STIHL BR 420

Instruction Manual

Contents

Dear Customer,

Thank you for choosing a quality engineered STIHL product.

This machine has been built using modern production techniques and comprehensive quality assurance. Every effort has been made to ensure your satisfaction and troublefree use of the machine.

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

Hans Peter Stihl

CE

STIHL®

Guide to Using this Manual

Pictograms

All the pictograms attached to the machine are shown and explained in this manual.

The operating and handling instructions are supported by illustrations.

Symbols in text

The individual steps or procedures described in the manual may be marked in different ways:

- A bullet marks a step or procedure without direct reference to an illustration.

A description of a step or procedure that refers directly to an illustration may contain item numbers that appear in the illustration.
Example:

Loosen the screw (**1**)

Lever (**2**) ...

In addition to the operating instructions, this manual may contain paragraphs that require your special attention. Such paragraphs are marked with the symbols described below:

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

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

Note or hint which is not essential for using the machine, but may improve the operator's understanding of the situation and result in better use of the machine.

Note or hint on correct procedure in order to avoid damage to the environment.

* Equipment and features

This instruction manual may refer to several models with different features. Components that are not installed on all models and related applications are marked with an asterisk (*). Such components may be available as special accessories from your STIHL dealer.

Engineering improvements

STIHL's philosophy is to continually improve all of its products. As a result, engineering changes and improvements are made from time to time. If the operating characteristics or the appearance of your machine differ from those described in this manual, please contact your STIHL dealer for assistance.

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

Safety Precautions and Working Techniques

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

It is important that you read, fully understand and observe the following safety precautions and warnings. Keep this instruction manual in a safe place for later reference. Non-observance of the safety precautions may result in serious or even fatal injury.

Always observe local safety regulations, standards and ordinances.

If you have never used this power tool model before:
Have your dealer or other experienced user show you how to operate your blower or attend a special training course in blower operation.

Minors should never be allowed to use a power tool.

Bystanders, especially children, and animals should not be allowed in the area where a power tool is in use.

When the machine is not in use (work break), shut it off so that it does not endanger others and secure it against unauthorized use.

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

Do not lend or rent your power tool without the instruction manual. Be sure that anyone using your power tool understands the information contained in this manual.

You must be rested, healthy and in good physical condition to operate a power tool.

Persons with pacemakers only: The ignition system of your unit produces an electromagnetic field of a very low intensity. This field may interfere with some pacemakers. To reduce health risks, STIHL recommends that persons with pacemaker consult their physician and the pacemaker manufacturer before operating this tool.

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

This blower is designed for clearing leaves, grass, paper, light snow and similar materials in yards, gardens, sports stadiums, parks or driveways. It is also suitable for blow-sweeping forest paths.

Do not use your blower for any other purpose since this may result in accidents or damage to the machine. Never attempt to modify your blower in any way since this may also result in accidents or damage to the machine.

Only mount parts and accessories that are explicitly approved for this power tool model by STIHL or are technically identical. If you have any questions in this respect, consult a specialist dealer. To reduce the risk of accidents or damage to the machine, use only high quality tools and replacement parts.

STIHL recommends the use of STIHL original tools and accessories. The characteristics of these components are specifically designed to match your machine and meet your performance requirements.

Clothing and Equipment

Wear proper protective clothing and equipment.

Clothing must be sturdy but allow complete freedom of movement. Wear snug-fitting clothing, an overall and jacket combination, do not wear a coat.

Avoid loose-fitting jackets, scarves, neckties, jewellery or anything that could get into the air intake. Tie up and confine long hair (e.g. with a hair net, cap, hard hat, etc.).

Wear sturdy shoes with non-slip soles.

Wear **safety glasses** and **sound barriers** (ear plugs or earmuffs) to protect your hearing.

Wear **heavy-duty gloves,** preferably made of leather.

STIHL offers a comprehensive range of safety clothing and equipment.

Transporting the Unit

Always stop the engine.

Transporting in a vehicle:
Properly secure your unit to prevent turnover, fuel spillage and damage.

Fueling

Gasoline is an extremely flammable fuel. Keep clear of naked flames and fire. 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.

Always remove the unit from your back and put it on the ground before fueling. Fuel the unit only when it is standing securely on the ground.

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 in a well-ventilated area, outdoors only. If you spill fuel, wipe the machine immediately – if fuel gets on your clothing, change immediately.

After fueling, tighten the fuel filler 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 leakage is found, do not start or run the engine until leak is fixed.

Before Starting

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

– Throttle trigger must move freely and spring back to idle position when released.
– Setting lever must move easily to **STOP** or **0**.
– Check that 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.

To avoid the risk of accidents and personal injury, do not operate your unit if it is not in a safe operating condition.

Be prepared for an emergency: Practise quickly opening the fastener on the waist belt, loosening the shoulder straps and setting down the unit.

Starting the Engine

Start the engine at least 3 meters from the fueling spot, outdoors only – not in confined spaces.

Your power tool is a one-person unit. Do not allow other persons to be near the running unit – even when starting.

Do not drop start the engine. The correct starting procedure is described in your instruction manual.

Place the unit on firm ground or other solid surface in an open area. Make sure you have good balance and secure footing. Hold the unit securely.

Note: As soon as the engine starts, the air flow may throw small objects (e.g. stones) in your direction.

Holding and Controlling the Unit

The unit is carried as a backpack. Hold and guide the blower tube with your right hand on the control handle.

Work at a slow walking pace, forwards only – make sure you have a good view of the nozzle outlet at all times. To reduce the risk of tripping or stumbling, do not walk backwards.

Always shut off the engine before taking the unit off your back.

During Operation

To reduce the risk of injury, never aim the airstream in the direction of bystanders since the air flow can blow small objects at great speed.

In the event of impending danger or in an emergency, switch off the engine immediately by moving the setting lever to **STOP** or **0**.

Always shut off the engine before leaving the unit unattended.

Take special care in slippery conditions – damp, snow, ice, on slopes, uneven ground, etc.

Watch out for obstacles: Roots, ditches, holes or rubbish which could cause your to trip or stumble.

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 – ensure you do not endanger others – stay alert at all times.

After finishing work, put the unit down on a level, non-flammable surface. To reduce the risk of fire, do not put it down near easily combustible materials (e.g. wood chips, bark, dry grass, fuel). Mufflers with a catalytic converter can become particularly hot.

Your power tool produces toxic exhaust fumes as soon as the engine is running. These fumes may be colorless and odorless. 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.

The dusts produced during operation may be dangerous to health. If the work area is very dusty, wear a respirator.

To reduce 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.

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 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, have the machine checked by your servicing dealer.

Using the vacuum attachment*

Warning!

To reduce the risk of personal injury from fire, never attempt to pick up hot or burning substances (e.g. smoldering ashes, glowing cigarettes).

To reduce the risk of fatal injury from fire or explosion, never attempt to pick up combustible fluids (e.g. gasoline) or any materials soaked in combustible fluids.

Vibrations

Prolonged use of the unit 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)
– breaks

The period of usage is shortened by:

– Any personal tendency to suffer from poor circulation (symptoms: frequently cold fingers, itching).
– Low outside temperatures.
– Gripping force (a tight grip hinders circulation).

