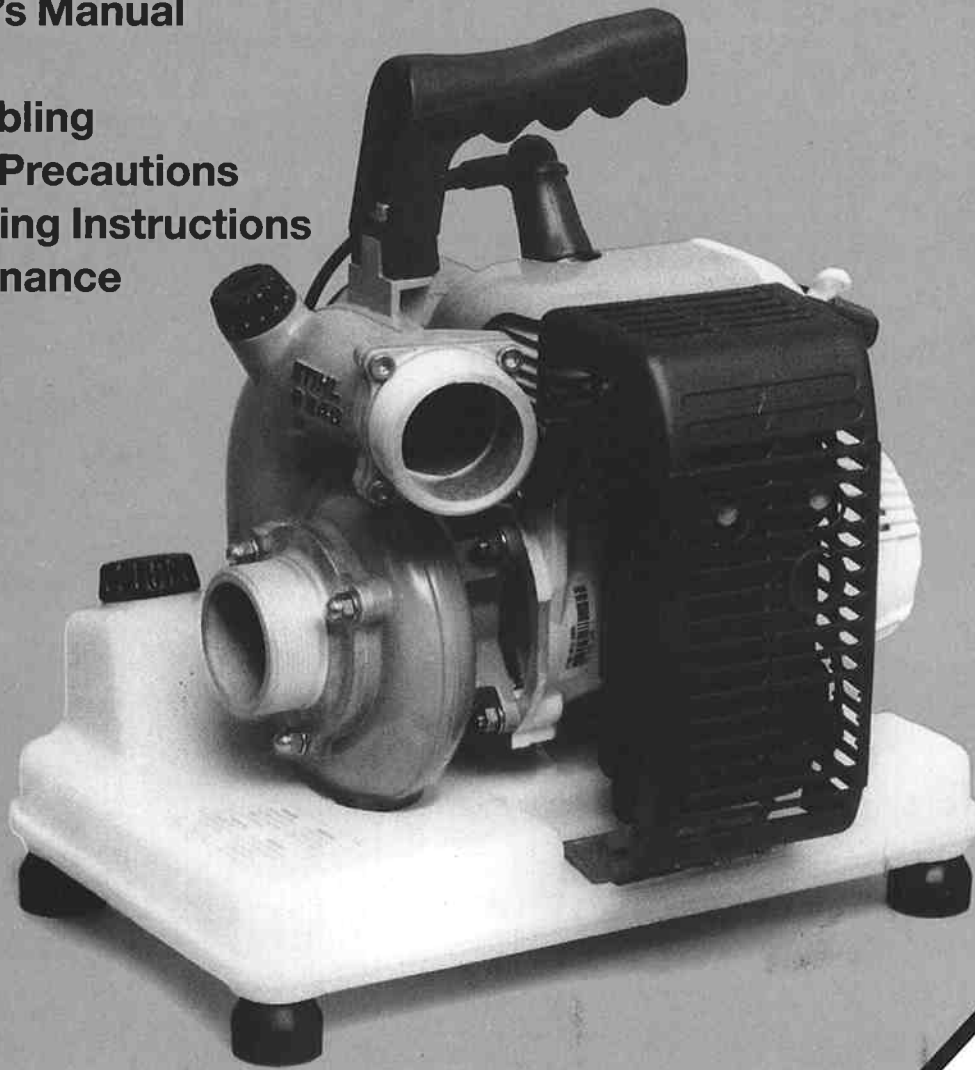


STIHL P 840

**Instruction Manual
Owner's Manual**

**Assembling
Safety Precautions
Operating Instructions
Maintenance**



Warning:
Always follow safety precautions in
Owner's Manual – improper use
can cause serious injury!

