end of work and/or daily | Whenever tank is refilled | Weekly | Monthly | Annually | If faulty | If damaged | As required |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------|---------------------------|--------|---------|----------|-----------|------------|-------------|
|                                                                                                                                                                                                                        | Adjust idle speed                                                                                                              |                      |                                 |                           |        |         |          |           |            | X           |
| Spark plug                                                                                                                                                                                                             | Set electrode gap                                                                                                              |                      |                                 |                           |        |         |          | X         |            |             |
|                                                                                                                                                                                                                        | Replace after every 100 hours of operation                                                                                     |                      |                                 |                           |        |         |          |           |            |             |
| Intake port for cooling air                                                                                                                                                                                            | Visual inspection                                                                                                              |                      | X                               |                           |        |         |          |           |            |             |
|                                                                                                                                                                                                                        | Clean                                                                                                                          |                      |                                 |                           |        |         |          |           |            | X           |
| Cylinder fins                                                                                                                                                                                                          | Have cleaned by dealer <sup>2)</sup>                                                                                           |                      |                                 |                           |        |         | X        |           |            |             |
| Valve clearance                                                                                                                                                                                                        | If power is low or cranking effort very high, have valve clearance checked and, if necessary, adjusted by dealer <sup>2)</sup> |                      |                                 |                           |        |         |          |           |            | X           |
| Spark arresting screen in muffler                                                                                                                                                                                      | Check if installed                                                                                                             | X                    |                                 |                           |        |         |          |           |            |             |
|                                                                                                                                                                                                                        | Check or replace <sup>1)</sup>                                                                                                 |                      |                                 |                           |        |         | X        |           |            |             |
| All accessible screws, nuts and bolts (not adjusting screws)                                                                                                                                                           | Tighten                                                                                                                        |                      |                                 |                           |        |         |          |           |            | X           |
| Anti-vibration elements                                                                                                                                                                                                | check                                                                                                                          | X                    |                                 |                           |        |         |          | X         |            | X           |
|                                                                                                                                                                                                                        | Have replaced by servicing dealer <sup>2)</sup>                                                                                |                      |                                 |                           |        |         |          |           | X          |             |
| Safety information label                                                                                                                                                                                               | replace                                                                                                                        |                      |                                 |                           |        |         |          |           | X          |             |
| <sup>1)</sup> Only if there is a noticeable loss of engine power<br><sup>2)</sup> STIHL recommends STIHL dealers                                                                                                       |                                                                                                                                |                      |                                 |                           |        |         |          |           |            |             |

## 19 Main Parts



- 1 Fuel Filler Cap
- 2 Carburetor Adjusting Screws
- 3 Starter Grip
- 4 Manual Fuel Pump
- 5 Cover
- 6 Muffler with Spark Arresting Screen
- 7 Machine Support
- 8 Coupling Sleeve
- 9 Wing Screw
- 10 Loop Handle
- 11 Barrier Bar
- 12 Carrying Ring
- 13 Stop Switch
- 14 Throttle Trigger Lockout
- 15 Throttle Trigger
- 16 Choke Knob
- 17 Air Filter Cover
- 18 Fuel Tank
- # Serial Number

### 19.1 Definitions

- 1 Fuel Filler Cap  
For closing the fuel tank.
- 2 Carburetor Adjusting Screws  
For tuning the carburetor.
- 3 Starter Grip  
The grip of the pull starter, for starting the engine.
- 4 Manual Fuel Pump

Provides additional fuel feed for a cold start.

- 5 Cover  
Covers and protects the spark plug.
- 6 Muffler with Spark Arresting Screen  
Muffler reduces exhaust noises and diverts exhaust gases away from operator. Spark arresting screen is designed to reduce the risk of fire.
- 7 Machine Support  
For resting machine on the ground.
- 8 Coupling Sleeve  
Connects drive tube to lower part of drive tube (stub shaft).
- 9 Wing Screw  
Secures lower part of the drive tube (stub shaft).
- 10 Loop Handle  
For easy control of machine during cutting work.
- 11 Barrier Bar  
Helps keep user's feet and legs clear of the cutting attachment.
- 12 Carrying Ring  
Connects the unit to the harness.
- 13 Stop Switch  
Switches the engine's ignition off and stops the engine.
- 14 Throttle Trigger Lockout  
Must be depressed before the throttle trigger can be activated.
- 15 Throttle Trigger  
Controls the speed of the engine.
- 16 Choke Knob  
Eases engine starting by enriching mixture.
- 17 Air Filter Cover  
Covers and protects the air filter element.
- 18 Fuel Tank  
For fuel and oil mixture.

