STIHL RE 232, 272 PLUS, 282 PLUS



Gebrauchsanleitung Instruction Manual Notice d'emploi Manual de instrucciones

Istruzioni d'uso Instruções de serviço Handleiding οδηγίες χρήσης



Contents

Guide to Using this Manual	37
Safety Precautions and Working	
Techniques	37
Assembling the Unit	44
Transporting the Unit	45
Fitting, removing spray lance	46
Fitting, removing high-pressure	
hose	46
Connecting the water supply	47
Connecting to a pressureless water	
supply	47
Connecting to Power Supply	48
Switching On	49
Working	49
Adding detergent	50
Tips for operation	52
Switching Off	53
After Finishing Work	53
Storing the Machine	54
Maintenance and Care	55
Maintenance	56
Checking the oil level	57
First use after long periods of	
storage	57
Minimize Wear and Avoid Damage	58
Main Parts	59
Specifications	63
Troubleshooting	65
Maintenance and Repairs	67
Disposal	67
EC Declaration of Conformity	67



This instruction manual is protected by copyright. All rights reserved, especially the rights to reproduce, translate and process with electronic systems.

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 troublefree use of the product.

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

Your

Dr. Nikolas Stihl

Guide to Using this Manual

Pictograms

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

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.

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.

Safety Precautions and Working Techniques



Special safety precautions must be observed when using this machine because it uses electrical power.

It is important you read and understand the Instruction Manual before first use and keep the manual in a safe place for future reference. Non-observance of the Instruction Manual may result in serious or even fatal injury.

- Children or youngsters should never be allowed to use the machine. Supervise children to ensure that they do not play with the machine.
- The machine should only be provided or loaned to people familiar with this model and its operation. The instruction manual should always be handed over with the machine.
- Do not use the machine if anyone not wearing protective clothing is in the working area.
- Before starting any work on the machine, e. g., cleaning, servicing, replacement of parts unplug the power plug!
- Aerosols may form when using a high-pressure cleaner. Inhaling aerosols can be harmful to health. To determine the measures necessary for protection against aqueous aerosols, before starting work a risk assessment should be

carried out according to the surface to be cleaned and the surrounding area. Respiratory masks of class FFP2 or higher offer protection against aqueous aerosols.

Comply with national safety regulations issued, e.g. by employers' liability insurance associations, social security institutions, occupational safety and health authorities or other organizations.

When the machine is not in use, shut it off so that it does not endanger others. Ensure that the machine cannot be used without authorization; unplug the power plug.

The machine may only be used by persons who have been duly trained to use and handle it or who can demonstrate that they can operate the machine safely.

The machine can be used by persons with limited physical, sensory or mental capacity or with little experience and know-how as long as they are supervised and have been instructed on how to handle the machine safely and understand the associated risks.

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

If you have not used this machine model before: Have your STIHL dealer or another expert show you how to use it safely.

In some countries, operation of machines that emit noise may be restricted by municipal regulations. Observe national regulations.

Always check that the machine is in good working order before starting work. Pay particular attention to the connecting cord, power plug, high-pressure hose, spray attachment and safety mechanisms.

Never operate the machine with a defective high-pressure hose – ensure that it is replaced immediately.

The machine may only be used when all parts are in perfect working order. The high-pressure hose must not be driven over, pulled, buckled or twisted.

Do not use the high-pressure hose or connecting cord to pull or transport the machine.

The high-pressure hose must be approved for the permissible excess pressure of the machine.

The permissible excess pressure, the maximum permitted temperature and the date of manufacture are stated on the cladding of the high-pressure hose. The permissible pressure and date of manufacture are specified on the fittings.

Accessories and Spare Parts

WARNING

 High-pressure hoses, fittings and couplings are important for machine safety. Only high-pressure hoses, fittings, couplings and other accessories which have been approved by STIHL for this machine or technically equivalent parts may be mounted on the machine. If you have any questions in this respect, consult a servicing dealer. Use only high-quality accessories. Otherwise, there may be a risk of accidents or damage to the unit.

 STIHL recommends the use of genuine STIHL parts and accessories. These have been optimized for the product and the user's requirements.

Do not modify the machine – otherwise the safety may be endangered. STIHL excludes all liability for personal injury and damage to property caused while using unauthorized attachments.

Physical suitability

The machine may only be operated by people who are rested, in good physical condition and mental health. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating this machine. Anyone who has consumed alcohol, medicines affecting their ability to react or drugs must not operate the machine.

Areas of application

The high-pressure cleaner can be used to clean surfaces, motor vehicles, machines, tanks, facades or stables and to remove rust without dust or sparks.

Other uses are not permitted and may lead to accidents or damage to the machine.