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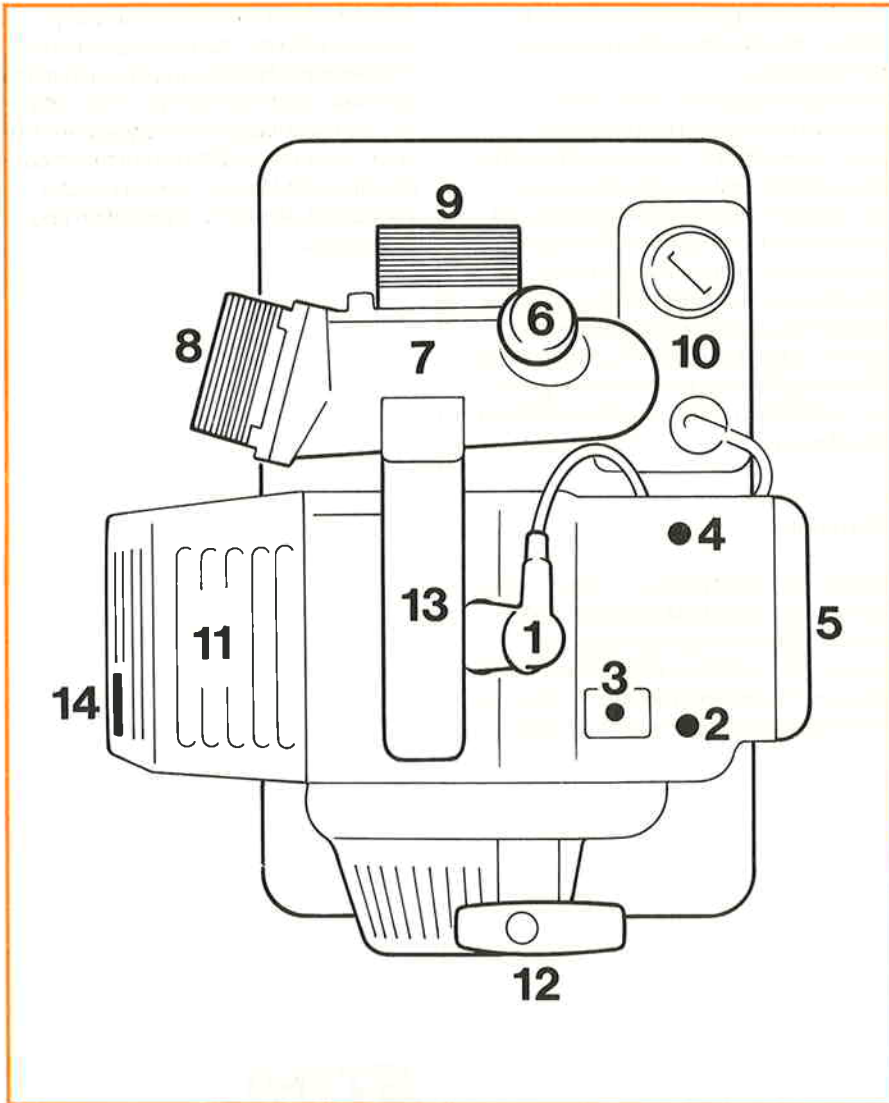
This Manual contains operating and safety instructions for all STIHL motor pump series. Pay special attention to the safety precautions outlined on pages 4 to 9. Allow only persons who understand this Manual to operate your motor pump. To receive maximum performance and satisfaction from your STIHL motor pump, it is important that you read and understand the maintenance and safety precautions before using your motor pump. Contact your STIHL dealer or the STIHL distributor for your area if you do not understand any of the instructions in this Manual.

Warning!

Because a motor pump is a high-speed tool, some special safety precautions must be observed as with any other power motor pump to reduce the risk of personal injury. Careless or improper use may cause serious or even fatal injury.

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 motor pump differs from those described in this Manual, please contact your STIHL dealer for information and assistance.

Parts of the Motor Pump



- 1 = Spark plug terminal
 - 2 = Choke pin
 - 3 = Stop switch
 - 4 = Starting throttle pin
 - 5 = Filter cover
 - 6 = Pump primer cap
 - 7 = Pump housing
 - 8 = Outlet flange
 - 9 = Suction flange
 - 10 = Fuel filler cap
 - 11 = Muffler
 - 12 = Starter grip
 - 13 = Handle
 - 14 = Spark arrestor screen
-

Definitions

1. **Spark plug terminal**
Connects the spark plug with the ignition wire.
2. **Choke pin**
Eases engine starting by enriching mixture.
3. **Stop switch**
Stops engine.
4. **Starting throttle pin**
Controls the speed of the engine.
5. **Filter cover**
Covers the air filter element.
6. **Pump primer cap**
Covers opening for feeding the pump housing and suction hose with water before starting the pump.
7. **Pump housing**
Housing, which contains the pump rotor.
8. **Outlet flange**
Connects the outlet hose with the motor pump housing.
9. **Suction flange**
Connects the inlet hose with the motor pump housing.
10. **Fuel filler cap**
For closing the fuel tank.
11. **Muffler**
Attenuates exhaust noises and diverts exhaust gases away from operator and engine.
12. **Starter grip**
The grip of the pull-starter, which is a device to start the engine.
13. **Handle**
The handle of the motor pump to carry the motor pump when transporting it.
14. **Spark arrestor screen**
Covers muffler exhaust opening to reduce risk of fire.