Continual and regular users should monitor closely the condition of their hands and fingers. If any of the above symptoms appear, seek medical advice.

Maintenance and repairs

The machine must be serviced regularly. Do not attempt any maintenance or repair work not described in your Owner's Manual. All other work should be carried out by a servicing dealer.

STIHL recommends that maintenance and repair work be carried out only by authorized STIHL dealers. STIHL dealers receive regular training and are supplied with technical information.

Use only high-quality replacement parts, in order to avoid the risk of accidents or damage to the machine. Contact a dealer if in doubt.

STIHL recommends the use of genuine STIHL spare parts. Such parts have been optimized for the machine and the user's requirements.

Before starting any maintenance or repair work and before cleaning the machine, always **stop the engine and disconnect the spark plug boot** to avoid all **risk of injury** if the engine starts up inadvertently. – Exception: adjustment of carburetor and idle speed.

* see "Guide to Using this Manual"

Do not service or store the machine near a naked light – **risk of fire** due to the fuel.

Check fuel cap regularly for tightness.

Use only the spark plugs approved by STIHL – see Specifications.

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

To reduce the **risk of fire** due to ignition outside the cylinder, move the slide control / stop switch to **STOP** or **0** before turning the engine over on the starter with the spark plug boot removed or the spark plug unscrewed.

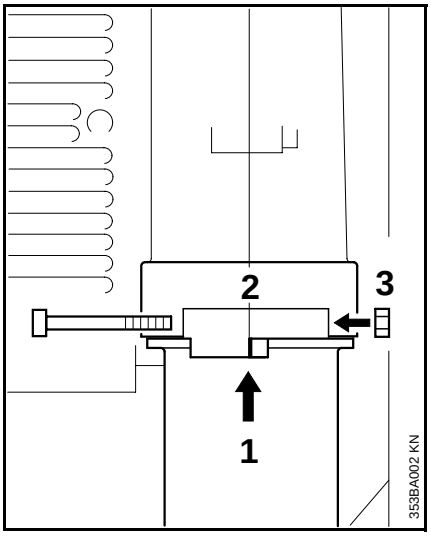
Check that the muffler is in perfect working condition.

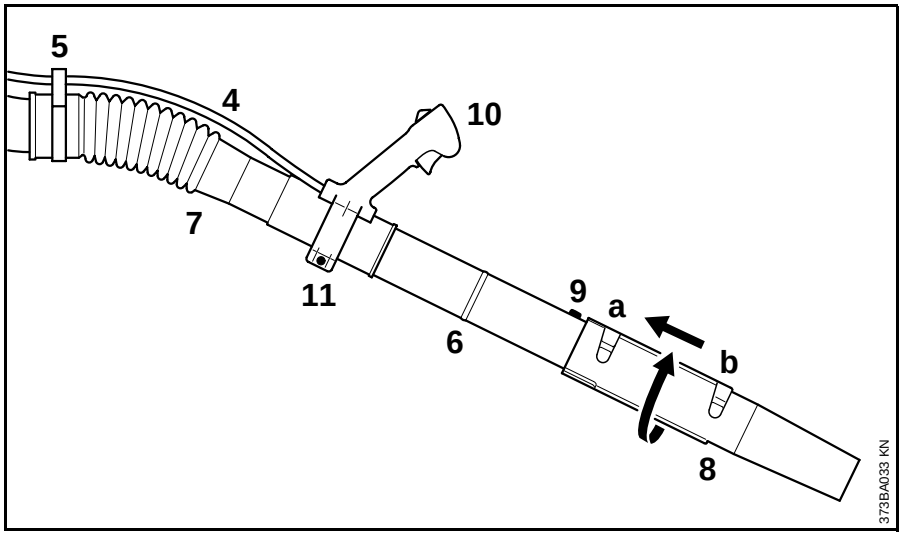
Do not use the machine if the muffler is damaged or missing – **risk of fire! – Hearing damage!**

Do not touch the hot muffler – **risk of burns!**

The condition of the anti-vibration buffers influences the machine's vibrations – they must be examined regularly.

Assembling the Blower





Mounting the Elbow

A combination wrench and carburetor screwdriver are stowed on the underside of the blower.

The throttle cable is already connected and must not be kinked during assembly.

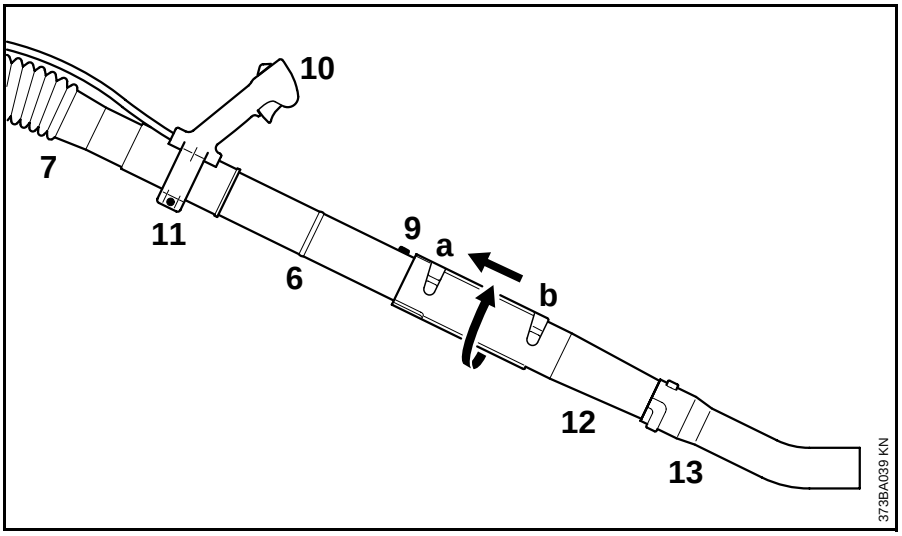
- Push the elbow (**1**) into the stub (**2**) as far as it will go – the stops on the elbow and fan housing stub must line up.
- Fit the nut (**3**) in the hexagon recess in the stub.
- Insert the screw in the nut from the other side and tighten moderately – the elbow must still turn.
- Secure the throttle cable (**4**) to the pleated hose with the retainer (**5**).

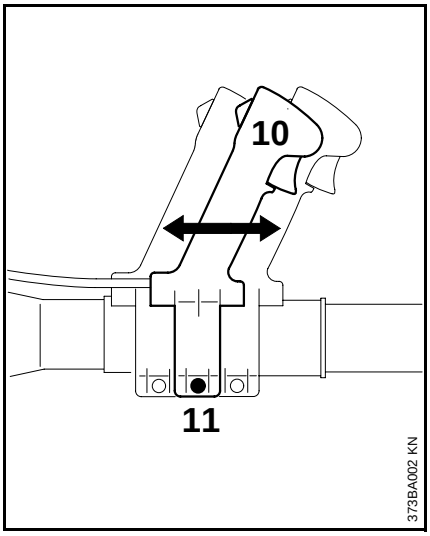
Mounting Blower Tube with Straight Nozzle*

Operate the machine only with the blower tube **and** nozzle properly mounted.