Do not operate the machine at temperatures near or below 0 °C (32 °F).

Clothing and equipment

Wear shoes with non-slip soles.



To reduce the risk of eye injuries, wear tight-fitting safety goggles conforming to standard EN 166. Make sure that the safety goggles fit correctly.

Wear protective clothing. STIHL recommends that a boiler suit be worn in order to reduce the risk of injury due to accidental exposure to the high-pressure jet.

Transport

When transporting in and on vehicles:

- Secure the high-pressure cleaner in accordance with the regulations applicable in the country of use to prevent toppling over and damage
- Drain the detergent tank and secure it to prevent toppling over

Antifreeze is recommended if the machine and accessories are to be transported at temperatures near or below 0 °C (32 °F) - see "Storage".

Detergents

WARNING

- The machine was designed for use with the detergents offered or recommended by the manufacturer.
- Use only detergents that are approved for use with high-pressure cleaners. Use of unsuitable detergents can cause damage to health, as well as to the machine and the object to be cleaned. If you have any questions in this respect, consult a servicing dealer.

- Always use detergent in the specified dosage – follow the corresponding instructions for use of the detergent.
- Chemical detergents may contain physiologically harmful (toxic, caustic, irritant), flammable or explosive substances. In the event of skin or eye contact with detergent, flush the affected body parts with plenty of clean water immediately. If detergent is swallowed, seek medical attention immediately. Note the manufacturer's safety data sheets!

Before starting work



Do not connect the high-pressure cleaner directly to the drinking water main.

Only connect the highpressure cleaner to the drinking water main in conjunction with a back flow preventer – see "Special accessories".

WARNING

 If drinking water has passed through the back flow preventer, it can no longer be regarded as drinking water.

Do not use the machine with dirty water.

If there is a risk that dirty water will occur (e. g., flowing sand), an appropriate water filter must be used.

Inspect the high-pressure cleaner

WARNING

- The high-pressure cleaner should only be used if it is in full working order and undamaged – risk of accident!
- It must be possible to move the switch to the 0 position easily
- The switch must be in the **0** position
- Do not use the machine with a damaged highpressure hose, spray attachment and safety devices

- High-pressure hose and spray attachment in good condition (clean, moving easily) and correctly assembled
- For good control of the machine, the handles should be clean and dry with no oil or dirt on them
- Check oil level
- Never attempt to modify the controls or safety devices in any way
- Set up the machine so that it cannot slip or tip over. Only operate the machine on a stable and level ground

Electrical connection

WARNING

Minimize the risk of electrical shock:

- Voltage and frequency of the machine (see rating plate) must match the voltage and frequency of the mains supply
- Examine the connecting cord, power plug and extension cord for damage. Do not use the machine with a damaged connecting cord, extension cord or damaged power plug
- Only connect the machine to a correctly installed power socket
 - The insulation on the connecting cord and any extension cord, the plug and the coupling must be fully intact
 - Never touch the power plug, connecting cord and extension cord, and electrical plug connections with wet hands

Route the connecting cord and extension cord properly:

- Observe the minimum cross-section of the individual cords – see "Connecting the machine to the power supply"
- Route and mark the power cord so that it cannot become damaged and no one is endangered – risk of stumbling!
- Use of unsuitable extension cords can be dangerous. Use only extension cords that are approved for outdoor use and are correspondingly marked and have a sufficient cross-section
- The connector and coupling of the extension cord must be waterproof and must not lie in water
- It is advisable to keep the plug connection at least 60 mm above the ground/floor, e. g. by using a cable reel
- Don't let the cord rub against edges or pointed or sharp objects

- Don't squeeze the cord under doors or windows
- If cords become snarled unplug the power plug and unsnarl the cord
- Always unroll the power cord from the cable reel completely, to avoid risk of fire due to overheating.

During operation

WARNING

 Never draw in fluids containing solvents or undiluted acids and solvents (e. g., gasoline, heating oil, paint thinner or acetone). These substances damage the materials used in the machine. The spray is highly combustible, explosive and poisonous.



The plug must be disconnected immediately if the cord is damaged – danger of electrocution!







Never direct the high-pressure jet or water hose against the machine itself or against other electrical appliances and equipment – danger of shortcircuiting!

Never direct the high-pressure jet or water hose against electrical equipment, connections and power cords – danger of shortcircuiting!

Never direct the high-pressure jet against yourself or other people, not even to clean clothing or shoes – **risk of injury!**

Ensure you always have a firm and safe footing.

The machine may only be operated in an upright position.

Beware of **slipping** on ice, water, snow or uneven ground!

Keep the high-pressure cleaner as far away as possible from the object being cleaned.

Do not cover the machine. Ensure adequate motor ventilation.

Do not direct the highpressure jet toward animals.