Safety Precautions



Warning!

Because your motor pump is a high-speed power tool, special safety precautions must be observed to reduce the risk of fire and personal injury.



It is important that you read, fully understand and observe the following safety precautions and warnings. Save this owner's manual and read the safety instructions periodically. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly.

Careless or improper use of any motor pump may cause serious or fatal injury. Have your STIHL dealer show you how to operate your motor pump. Observe all applicable local safety regulations, standards and ordinances.

Warning!

Minors should never be allowed to use a motor pump. Bystanders, especially children, and animals should not be allowed in the area where a machine is in use. Never let the unit run unattended.

Do not lend or rent your unit without the owner's manual. Be sure that anyone using your unit understands the information contained in this manual.

Most of these safety precautions and warnings apply to the use of all STIHL



motor pumps. Different models may have different parts and controls.

See the appropriate section of your owner's manual for a description of the controls and function of the parts of your machine.

Safe use of a motor pump involves

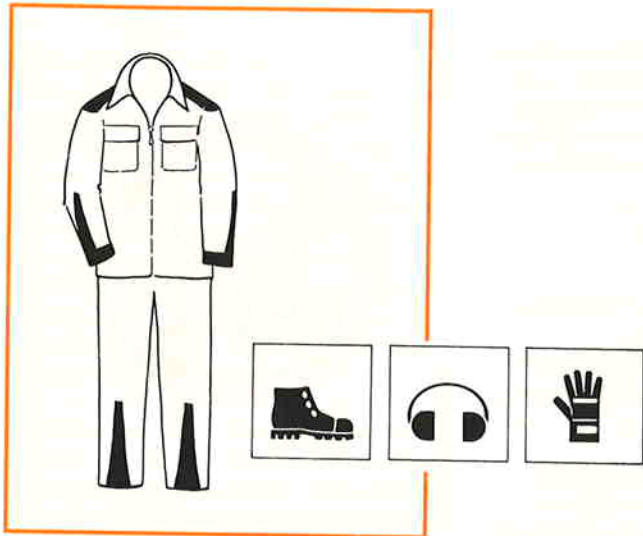
1. the operator
2. the motor pump
3. the use of the motor pump.



THE OPERATOR

Physical Condition

You must be in good physical condition and mental health and not under the influence of any substance (drugs, alcohol, etc.) which might impair vision, dexterity or judgment. Do not operate a motor pump when you are fatigued. Working with and transporting any motor pump can be strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating the machine.



Proper Clothing

Clothing must be sturdy and snug-fitting, but allow complete freedom of movement. Avoid loose-fitting jackets, scarfs, neckties, jewelry, flared or cuffed pants, unconfined long hair or anything that could become entangled with the motor pump. Wear overalls or jeans.

Protect your hands with gloves when handling your motor pump.

Good footing is most important in motor pump work. Wear sturdy boots with nonslip soles. Steel-toed rubber boots are recommended.

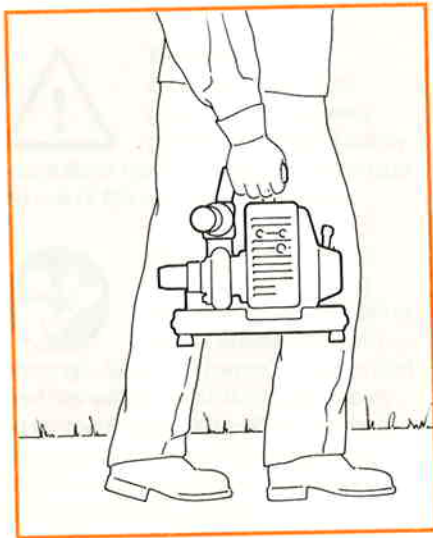
Motor pump noise may damage your hearing. Always wear sound barriers (ear plugs or ear muffers) to protect your hearing. Continual and regular users should have their hearing checked regularly.

THE MOTOR PUMP

For illustrations and definitions of the parts of the motor pump see the chapter on "Main Parts of Motor Pump".