## 20 Specifications

### 20.1 EPA / CEPA

The Emission Compliance Period referred to on the Emissions Compliance Label indicates the number of operating hours for which the engine has been shown to meet Federal emission requirements.

Category

A = 300 hours  
B = 125 hours

C = 50 hours

## 20.2 Engine

### 20.2.1 KM 111 R

One-cylinder, four-stroke engine with mixture lubrication

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| Displacement:                     | 31.4cm <sup>3</sup>                   |
| Cylinder bore:                    | 40 mm                                 |
| Piston stroke:                    | 25 mm                                 |
| Engine power:                     | 1.05 kW<br>(1.40 hp) at<br>7500 1/min |
| Idle speed:                       | 2800 rpm                              |
| Cut-off speed<br>(nominal value): | 9500 rpm                              |
| Valve clearance                   |                                       |
| Inlet valve:                      | 0.10 mm                               |
| Exhaust valve:                    | 0.10 mm                               |

### 20.2.2 KM 131 R

One-cylinder, four-stroke engine with mixture lubrication

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| Displacement:                     | 36.3cm <sup>3</sup>                   |
| Cylinder bore:                    | 43 mm                                 |
| Piston stroke:                    | 25 mm                                 |
| Engine power:                     | 1.40 kW<br>(1.90 hp) at<br>8500 1/min |
| Idle speed:                       | 2800 rpm                              |
| Cut-off speed<br>(nominal value): | 9500 rpm                              |
| Valve clearance                   |                                       |
| Inlet valve:                      | 0.10 mm                               |
| Exhaust valve:                    | 0.10 mm                               |

## 20.3 Ignition system

Electronic magneto ignition

Spark plug (sup-pressed):

NKG CMR 6H  
STIHL ZK C 1  
0,  
BOSCH USR  
4AC

Electrode gap: 0.5 mm

This spark ignition system meets all requirements of the Canadian Interference-Causing Equipment Standard CAN ICES-2/NMB-2.

## 20.4 Fuel system

All-position diaphragm carburetor with integral fuel pump

Fuel tank capacity: 710 cm<sup>3</sup> (0.71 l)

## 20.5 Weight

without fuel, without KombiTool

|           |        |
|-----------|--------|
| KM 111 R  | 4.4 kg |
| KM 131 R: | 4.4 kg |

## 20.6 Equipment features

R Loop handle

## 21 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.

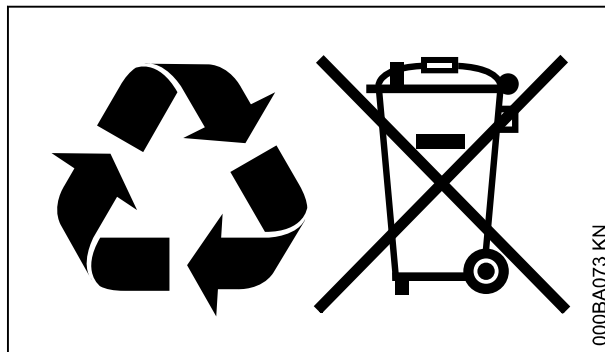
STIHL recommends the use of original STIHL replacement parts.

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).

## 22 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.

## 23 STIHL Limited Emission Control Warranty Statement

**This statement is given voluntarily, based on the MOU (Memorandum of Understanding) as agreed in April 1999 between Environmental Canada and STIHL Limited**

### Your Warranty Rights and Obligations

STIHL Limited is pleased to explain the Emission Control System Warranty on your equipment type engine. In Canada new 1999 and later model year small off-road equipment engines must be designed, built and equipped, at the time of sale, to meet the U.S. EPA regulations for small non road engines. The equipment engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser.

STIHL Limited must warrant the emission control system on your small off-road engine for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road equipment engine.

Your emissions control system may include parts such as the carburetor or fuel-injection system, the ignition system, and catalytic converter. Also included may be hoses, belts, connectors or other emission-related assemblies.