Do not direct the highpressure jet onto places you cannot see.

Keep children, animals and bystanders at a safe distance.

Hazardous substances (e. g. asbestos or oil) must not be allowed to escape into the environment unchecked when working with the machine. The applicable environmental regulations must be observed without fail.

Surfaces of asbestos cement must never be cleaned with a high-pressure jet. Hazardous, breathable asbestos fibers may be released in addition to the dirt. The danger is greatest when the washed surface has dried. Delicate parts made of rubber, fabric or similar materials must not be cleaned with a pencil jet, e. g. from the rotary nozzle. Maintain a sufficient distance between the highpressure hose and the surface when cleaning to avoid any damage to the surface being cleaned.

The trigger on the spray gun must move easily and automatically return to its starting position when released.

Hold the spray attachment firmly with both hands in order safely to withstand the kickback force and additional torque produced when using spray attachments with an angled spray lance.

Do not buckle or loop the highpressure hose.

Ensure that the connecting cord and the high-pressure hose are not damaged by being driven over, squashed or pulled; protect them against heat and oil.

Do not touch the connecting cord with the high-pressure jet.

If the machine is subjected to a strain for which it was not designed (e. g., heavy impact or a fall), always check that it is in good condition before continuing work - refer also to the chapter "Before starting work". Also make certain that the safety mechanisms are working properly. Never continue using a machine that is not in perfect working order. In case of doubt, have the unit checked by your servicing dealer.

Before leaving the machine unattended: Switch off the machine – unplug the power plug.

Safety equipment

When the safety equipment is activated, excessive pressure is returned to the intake side of the pump via a safety valve. This safety feature has been set by the manufacturer and must not be adjusted.

After finishing work



Switch off the machine before leaving it!

- Unplug the power plug from the socket
- Disconnect water intake hose between machine and water supply

Never unplug the power plug by pulling on the connecting cord: always grip the plug itself.

Maintenance and repairs

WARNING



Before starting any work on the machine: Always disconnect the machine from the mains power supply.

- Use only high-quality spare parts. Otherwise, there may be a risk of accidents and damage to the unit. If you have any questions in this respect, consult a servicing dealer.
- To avoid risks, work on the machine (e. g. replacing a damaged power cord) may only be carried out by authorized dealers or qualified electricians.

Clean plastic parts with a cloth. Harsh detergents can damage the plastic.

Clean ventilation slots in motor housing as needed.

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

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

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.

Assembling the Unit

Various accessory parts must be mounted on the machines before starting for the first time.

Hose connection at the water intake

without water filter



• Remove protective cap (1) from the connector

Ensure that the water intake strainer is present in the connector.

Attach the hose connector (2) and tighten it by hand

with water filter



- Remove protective cap (1) from the water inlet
- Fit and attach the union nut of the water filter (2) and tighten it by hand
- Attach the hose connector (3) and tighten it by hand

Machines without hose reel

Connector on high-pressure connection



- Push seal (1) unto the highpressure hose
- Screw on and tighten the connecting element (2)

Machines with hose reel



 Push the knob (1) unto the crank (2) of the hose reel until it engages

Transporting the Unit





The machine can be carried using the transport handle.



Pushing the machine

- Hold the machine firmly with both hands on the pushbar (1)
- Steady the machine with your foot on the kick plate (2), press pushbar (1) downward and balance the machine

RE 272 PLUS, RE 282 PLUS

When transporting laying down, ensure that the detergent does not leak.

 Removing detergent tank – see "Fitting, removing detergent tank"

RE 232, RE 272 PLUS, RE 282 PLUS

Fitting, removing spray lance

Remove protective cap from the spray lance and save for later use



- Pull back and hold the coupling (1)
- Push the spray lance (2) into the mount on the spray gun, or pull it out to remove the spray gun, respectively
- Release the coupling (1)

Fitting, removing highpressure hose

Machine without hose reel

Connecting the high-pressure hose



- Push high-pressure hose onto the connector (1)
- Fit and attach the union nut (2) and tighten it by hand

Disconnecting the high-pressure hose

- Unscrew the union nut (2)
- Pull high-pressure hose off of connector (1)

Machine with hose reel

The high-pressure hose is already connected.

High-pressure hose and spray gun

Fitting



- Push the high-pressure hose (1) onto the connector (2)
- Fit and attach the union nut (3) and tighten it by hand

Removing



- Push the coupling (4) in the direction of the arrow and hold it
- Loosen the union nut (3) and unscrew it from the connector in the direction of the arrow

High-pressure hose extension

Always use only one high-pressure hose extension (special accessory).

 Connect the high-pressure hose extension between the highpressure hose and spray gun.