- Push the blower tube (**6**) into the pleated hose (**7**).
- Push the nozzle (**8**) onto the blower tube (**6**) to position ’a’ (long) or ’b’ (short), as far as lug (**9**), and rotate it in the direction of the arrow (clockwise) to lock.
- Rotate the pleated hose (**7**) counterclockwise as far as stop and leave it in that position.
- Turn the control handle (**10**) counterclockwise to the horizontal position and tighten down the clamp screw (**11**).

* see "Guide to Using this Manual"





Mounting Blower Tube with Curved Nozzle*

Operate the machine only with **both** blower tubes properly mounted.

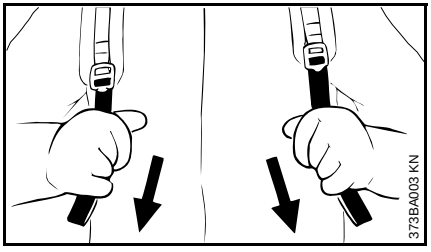
- Push the blower tube (**6**) into the pleated hose (**7**).
- Push blower tube (**12**) onto blower tube (**6**) to position 'a' (long) or 'b' (short), as far as lug (**9**), and rotate it in the direction of the arrow (clockwise) to lock.
- Fit the nozzle (**13**) on the end of the blower tube (**12**) and rotate it clockwise to engage the bayonet coupling.
- Rotate the pleated hose (**7**) counterclockwise as far as stop and leave it in that position.
- Turn the control handle (**10**) counterclockwise to the horizontal position.
- Rotate the complete blower tube assembly until the nozzle discharge opening points in the same direction as the control handle.
- Tighten down the clamp screw (**11**).

Adjusting the Control Handle

- Put the unit on your back.
- Loosen the clamp screw (**11**).
- Slide the control handle (**10**) along the pleated hose to the most comfortable position.
- Tighten down the clamp screw (**11**).

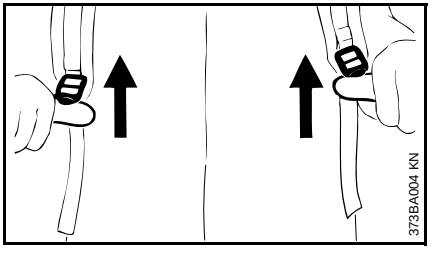
* see "Guide to Using this Manual"

Fuel



Adjusting the Harness Straps

- Pull the ends of the straps downward to tighten the harness.



Loosening the Harness Straps

- Lift the tabs of the two sliding adjusters.
- Adjust the straps so that the backplate is held firmly and comfortably against your back.

Your engine requires a mixture of gasoline and engine oil.

For health reasons, avoid direct skin contact with gasoline and avoid inhaling gasoline vapor.

STIHL MotoMix

STIHL recommends the use of STIHL MotoMix. This ready-to-use fuel mix contains no benzol or lead, has a high octane rating and ensures that you always use the right mix ratio.

STIHL MotoMix is specially formulated for use in STIHL engines and guarantees a long engine life.

MotoMix is not available in all markets.

Mixing Fuel

Unsuitable fuels or lubricants or mix ratios other than those specified may result in serious damage to the engine. Poor quality gasoline or engine oil may damage the engine, sealing rings, hoses and the fuel tank.

Gasoline

Use only high-quality brand-name gasoline with a minimum octane rating of 90 – leaded or unleaded.

If your machine is equipped with a catalytic converter, you must use unleaded gasoline.

A few tankfuls of leaded gasoline will greatly reduce the efficiency of the catalytic converter.

Engine Oil

Use only quality two-stroke engine oil. We recommend **STIHL two-stroke engine oil since it is specially formulated for use in STIHL engines and guarantees a long engine life**.

If STIHL two-stroke engine oil is not available, use only quality two-stroke oil designed for use in air cooled engines. Do not use oils designed for water cooled engines or engines with a separate lubricating system (e.g. conventional four-stroke engines).

Use only **STIHL 50:1 two-stroke engine oil** for the fuel mix in models with a catalytic converter.

Fueling

Mix Ratio

STIHL 50:1 two-stroke engine oil:
50 parts gasoline to 1 part oil

Other high-quality two-stroke engine oils:
25 parts gasoline to 1 part oil

Examples

Gasoline	STIHL engine oil 50:1		Other high-quality two-stroke engine oils: 25:1	
Liters	Liters	(cc)	Liters	(cc)
1	0.02	(20)	0.04	(40)
5	0.10	(100)	0.20	(200)
10	0.20	(200)	0.40	(400)
15	0.30	(300)	0.60	(600)
20	0.40	(400)	0.80	(800)
25	0.50	(500)	1.00	(1000)

- Use a canister approved for storing fuel. Pour oil into the canister first, then add gasoline and mix thoroughly.

Storing Fuel

Store fuel only in approved safety-type fuel canisters in a dry, cool and safe location protected from light and the sun.

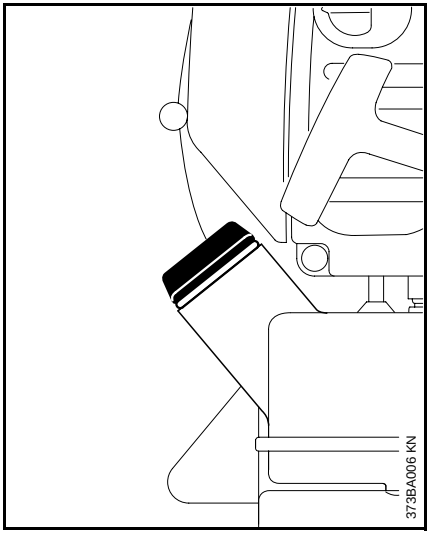
Fuel mix ages:
Only mix sufficient fuel for a few weeks work. Do not store fuel mix for longer than 3 months.
Exposure to light, the sun, low or high temperatures can quickly make the fuel mix unusable.

- Thoroughly shake the mixture in the canister before fueling your machine.

⚠ Pressure may build up in the canister – open it carefully.

- Clean the fuel tank and canister from time to time.

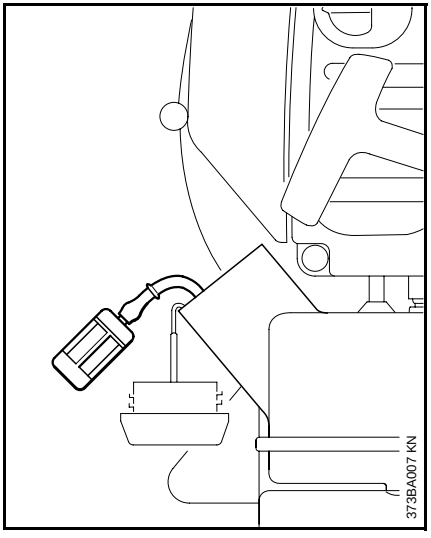
Dispose of remaining fuel and cleaning fluid properly in accordance with local regulations and environment requirements.



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

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

⚠ After fueling, tighten down filler cap by hand **as securely as possible**.