Where a warrantable condition exists, STIHL Limited will repair your small off-road equipment engine at no cost to you, including diagnosis (if the diagnostic work is performed at an authorized dealer), parts, and labor.

### Manufacturer's Warranty Coverage

In Canada 1999 and later model year small off-road equipment engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by STIHL Limited free of charge.

### Owner's Warranty Responsibilities:

As the small off-road equipment engine owner, you are responsible for the performance of the required maintenance listed in your instruction manual. STIHL Limited recommends that you retain all receipts covering maintenance on your small off-road equipment engine, but STIHL Limited cannot deny warranty solely for the lack of

receipts or for your failure to ensure the performance of all scheduled maintenance.

Any replacement part or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the engine manufacturer.

As the small off-road equipment engine owner, you should be aware, however, that STIHL Limited may deny you warranty coverage if your small off-road equipment engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road equipment engine to a STIHL service center as soon as a problem exists. The warranty repairs will be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, please contact a STIHL customer service representative at [www.stihl.ca](http://www.stihl.ca)

or you can write to:

STIHL Ltd.,  
1515 Sise Road  
Box 5666  
CA-LONDON ONTARIO; N6A 4L6

### Coverage by STIHL Limited

STIHL Limited warrants to the ultimate purchaser and each subsequent purchaser that your small off-road equipment engine will be designed, built and equipped, at the time of sale, to meet all applicable regulations. STIHL Limited also warrants to the initial purchaser and each subsequent purchaser that your engine is free from defects in materials and workmanship which cause the engine to fail to conform with applicable regulations for a period of two years.

### Warranty Period

The warranty period will begin on the date the utility equipment engine is purchased by the initial purchaser and you have signed and sent back the warranty card to STIHL Ltd. If any emission-related part on your engine is defective, the part will be replaced by STIHL Limited at no cost to the owner. Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" will be warranted for the warranty

period. Any warranted part which is scheduled for replacement as required maintenance will be warranted for the period of time up to the first scheduled replacement point for that part.

### Diagnosis

You, as the owner, shall not be charged for diagnostic labor which leads to the determination that a warranted part is defective. However, if you claim warranty for a component and the machine is tested as non-defective, STIHL Limited will charge you for the cost of the emission test. Mechanical diagnostic work will be performed at an authorized STIHL servicing dealer. Emission test may be performed either at

STIHL Incorporated,  
536 Viking Drive, P.O. Box 2015,  
Virginia Beach, VA 23452

or at any independent test laboratory.

### Warranty Work

STIHL Limited shall remedy warranty defects at any authorized STIHL servicing dealer or warranty station. Any such work shall be free of charge to the owner if it is determined that a warranted part is defective. Any manufacturer-approved or equivalent replacement part may be used for any warranty maintenance or repairs on emission-related parts and must be provided without charge to the owner. STIHL Limited is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

The following list specifically defines the emission-related warranted parts:

- Air Filter
- Carburetor (if applicable)
- Fuel Pump
- Choke (Cold Start Enrichment System) (if applicable)
- Control Linkages
- Intake Manifold
- Magneto or Electronic Ignition System (Ignition Module or Electronic Control Unit)
- Fly Wheel
- Spark Plug
- Injection Valve (if applicable)
- Injection Pump (if applicable)
- Throttle Housing (if applicable)
- Cylinder
- Muffler
- Catalytic Converter (if applicable)
- Fuel Tank
- Fuel Cap

- Fuel Line
- Fuel Line Fittings
- Clamps
- Fasteners

### Where to make a Claim for Warranty Service

Bring the product to any authorized STIHL servicing dealer and present the signed warranty card.

### Maintenance Requirements

The maintenance instructions in this manual are based on the application of the recommended 2-stroke fuel-oil mixture (see also instruction "Fuel"). Deviations from this recommendation regarding quality and mixing ratio of fuel and oil may require shorter maintenance intervals.

### Limitations

This Emission Control Systems Warranty shall not cover any of the following:

1. repair or replacement required because of misuse, neglect or lack of required maintenance
2. repairs improperly performed or replacements not conforming to STIHL Limited specifications that adversely affect performance and/or durability, and alterations or modifications not recommended or approved in writing by STIHL Limited
3. replacement of parts and other services and adjustments necessary for required maintenance at and after the first scheduled replacement point

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