Connecting the water supply

• Connecting the water hose

Briefly rinse out the water hose before connecting it to the machine to prevent sand and other particles from entering the machine and to purge the air from the water hose.

Diameter of water	
hose:	3/4"
Length of water hose:	min. 10 m (to absorb pres- sure surges)
	max. 25 m



- Push the coupling (1) on to the hose connector (2)
- Turn on water supply
- To vent the system:

 Actuate the spray gun (without spray lance mounted) until a uniform water jet emerges

Connection to the drinking water main



When hooking up to the drinking water main, a backflow preventer must be installed between the water tap and the hose. The design of the backflow preventer must comply with the applicable country-specific regulations.

If drinking water has passed through the backflow preventer, it can no longer be regarded as drinking water.

Follow the rules laid down by the local water supply company to prevent water flowing back from the high-pressure cleaner into the drinking water main.

Connecting to a pressureless water supply

The high-pressure cleaner can only be used in suction operation with the suction set (special accessory).

As a rule, it is advisable to use a water filter.

- Connect the machine to the pressurized water supply and start it up briefly in accordance with the Instruction Manual
- Switch off the machine
- Disconnect the spray attachment from the high-pressure hose
- Unscrew the hose connector from the water connection
- Connect the suction set to the water connection with the included connector

Always use the connector included in the suction set. The hose connectors included as standard with the highpressure cleaner are not leakproof in suction operation and thus are not suitable for drawing in water.

- Fill the suction hose with water and immerse the suction cup of the suction hose in the water tank – do not use dirty water
- Hold down the high-pressure hose by hand
- Switching on the machine
- Wait until a steady jet exits the highpressure hose

- Switch off the machine
- Connect spray attachment
- Switch on the machine with the spray gun open
- Actuate the spray gun several times briefly in order to bleed the air out of the machine as quickly as possible

Connecting to Power Supply

The voltage and frequency of the machine (see rating plate) must match the voltage and frequency of the power connection.

The minimum fuse protection of the power connection must comply with the specifications – see "Specifications".

The machine must be connected to the power supply via an earth-leakage circuit breaker to disconnect the power supply if the differential current to earth exceeds 30 mA for 30 ms.

The power connection must correspond to IEC 60364-1 and relevant national regulations.

When the machine is switched on, voltage fluctuations that occur under unfavorable mains conditions (high power line impedance) may negatively affect other connected electrical appliances. Trouble is not anticipated at power line impedances less than $0.15 \ \Omega$.

The extension cord must have the following minimum cross-section depending on the mains voltage and cord length.

Cord length	Minimum cross- section
400 V / 3~:	
400 V – 415 V /	3~:
up to 20 m	1.5 mm ²
20 m to 50 m	2.5 mm ²
230 V / 1~:	
230 V / 3~:	
up to 20 m	2.5 mm ²

20 m to 50 m	4 mm ²	\bigcirc
230 V - 240 V / 1~	:	
up to 20 m	2.5 mm ²	
20 m to 50 m	4 mm ²	
200 V / 3~:		
up to 10 m	3.5 mm ²	
10 m to 30 m	5.5 mm ²	

Connection to the power supply socket

Before connection to the power supply, check that the machine is switched off – see "Switching off the machine"



- Remove the power plug from the upper holder (1)
- Swivel the lower holder (2) upward and remove the power cord
- Plug the power cord or extension cord into a properly installed outlet

Switching On

• Turn on water supply

The machine may only be switched on when the water intake hose is connected and the water supply has been turned on. Otherwise the machine may be damaged due to lack of water.

• Completely unroll the high-pressure hose



- Turn the master switch to I now the machine is in standby mode
- Point the spray gun at the object to be cleaned **never at persons!**

When the machine is switched on, voltage fluctuations that occur under unfavorable mains conditions (high power line impedance) may negatively affect other connected electrical appliances.

Trouble is not anticipated at power line impedances less than 0.15 ohms.

Machine with hose reel

Always completely unroll the highpressure hose from the hose reel. The high water pressure causes the highpressure hose to expand. This can also damage the hose reel or high-pressure hose.



- Pull out hose reel stop (1)
 - Completely unroll the high-pressure hose

Working Actuate the spray gun

- Point the spray gun at the object to be cleaned **never at persons!**
- Point the rotary nozzle downwards when starting (if fitted)



- Press the safety latch (1) in the direction of the arrow – the lever (2) is unlatched
- Squeeze the lever (2)

The engine starts automatically and stops again as soon as the lever (1) is released. The machine is then in standby mode.

Standby mode



The machine must not be operated in standby mode for more than 5 minutes.

Switch off the machine at the master switch – see "Switching off the machine",

- if work is interrupted for more than 5 min,
- during breaks,
- if the machine is left unattended.