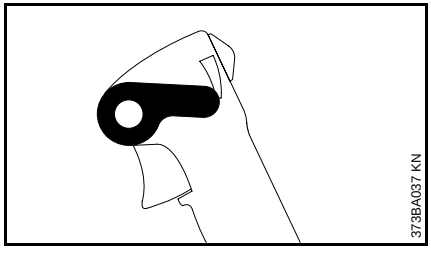
Change the fuel pickup body once every year

- Drain the fuel tank.
- Use a hook to pull the fuel pickup body out of the tank and take it off the hose.
- Push the new pickup body into the hose.
- Place the pickup body in the tank.

Information Before You Start

With the engine stopped and before starting, check the air intakes between the backplate and powerhead for blockages and clean if necessary.
A protective screen is available as a special accessory to keep the air intakes clear.

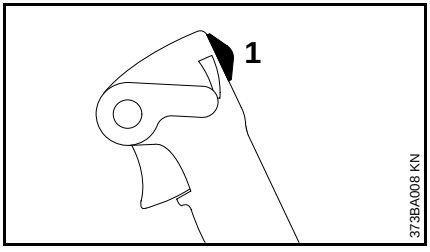
Only machines with catalytic converter

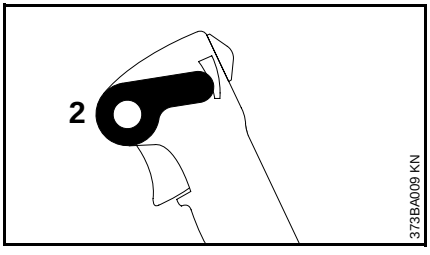


- Move the setting lever to idle position.

Machines with a catalytic converter must always be switched off with the setting lever in the idle position because the throttle cable will otherwise disconnect itself from the throttle trigger.
The throttle cable reconnects itself automatically when the setting lever is moved to the idle position.

Starting / Stopping the Engine



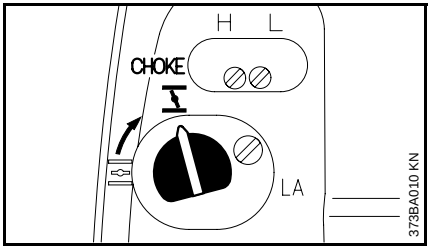


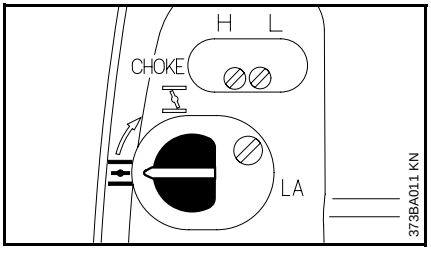
- Observe safety precautions – see chapter “Safety Precautions and Working Techniques”.
- Slide the stop switch **(1)** to I
- Move the setting lever **(2)** to the center position – **this is the starting throttle position**

Note:

The setting lever can be used to select any throttle opening between idle speed (lower stop) and full throttle (upper stop).

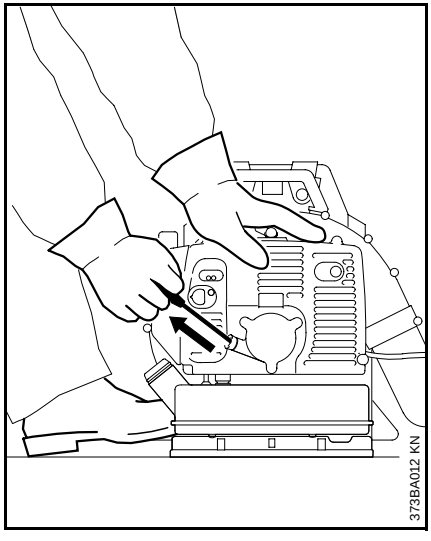
Set the lever to idle position before switching off the engine.



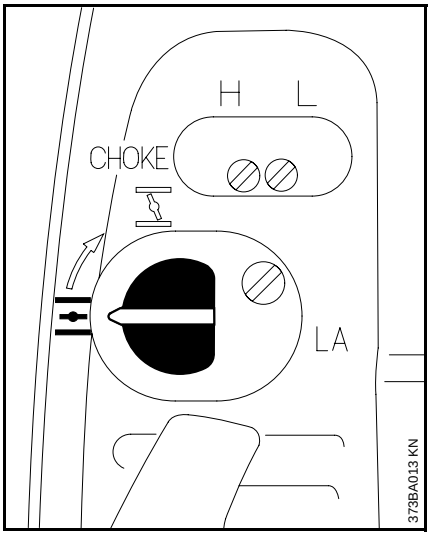


- If the engine is **cold**, turn the choke knob to
- If the engine is **warm**, turn the choke lever to

  Also use this position if the engine has been running but is still cold.

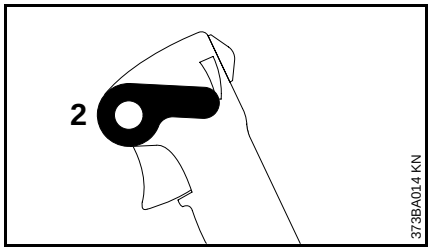


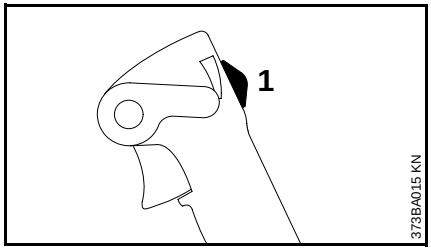
- Put the unit on the ground. Check that bystanders are well clear of the general work area and the nozzle.
- Make sure you have a firm footing: Hold the unit with your left hand on the housing and put one foot against the base plate to prevent it slipping.
- Pull the starter grip slowly with your right hand until you feel it engage and give it a brisk strong pull. Do not pull the starter rope out all the way as 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.



When engine begins to fire:

- If engine is **cold**:
  Turn choke knob to ⇆ and continue cranking until engine runs.
- If engine is **warm**:
  Continue cranking until engine runs.





As soon as engine runs:

- Move the setting lever **(2)** to the lower stop so that the engine settles down to idle speed.

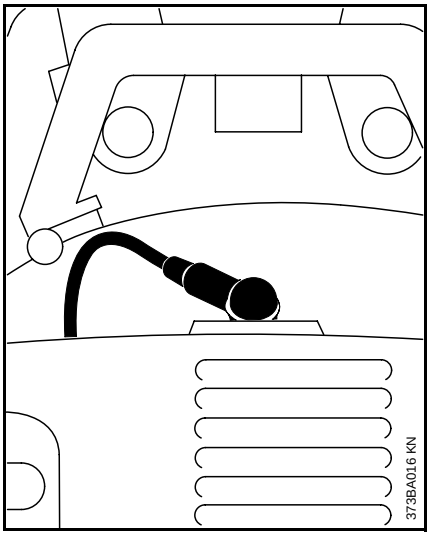
To shut down the engine:

- Slide the stop switch **(1)** to **0**

At very low outside temperatures:
Allow engine to warm up

As soon as engine runs:

- Move the setting lever to the lower stop – the engine settles down to idle speed.
- Open throttle slightly – warm up engine for a short period.