Pressure/quantity control on the machine

Only RE 272 PLUS, RE 282 PLUS

Working pressure and water flow rate can be set on the high-pressure pump for long-term adjustment in line with the cleaning job concerned.



• Turn the knob (1) to set the working pressure and water flow rate

The pressure in the high-pressure pump is indicated by a pressure gauge (2).

High-pressure hose

Do not buckle or loop the high-pressure hose.

Do not place any heavy objects on the high-pressure hose, and do not drive any vehicles over it. Adding detergent

Detergent cannot be used when a highpressure hose extension is installed.

Detergent can only be drawn into the machine in low-pressure operation.



 Turn the nozzle sleeve as far as it will go towards "CHEM" = lowpressure operation

RE 232



• Push the intake hose as far as possible into the separate container

RE 272 PLUS, RE 282 PLUS

Fitting, removing detergent tank

The detergent tank can be removed from the machine for filling, emptying and cleaning.



- Unscrew the cap with intake hose from the detergent container
- Pull the detergent tank out of the holder

Drawing detergent from the detergent tank



- Fill detergent tank with detergent diluted as specified
- Push the intake hose as far as possible into the container

Using detergent from a separate container



- Unscrew the cap with intake hose from the detergent container opening
- Screw the cap with intake hose onto separate container

The cap has a standard thread and fits all standard separate containers.

• Push the intake hose as far as possible into the separate container

All versions



 Use the detergent metering knob to adjust the amount of detergent to be added

Detergent metering knob
to the left:0 % (min)Detergent metering knob
to the right:5 % (max)

• When applying detergent, start at the bottom and work upwards

Detergent must not be allowed to dry on the object to be cleaned

If detergent is no longer to be added:

- Set the detergent metering knob to 0 % (min)
- Let the high-pressure cleaner continue to run with the spray gun open until no more detergent comes out of the nozzle

After finishing work

- Drain the detergent container and flush it out with clean water
- Immerse the intake hose in clean water
- Operate the spray gun and flush out the residual detergent

Precisely calculating/setting the detergent concentration

For a few detergents, the concentration must be very precisely set. In this case, measure the water flow and detergent consumption.

- Set the detergent metering knob to "0 % (min)"
- Hold the spray gun in a suitable empty receptacle (> 20 l) and actuate for exactly 1 minute
- Measure the quantity of water "Q" in the container

- Fill 2 liters of detergent diluted as directed into a suitable container (with a scale of 0.1 I) – STIHL recommends the use of genuine STIHL detergents
- Hold the intake hose in the container
- Set the detergent metering knob to the desired concentration: 0 % (min) to 5 % (max)
- Hold the spray gun in a suitable empty receptacle (> 20 I) and actuate for exactly 1 minute
- Read the detergent consumption "QR" on the scale

Calculating the actual detergent concentration:

 $\frac{QR}{Q} \times V = \text{concentration}$

- QR = amount of detergent consumed (in l/min)
- Q = Water without detergent (in l/min)
- V = Predilution of detergent (in %)

If the actual concentration deviates from the desired concentration, reset knob and repeat measurement if necessary.

Calculating the predilution of the detergent in %

If the predilution is not indicated as a percentage, it can be calculated using the following table:



=	25 %
=	16.6 %
=	9 %
	=

Example:

Calculation ratio of 1:2

– A = 1

– B=2

$$\frac{A}{(A + B)} \times 100 = \text{value in \%}$$
$$\frac{1}{(1 + 2)} \times 100 = 33.3 \%$$

Tips for operation

The following information and examples of application make work easier and contribute to achieving an optimum cleaning result.

Operating pressure and water throughput

High pressure dissolves dirt better. The higher the water throughput, the easier it is to remove the dirt that has been loosened.

Clean delicate parts and surfaces (e.g. car paint, rubber) by applying low pressure or at a greater distance to avoid damage. 100 bar pressure is sufficient for cleaning vehicles.

Nozzles

Fan-jet nozzle

All-purpose – to clean parts and (sensitive) surfaces.

Applications:

- Cleaning vehicles and machines
- Cleaning floors and surfaces
- Cleaning roofs and facades

Rotary nozzle

To remove stubborn dirt on hardwearing surfaces.

Extremely dirty surfaces

Soak extremely dirty surfaces with water before cleaning them.

Detergents:

The cleaning effect can be improved by using detergents. The corresponding exposure time (dependent on the detergent used) increases the cleaning performance.

Do not allow the detergent to dry.

Always use detergent in the specified dosage and follow the corresponding instructions for use of the detergent.

Mechanical cleaning:

The additional use of e. g. rotary nozzles or washing brushes helps to remove highly adhesive layers of dirt.





- Turn the master switch to **0**
- Turn off water supply
- Actuate the spray gun until water only drips from the spray head (the machine is now depressurized)
- Release trigger



 Press the safety latch (1) in the direction of the arrow – the spray gun is locked to prevent inadvertent operation

After Finishing Work

- Unplug the power plug from the socket
- Disconnect hose from the water supply and from the machine

Connecting cord



- Swivel lower holder (1) downward
- Roll up the connecting cord and hook onto the holder (2)

Rolling up the high-pressure hose and storing the spray attachment

RE 232



- Insert gun and spray lance into the holders
- Roll up high-pressure hose and hook onto the holder

RE 272 PLUS, RE 282 PLUS



- Insert gun and spray lance into the holders
- Roll up high-pressure hose

Storing the Machine

Store the machine in a dry room where it is protected from frost.

If protection from frost cannot be guaranteed, draw glycol-based antifreeze – like that used in motor vehicles – into the pump:

- Insert water intake hose in container with antifreeze
- Insert spray gun without spray lance in the same container
- Switch on the machine with the spray gun open
- Actuate the spray gun until a uniform jet emerges
- Keep leftover antifreeze in a sealed container

Maintenance and Care

The following maintenance intervals apply ified intervals must be shortened accordin machine is only used occasionally, the int	gly for longer daily working hours. If the	Before starting work	At the end of work and/or daily	Weekly	Monthly	RE 232 every 200 operating hours	RE 272, 282 every 300 oper- ating hours	If faulty	If damaged	As required
Complete machine	Visual inspection (condition, leaks)	Х						N V		
	Clean		X					\mathbf{O}		х
Oil level of the high-pressure pump	Check			x						
Oil of the high-pressure pump	Have it changed by a servicing dealer ¹⁾					X ²	X ²			
	Clean		X							х
Connectors on high-pressure hose	grease									Х
Plug-type coupling of the spray lance and the coupling sleeve of the spray gun	Clean	x								х
Water intake screen ³⁾ in the high-pres-	Clean		C	×						Х
sure inlet	Replace								х	
6	Visual inspection (Dirt)	X								
Water filter ³⁾	Clean									Х
	Replace								х	
	Clean	-								х
High pressure nozzle	Replace								х	
Ventilation openings	Clean									х
	Check									х
Machine supports	Replace				1		1		x	

Once after the first 50 hours of operation

According to equipment version

2

English

Maintenance

Always unplug the power cord before servicing or cleaning the machine.

In order to ensure trouble free operation, we recommend carrying out the following steps whenever the machine is used:

- Rinse the water hose, highpressure hose, spray lance and accessories with water before fitting them
- Remove all sand and dust from the plug-type coupling of the spray lance and the coupling sleeve of the spray gun

Cleaning the high-pressure nozzle

Since the pump pressure increases if the nozzle is clogged, it must be cleaned immediately.



- Switch off the machine
- Actuate the spray gun until water merely drips from the spray head – the machine is now depressurized
- Remove spray lance
- Clean nozzle with a suitable needle

Always remove the spray lance before cleaning the nozzle

• Rinse spray lance with water from the nozzle end

Cleaning the water filter

Clean the water filter when dirty.



- Unscrew lid (1)
- Lift the filter insert (2) up and off
- Thoroughly rinse the lid (1) with clear water
- Thoroughly rinse the filter insert from the inside to the outside with clear water
- Check filter insert exchange if filter insert is damaged



- Cover outlet opening (3) with finger
- Rinse filter housing thoroughly with clear water.
- Lubricate the O-ring (4) in the filter housing and the O-ring in the lid with multipurpose grease
- Fit filter insert
- Screw on and tighten lid

Cleaning the water intake screen

If the unit does not have a water filter, clean the water intake screen once a week or more often as necessary.



- Disconnect hose connector (1).
- Carefully release the strainer (2) with pliers and rinse it.
- Before refitting the strainer, ensure that it is undamaged and replace if necessary

Cleaning the ventilation openings

The machine must be kept clean so that cooling air can flow freely through the openings in the machine.

Lubricating the connections

Lubricate the connections on the highpressure hose with multipurpose grease as necessary.

Checking the machine supports

The two front machine supports must be replaced if damaged or worn, to ensure the stability of the machine.

Checking the oil level



Check oil level weekly and after transport.

- Place the machine on a flat horizontal surface
- Check that the oil level is between the "min" and "max" marks. If it is not, contact your servicing dealer.
 STIHL recommends STIHL servicing dealers

First use after long periods of storage

During long periods of storage, mineral residue from the water may be deposited in the pump. This may cause the motor to start with difficulty or not at all.