If the engine does not start:

If you did not turn the choke knob to ⇆ quickly enough after the engine began to fire, the combustion chamber is flooded.

- Pull off the spark plug boot.
- Unscrew and dry off the spark plug.
- Set the stop switch to **0**
- Open the throttle fully.
- Pull the starter rope several times to clear the combustion chamber.

- Fit the spark plug and reconnect the spark plug boot.
- Move the stop switch to I
- Turn the choke knob to even if the engine is cold.
- Now start the engine.

Fuel tank run until dry and then refueled

- Pull the starter rope several times to prime the fuel line.

Operating Instructions

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.

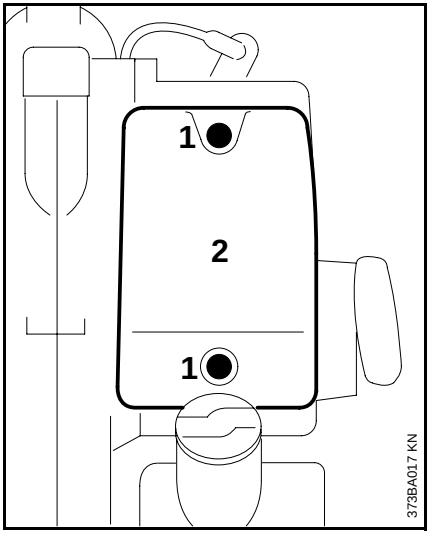
During operation

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

After finishing work

Storing for short period:
Wait for engine to cool down. Drain the fuel tank and keep the unit in a dry place, away from sources of ignition, until you need it again.
Storing for a long period:
see chapter "Storing the Machine".

Cleaning the Air Filter

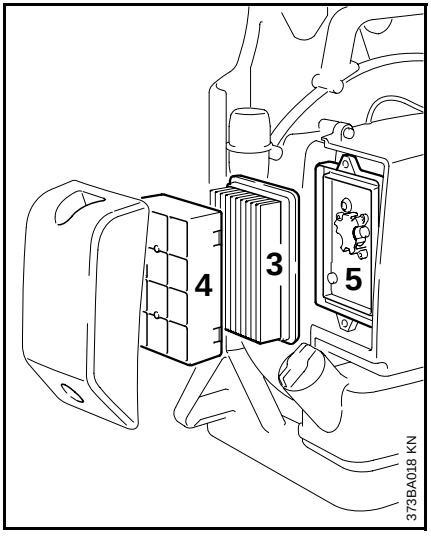


Dirty air filters reduce engine power increase fuel consumption and make starting more difficult.

If there is a noticeable loss of engine power

- Turn choke knob to
- Release the screws (**1**) and pull off the filter cover (**2**).

Adjusting the Carburetor



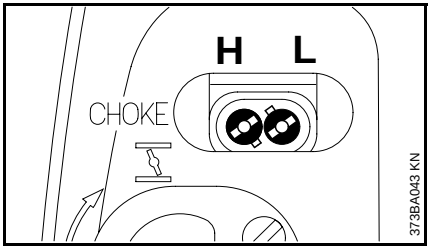
- Remove the main filter (**3**) from the cover and inspect it – if it is dirty or damaged, fit a new one.
- Always install a new prefilter when you change the main filter.
- Take the prefilter (**4**) out of the filter cover.
- If the prefilter is wet, dry it – then knock it out on the palm of your hand or blow out with compressed air.
- Always replace a damaged prefilter.
- Clean loose dirt from the filter cover and filter chamber.
- Install the main filter and prefilter elements in the filter cover.
- Fit the cover on the filter base (**5**) and tighten it down firmly.

The carburetor comes from the factory with a standard setting.

This setting provides an optimum fuel-air mixture under most operating conditions.

With this carburetor it is only possible to correct the adjustment of the high speed and low speed screws within fine limits.

Standard Setting

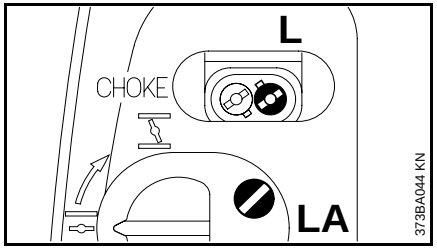


- Shut off the engine.
- Check the air filter and clean or replace if necessary.
- Check the spark arresting screen (if fitted) in the muffler and clean or replace if necessary.
- Carefuly turn both adjusting screws counterclockwise as far as stop:

  High speed screw (**H**) is now open 1/4 turn

  Low speed screw (**L**) is now open 1/4 turn
- Start and warm up the engine.

Adjusting Idle Speed



Engine stops while idling

- Turn the idle speed screw (**LA**) clockwise until the engine runs smoothly.

Erratic idling behavior, engine stalls even after re-adjusting LA screw, poor acceleration

Idle setting is too lean:

- Turn low speed screw (**L**) counterclockwise – no further than stop – until the engine runs and accelerates smoothly.

Erratic idling behavior

Idle setting is too rich:

- Turn low speed screw (**L**) clockwise – no further than stop – until the engine runs and still accelerates smoothly.

It is usually necessary to change the setting of the idle speed screw (**LA**) after every correction to the low speed screw (**L**).

Fine tuning for operation at high altitude

A slight correction of the setting may be necessary if engine power is not satisfactory:

- Check standard setting.
- Warm up the engine.
- Turn the high speed screw (**H**) clockwise (leaner) – no further than stop.

If the setting is too lean, there is a risk of engine damage due to insufficient lubrication and overheating.

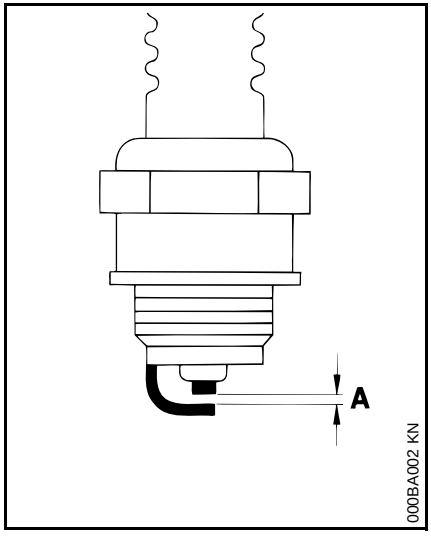
Catalytic Converter*

Power tools with a catalytic converter* may only be operated with **unleaded gasoline** and **STIHL two-stroke engine oils** in a mix ratio of 50:1 (see chapter “Fuel”).

The catalytic converter in the muffler reduces noxious emissions in the exhaust gas.

Correct adjustment of the carburetor (if adjustable) and observance of the specified mix ratio of gasoline and two-stroke engine oil are essential to minimize harmful exhaust emissions and ensure a long catalyst service life.

Checking the Spark Plug



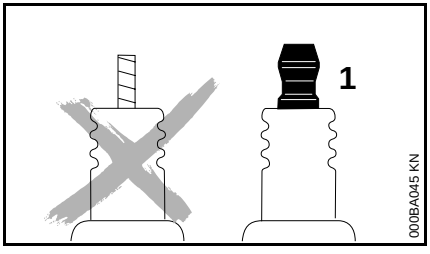
If engine is down on power, difficult to start or runs poorly at idle speed, first check the spark plug.