- Connect the machine to the water supply and flush thoroughly with tap water, leave the power cord unplugged while doing so
- Plug the power plug into the wall socket
- Switch on the machine with the spray gun open

Minimize Wear and Avoid Damage

Compliance with the specifications of this owner's manual will avoid excessive wear and damage to the machine.

The machine must be used, maintained and stored as carefully as described in this owner's manual.

The user is responsible for all damage caused by failure to comply with the safety, operating and maintenance instructions. This applies in particular for:

- Product modifications not authorized by STIHL
- Use of accessories that are not approved for the machine, unsuitable or of inferior quality
- Use of the machine in a manner not in keeping with the intended use
- Use of the machine in sporting events or competitions
- Consequential damages due to continued use of a machine with defective components
- Damage due to freezing
- Damage due to improper power supply voltage
- Damage due to poor water supply (e.g., cross-section of the intake hose too small)

Maintenance work

All of the tasks listed under "Maintenance and Repairs" must be carried out periodically. If the user does not carry out these maintenance tasks him- or herself, they should be delegated to a 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.

If these tasks are not performed or are performed improperly, this may result in damage for which the user is responsible. Among other things, this includes:

- Damage to machine components due to delayed or insufficient performance of maintenance
- Corrosion damage and other consequential damages due to improper storage
- Damage to the machine as a result of using replacement parts of inferior quality

Wear parts

Some parts of the machine are subject to normal wear and tear even when the machine is used in conformity with its intended use. These parts must be replaced in due time, depending on the nature and duration of use. These include, among others:

- High-pressure nozzles
- High-pressure hoses

1116









RE 272 PLUS, RE 282 PLUS

- Spray gun
- Coupling for spray lance
- Safety catch
- Lever
- Safety latch for high-pressure hose
- Union nut for high-pressure hose
- Nozzle
- 8 Nozzle sleeve for detergent intake
- Rotary nozzle
- 10 High-pressure hose
- 11 Pushbar
- 12 Spray lance holder
- 13 Guide clip
- 14 Machine switch
- 15 Detergent metering knob
- 16 Pressure gauge
- # Model plate



Specifications

	RE 232	RE 232 ¹	RE 232	RE 272 PLUS:	RE 282 PLUS:
Power supply:	230 V / 1~ / 50 Hz	230 V / 1~ / 50 Hz	220 V / 1~ / 60 Hz	230 V / 1~ / 50 Hz	400 V / 3~ / 50 Hz
Power output:	3.3 kW	3 kW	3.1 kW	3 kW	3.5 kW
Fuse (characteristic "C" or "K"):	16 A	13 A	15 A	16 A	10 A
Protection class:	1	1	I		
Type of protection:	IP X5	IP X5	IP X5	IP X5	IP X5
Working pressure:	14.5 MPa (145 bar)	12.5 MPa (125 bar)	13.5 MPa (135 bar)	15 MPa (150 bar)	16 MPa (160 bar)
Max. permissible pressure:	20 MPa (200 bar)	18 MPa (180 bar)	20 MPa (200 bar)	20 MPa (200 bar)	20 MPa (200 bar)
Max. water feed pressure:	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)	1 MPa (10 bar)
Max. water throughput:	660 l/h	660 l/h	610 l/h	620 l/h	760 l/h
Water throughput as per EN 60335-2-79:	590 l/h	590 l/h	560 l/h	560 l/h	700 l/h
Max. suction lift:	1 m	1 m	1 m	1 m	1 m
Max. water feed tempera- ture in the pressurized water supply:	60 °C (> 40 °C max. 1h)	60 °C (> 40 °C max. 1h)	60 °C (> 40 °C max. 1h)	60 °C (> 40 °C max. 1h)	60 °C (> 40 °C max. 1h)
Max. water feed tempera- ture in suction operation:	40 °C	40 °C	40 °C	40 °C	40 °C
Max. kickback force:	24.6 N ²⁾	24.1 N ²⁾	21 N ²⁾ / 22.3 N ³⁾	22.7 N ²⁾ / 24.2 N ³⁾	29.6 N ²⁾ / 31.5 N ³
Length approx.:	392 mm	392 mm	392 mm	392 mm	392 mm
Width approx.:	390 mm	390 mm	390 mm	390 mm	390 mm
Height approx.:	1164 mm	1164 mm	1164 mm	1164 mm	1164 mm
Weight (with spray attach- ment and high-pressure hose):	approx. 36 kg	approx. 36 kg	approx. 37 kg	approx. 42 kg	approx. 42 kg
Length of high-pressure hose (steel braided):	10 m, DN 06	10 m, DN 06	10 m, DN 06	15 m, DN 06	15 m, DN 06
 Great Britain Fan-jet nozzle Rotary nozzle 					

Sound and vibration levels

	RE 232	RE 272 PLUS:	RE 282 PLUS:
Sound pressure level L _p to ISO 3744 (at a distance of 1 m)	75.7 dB(A)	72.4 dB(A)	73.4 dB(A)
Sound power level L _w to ISO 3744	89.9 dB(A)	86.6 dB(A)	87.6 dB(A)
Vibration level a _{hv} at the handle according to ISO 5349	< 2.5 m/s ²	< 2.5 m/s ²	< 2.5 m/s ²

For the sound pressure level and the sound power level, the K-factor in accordance with Directive 2006/42/EC = 1.5 dB(A); for the vibration level, the K-factor in accordance with Directive $2006/42/EC = 2.0 \text{ m/s}^2$.