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

– To much oil in fuel mix.
– Dirty air filter.
– Unfavorable running conditions.

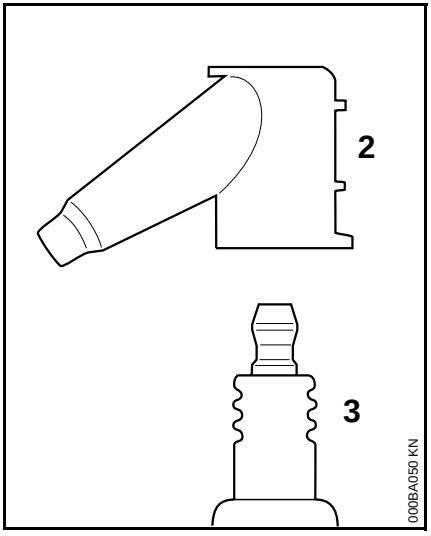
- **Fit a new spark plug after about 100 operating hours** – or sooner if the electrodes are badly eroded.
  Install only suppressed spark plugs of the type approved by STIHL – see "Specifications".

To reduce the risk of arcing and fire:



- If the spark plug comes with a detachable adapter nut (**1**), screw it on **firmly**.

* see “Guide to Using this Manual”



On all spark plugs:

- Always press the boot (**2**) **firmly** on to the spark plug (**3**).

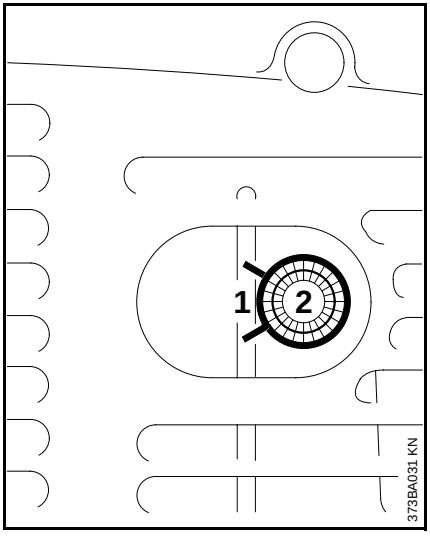
Engine Running Behavior

If engine running behavior is unsatisfactory even though the air filter is clean and the carburetor properly adjusted, the cause may be in the muffler.

- Have the muffler checked for contamination (coking).

STIHL recommends that all maintenance and repair work be carried out by an authorized STIHL dealer.

Spark Arresting Screen in Muffler

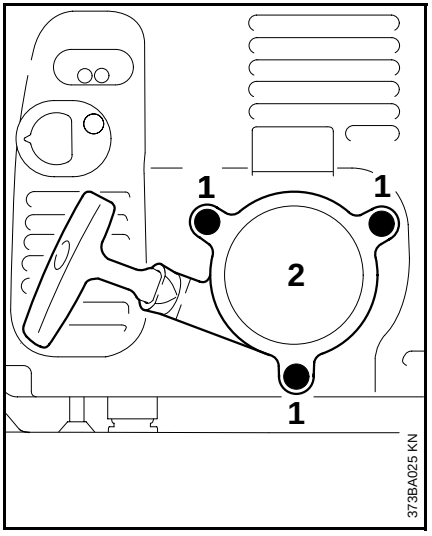


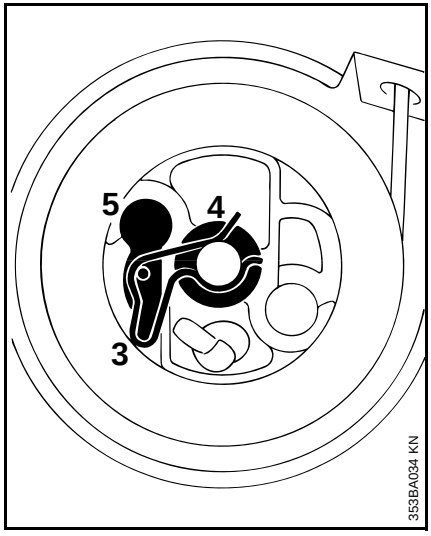
If the engine is down on power or does not run smoothly at maximum RPM, check the spark arresting screen (if fitted) in the muffler.

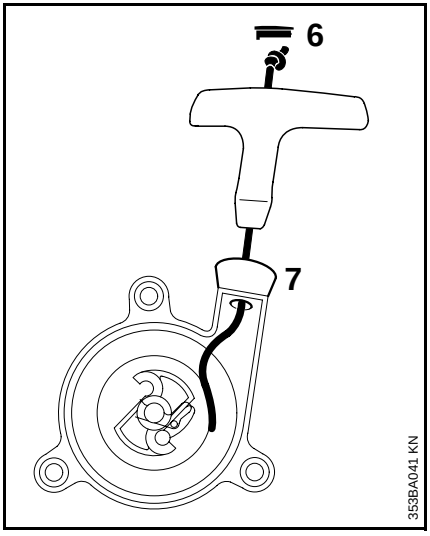
⚠ Wait until engine has cooled down completely before performing the following operations.

- Use suitable tool to squeeze ends of clip (**1**) together and then lift the clip away.
- Pull the spark arresting screen (**2**) out of the muffler.
- Clean the spark arresting screen.
- If the screen is damaged or heavily carbonized, fit a new one.

Replacing Starter Rope and Rewind Spring

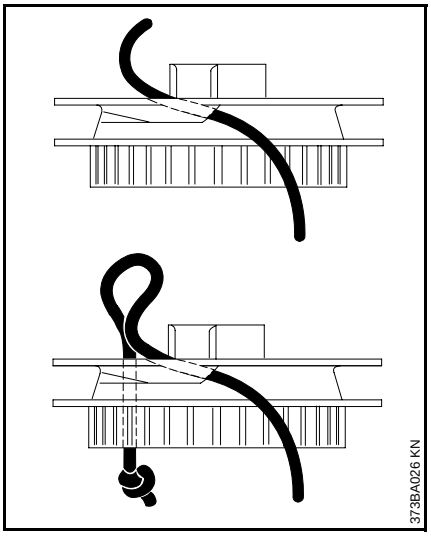




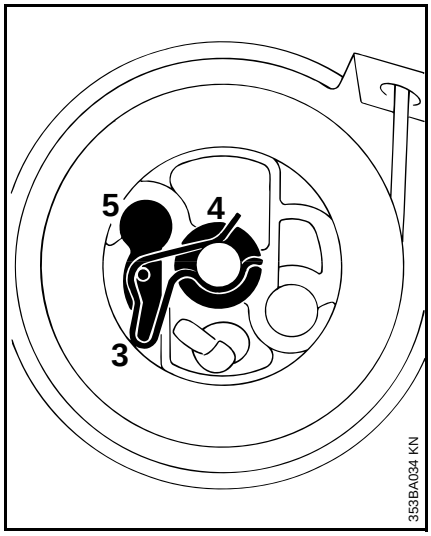


Replacing the starter rope

- Remove the screws **(1)**.
- Take the starter cover **(2)** off the engine.
- Remove the spring clip **(3)**.
- Remove the rope rotor with washer **(4)** and pawl **(5)**.
- Ease the cap **(6)** out of the starter grip.
- Remove remaining rope from the rotor and grip.
- Tie a simple overhand knot in the end of the new starter rope and then thread the rope through the top of the grip and the rope bushing **(7)**.
- Refit the cap in the grip.