REACH

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

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

Troubleshooting

Before working on the machine, unplug the power cord, turn off the water supply and actuate the spray gun until the pressure has been relieved.

Fault	Cause	Remedy
Motor does not run when switched on	Mains voltage is too low or improper	Check electrical connection
(hums when switched on)		Check plug, cable and switch
	Extension cord with wrong cross-section	Use an extension cord with a sufficient cross-section, see "Connecting the machine to the power supply"
	Extension cord is too long	Connect the machine without an exten- sion cord or with a shorter one
	Mains circuit-breaker has been tripped	Switch off the machine, actuate the spray gun until water only drips out of the head, engage the safety catch, reset the mains circuit-breaker
	Spray gun not actuated	Actuate spray gun when switching on the machine
Motor constantly switches on and off	High-pressure pump or spray attachment is leaky	Have the machine checked by a servicing dealer ¹⁾
Engine stops	Machine switches off because the motor is overheating	Check whether the supply voltage and machine voltage match; let the motor cool down for at least 5 minutes
Weak, ragged, unclean jet	Nozzle fouled	Clean nozzle, see "Maintenance"
Pressure fluctuates or drops	Shortage of water	Open water tap completely
Nº D		Comply with permissible suction lift (suc- tion mode only)
	High-pressure nozzle in spray head is dirty	Clean high-pressure nozzle; see "Maintenance"
	Water intake strainer in pump inflow clogged	Clean water intake strainer; see "Maintenance"
	Water filter at pump intake is dirty	Clean water filter; see "Maintenance"
	High-pressure pump is leaky, valves are defective	Have the machine checked by a servicing dealer $^{1)}$
	Nozzle clogged	Cleaning the nozzle

Before working on the machine, unplug the power cord, turn off the water supply and actuate the spray gun until the pressure has been relieved.

Fault	Cause	Remedy
No supply of detergents	Detergent tank empty	Fill detergent tank
	Detergent intake is clogged	Eliminate clog
	Injector worn	Have the machine checked by a servicing dealer ¹⁾
¹ STIHL recommends STIHL	servicing dealers	

STIHL recommends STIHL servicing dealers

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 highquality 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 **G** (the symbol may appear alone on small parts).

Disposal



High-pressure cleaner, accessories and packaging must be collected and recycled in an environmentally beneficial manner.



manner. Do not dispose of highpressure cleaner, accessories and packaging as

Information concerning disposal is available from a STIHL servicing dealer.

 High-pressure cleaner, accessories and packaging must be disposed of in accordance with the regulations and in an environmentally beneficial manner.

EC Declaration of Conformity

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

Germany

hereby confirms that

Model:	High-pressure cleaner
Make:	STIHL
Туре:	RE 232
Serial identification	
number:	4788
Туре:	RE 272 PLUS
Serial identification	
number	4788
Туре:	RE 282 PLUS
Serial identification number	4788

conforms to the applicable provisions of Directives 2011/65/EU, 2006/42/EC, 2004/108/EC (until 19.04.2016), 2014/30/EU (from 20.04.2016) and 2000/14/EC and has been developed and built in compliance with the versions of the following standards valid at the production date:

EN ISO 12100-1, EN ISO 12100-2, EN 55014-1, EN 55014-2, EN 60335-1, EN 60335-2-79, EN 61000-3-2, EN 61000-3-11, EN 50581

The measured and guaranteed equivalent sound power level has been determined in accordance with Directive 2000/14/EC, Annex V.

Measured sound power level

RE 232	89.9 dB(A)
RE 272 PLUS	86.6 dB(A)
RE 282 PLUS	87.6 dB(A)

Guaranteed sound power level

RE 232	91 dB(A)
RE 272 PLUS	89 dB(A)
RE 282 PLUS	90 dB(A)

The technical documentation has been retained by:

ANDREAS STIHL AG & Co. KG Produktzulassung

The year of construction of the machine is shown on the CE plate on the machine.

Waiblingen, 11 March 2016

ANDREAS STIHL AG & Co. KG

рр

Thomas

Thomas Elsner Head of Product Management and Services