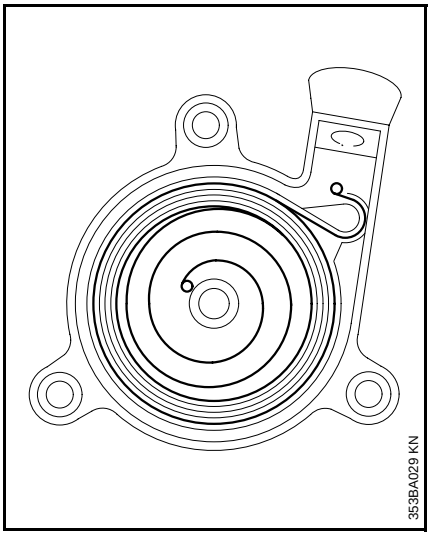
- Thread the rope through the rotor and secure it in the rotor with a simple overhand knot.



- Fit the pawl **(5)** in the rotor and slip the washer **(4)** over the starter post.
- Use a screwdriver or suitable pliers to install the spring clip **(3)** on starter post and over the peg on the pawl – the spring clip must point clockwise – see illustration.
  Go to “Tensioning rewind spring”.

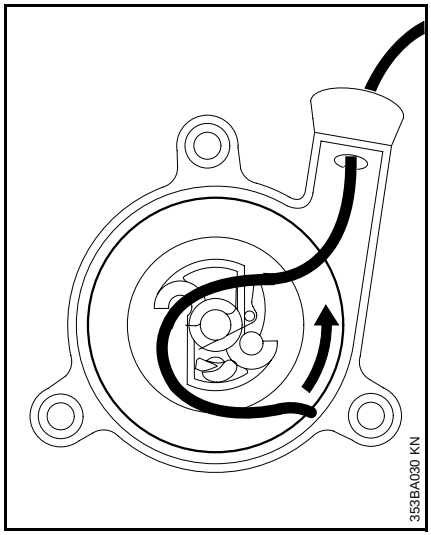
Replacing a broken rewind spring

- Lubricate the new spring with a few drops of non-resinous oil.
- Remove the rope rotor as described in “Replacing the starter rope”.
- Remove parts of old spring.



- Fit new spring housing – bottom plate must face downward. Engage outer spring loop over the lug.
- Refit the rope rotor.
  Go to “Tensioning rewind spring”.

  If the spring pops out and uncoils during installation: Refit it in the spring housing in the counter-clockwise direction – start outside and work inward.



Tensioning rewind spring

- Make a loop in the unwound starter rope and use it to turn the rope rotor six full revolutions in the direction of the arrow (see illustration).
- Hold the rotor steady – straighten the twisted rope.
- Release the rotor and let go of rope slowly so that it winds onto the rotor.

  The starter grip must sit firmly in the rope guide bushing. If the grip droops to one side: Increase spring tension by one additional turn.

  When the starter rope is fully extended it must be possible to rotate the rotor at least another half turn. If this is not possible, the spring is overtensioned and could break. Take one turn of the rope off the rotor.

- Fit the starter cover on the engine.
- Tighten down the screws firmly.

Storing the Machine

For periods of about 3 months or longer:

- Drain and clean the fuel tank in a well ventilated area.
- Dispose of remaining fuel and cleaning solution properly in accordance with local environmental requirements.
- Run engine until carburetor is dry – this helps prevent carburetor diaphragms sticking together.
- Thoroughly clean the machine – pay special attention to the cylinder fins and air filter.
- Store the machine in a dry, high or locked location – out of the reach of children and other unauthorized persons.

Maintenance Chart

The following maintenance intervals apply to normal operating conditions only. If your daily working time is longer than normal 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	if required
Complete machine	Visual inspection (conditon, leaks)	x		x						
	Clean		x							
Control handle	Check operation	x		x						
Air filter	Clean							x		
	Replace								x	
Pick up body in fuel tank	Check							x		
	Replace						x			x
Fuel tank	Clean					x				
Carburetor	Check idle setting	x		x						
	Readjust idle									x
Spark plug	Readjust electrode gap							x		
	Replace after about 100 operating hours									
Cooling air intakes	Clean				x					
Spark arresting screen in muffler	Check									x
	Clean or replace							x		
All accessible screws and nuts (not adjusting screws)	Tighten									x
Anti-vibration elements	Check	x								
	Have replaced by servicing dealer[1)]							x	x	
Blower air intake screen	Check	x		x						
	Clean									x
Safety label	Replace								x	

1) STIHL recommends that this work be done by a STIHL servicing dealer

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.

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 maintenance and repair work carried out only by an authorized STIHL servicing dealer. STIHL servicing dealers are able to attend regular training courses and receive technical information bulletins on the latest engineering changes.

If these operations are not carried out as specified, the user assumes responsibility for any damage that may occur. Among other things, this includes:

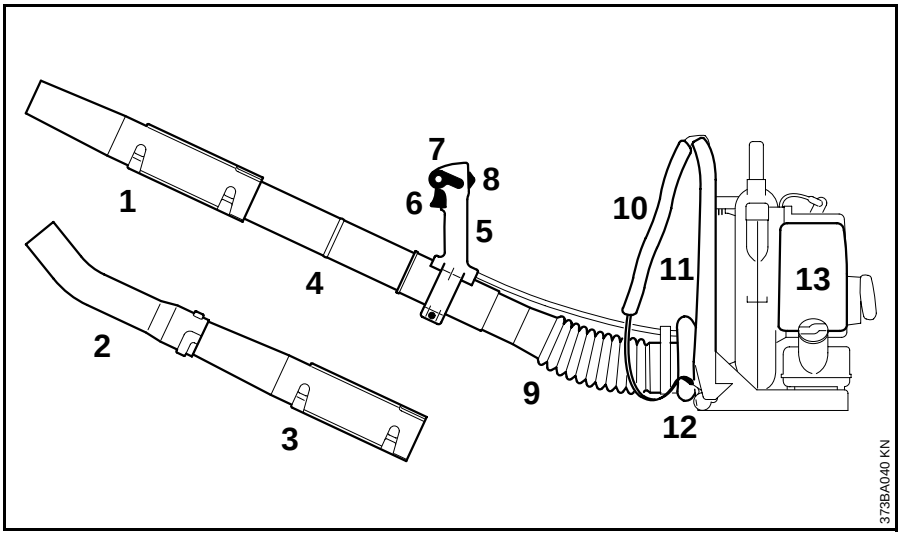
– Damage to the engine due to neglect or deficient maintenance (e.g. of air and fuel filters), incorrect carburetor adjustment or inadequate cleaning of cooling air inlets (intake ports, cylinder fins).
– Corrosion and other consequential damage resulting from improper storage.
– Damage to the product resulting from the use of poor quality replacement parts.

Parts Subject to Wear and Tear

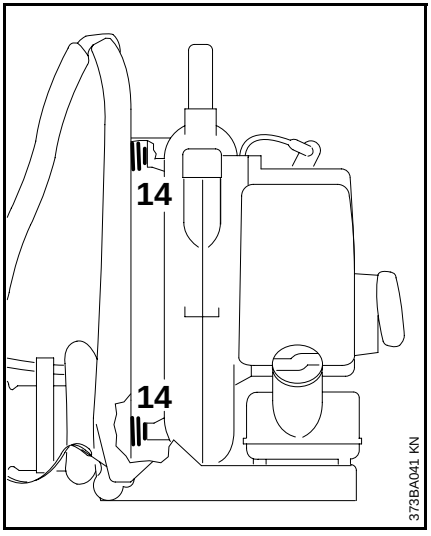
Some parts of the power tool are subject to normal wear and tear even during regular operation in accordance with instructions and, depending on the type and duration of use, have to be replaced in good time.
Among other parts, this includes:

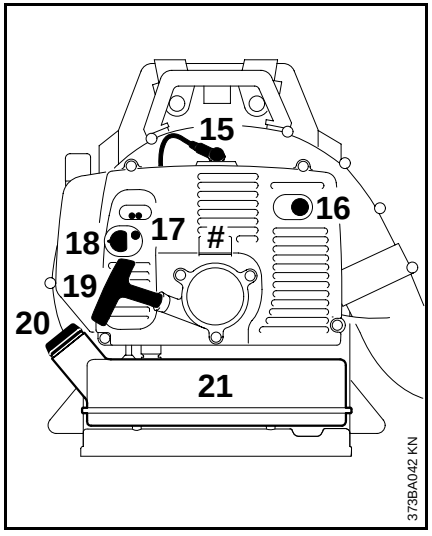
– Filters (air, fuel)
– Fanwheel, shredder blade
– Catcher bag
– Starter mechanism
– Spark plug
– Components of anti-vibration system

Parts and Controls



1 Nozzle, straight*
2 Nozzle, curved*
3 Blower tube*
4 Blower tube
5 Control handle
6 Throttle trigger
7 Setting lever
8 Stop switch
9 Pleated hose
10 Harness
11 Back plate
12 Back padding
13 Air filter





14 Antivibration elements
15 Spark plug boot
16 Muffler (with spark arresting screen)*
17 Carburetor adjusting screws
18 Choke knob
19 Starter grip
20 Fuel filler cap
21 Fuel tank
Serial number

* see “Guide to Using this Manual”

Specifications

BR 420

Single cylinder two-stroke engine

Displacement:	56.5 cm^3
Bore:	46 mm
Stroke:	34 mm
Idle speed:	3,100 rpm

Ignition System

Type:	Electronic magneto ignition
Spark plug (suppressed):	Bosch WSR 6 F or NGK BPMR 7 A;
Electrode gap:	0.5 mm

Fuel System

Carburetor:	All position diaphragm carburetor with integral fuel pump
Fuel tank capacity:	1.5 l (1,500 cm^3)
Fuel mix:	see chapter “Fuel”

Blower Data

Air velocity

BR 420:	78 m/s
BR 420 (catalytic converter):	77 m/s

Max. air flow rate without blower tube

BR 420:	1260 m^3/h
BR 420 (catalytic converter):	1230 m^3/h

Air flow rate with nozzle

BR 420:	890 m^3/h
BR 420 (catalytic converter):	880 m^3/h

Rewind Starter

Starter rope: 3.5 mm dia. x 960 mm

Weight

BR 420:	9,1 kg
BR 420 (catalytic converter):	9,3 kg

Noise and Vibration Data

Noise and vibration data are measured at idling and maximum rated speed in a ratio of 1:6.

Sound pressure level L_{peq} to EN ISO 11201

BR 420:	101 dB (A)
BR 420 (catalytic converter):	98 dB (A)

Sound power level L_{weq} to ISO 3744

BR 420:	108 dB (A)
BR 420 (catalytic converter):	107 dB (A)

Vibration measurement $a_{hv,eq}$ to ISO 8662 Handle

BR 420:	1,3 m/s^2
BR 420 (catalytic converter):	1,3 m/s^2

For further details concerning compliance with the employers’ directive on vibrations 2002/44/EC see www.stihl.com/vib

Special Accessories

Blower to sprayer conversion kit

Vacuum attachment

Backrest padding

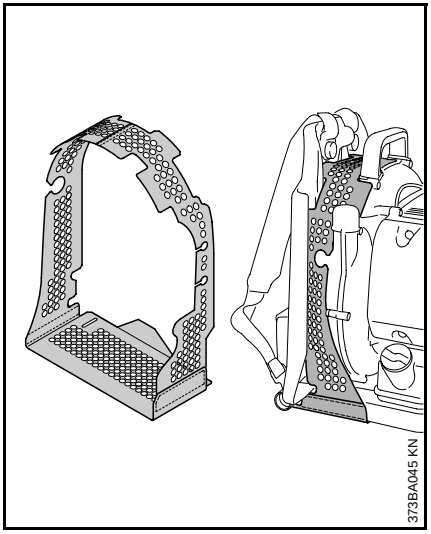
Hip belt

Blower tube with straight nozzle*

Blower tube with curved nozzle*

Fan nozzle (broad airstream)

Protective screen



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Contact your STIHL dealer for the latest information on these and other special accessories.

* see "Guide to Using this Manual"

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 all maintenance and repair work be carried out by an authorized STIHL dealer. STIHL dealers regularly 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 equivalent. Only use high-quality replacement parts in order to avoid the risk of accidents or damage to the machine.

STIHL recommends the use of genuine 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.

Certificate of Conformity

ANDREAS STIHL AG & Co. KG
Badstr. 115
71336 Waiblingen

certify that the new machine described below

Category:	Blower
Make:	STIHL
Model:	BR 420
Serial identification:	4203
Displacement:	56,5 cm^3

conforms to the specifications of Directives 98/37/EC, 89/336/EEC and 2000/14/EC.

The products have been developed and manufactured in compliance with the following standards:
EN ISO 12100, EN 61000-6-1, EN 55012.

The measured and guaranteed sound power level was determined according to Directive 2000/14/EEC, Annex V, using the ISO 11094 standard.

Measured sound power level:
BR 420 107 dB(A)
BR 420 (catalytic converter) 106 dB(A)

Guaranteed sound power level:
BR 420 108 dB(A)
BR 420 (catalytic converter) 107 dB(A)

Technical documents deposited at:
ANDREAS STIHL AG & Co. KG
Produktzulassung
(Product Licensing)

Done at Waiblingen,
10/04/2006

ANDREAS STIHL AG & Co. KG

Elsner

Director Group Product Management

Quality Certification

All STIHL products comply with the highest quality standards.

An independent organization has certified that all products manufactured by STIHL meet the strict requirements of the ISO 9001 standard for quality management systems in terms of product development, materials purchasing, production, assembly, documentation and customer service.

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englisch / English