Warning!

Never modify a motor pump in any way. Only attachments and parts supplied by STIHL or expressly approved by STIHL for use with the specific STIHL motor pump models are authorized. Although certain unauthorized attachments are useable with the STIHL motor pump, their use may, in fact, be extremely dangerous.



THE USE OF THE MOTOR PUMP

Transporting the motor pump

Warning !

Always stop the engine before carrying a motor pump. When transporting the pump, keep the pump level to prevent fuel spillage. Fuel vapor or spilled fuel may ignite. During operation, the motor pump muffler and the material around it reach extremely high temperatures. To reduce the risk of fire, keep flammable materials away from muffler. Avoid touching the hot muffler. Serious burns may result.

By hand: When carrying your motor pump by hand, the engine must be stopped. Grip the handle for carrying the motor pump.

By vehicle: When transporting in vehicle, properly secure your motor pump to prevent turnover, fuel spillage and damage to the motor pump. To avoid fuel spillage always empty the fuel tank before transporting.

Preparation for the use of the pump

For assembly, follow the procedure described in the appropriate chapter in your Owner's Manual.

Always make sure that controls (e. g. throttle and choke pin, off-switch) are working and parts are properly tightened (e. g. spark plug, hose flanges).

Warning!

The pump rotor located behind the inlet opening rotates whenever the engine is running. In order to reduce risk of injury from contact with the pump rotor, never operate your unit without a properly mounted inlet hose. Never insert any foreign object into the area of the pump rotor when engine is running. It will damage the pump rotor and may cause injury to the operator or bystanders as a result of the object or broken parts being thrown out at high speed. Always shut off engine and remove spark plug terminal whenever inspecting, cleaning or working near pump rotor.



Fueling

Your STIHL motor pump uses an oil-gasoline mixture for fuel (see chapter "Fuel" of your owner's manual).

Warning!

Gasoline is an extremely flammable fuel. Use extreme caution when handling gasoline or fuel mix. Do not smoke or bring any fire or flame near the fuel.

Fueling Instructions

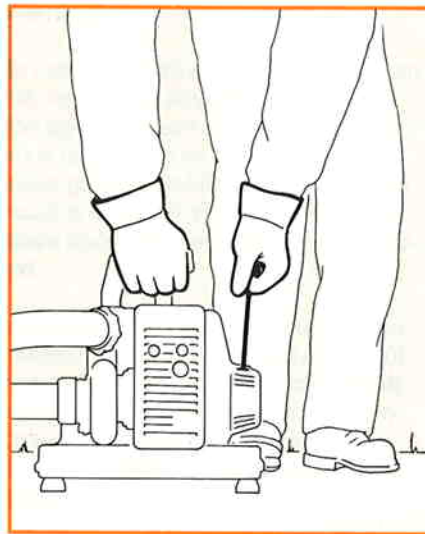
Fuel your motor pump in well-ventilated areas, outdoors only.

Always shut off the engine and allow it to cool before refueling. Gasoline vapor

pressure may build up inside the gas tank of a two-cycle engine depending on the fuel used, the weather conditions, and the venting system of the tank. In order to reduce the risk of burns or other personal injury from fire or explosion as a result of escaping gas vapor and fumes, remove the gas cap on the STIHL product carefully so as to allow any pressure build up in the tank to release slowly. Never remove fuel filler cap while engine is running.

Select bare ground for fueling and move at least 10 feet (3 m) from fueling spot before starting the engine. Wipe off any spilled fuel before starting your motor pump, and check for leakage.

Check for fuel leakage while refueling and during operation. If fuel leakage is found, do not start or run the engine until leak is fixed and spilled fuel has been wiped away. Tighten the fuel cap after filling to avoid spillage and risk of fire. Take care not to get fuel on your clothing. If this happens, change your clothing immediately.



Starting

Warning

Your motor pump is a one person machine. Do not allow other persons to be near the running motor pump. Start and operate your pump without assistance. For specific starting instructions, see the appropriate section of the owner's manual. Proper starting method reduces the risk of injury. Do not drop start. This method is very dangerous because you may lose control of the pump.

Place the pump on firm ground or other solid surface in an open area. Always be sure that the machine is on secure footing so that it cannot slide or shift around. Maintain good balance and se-

cure footing. Grip the handle of the pump firmly with your left hand and press down. With your right hand pull out the starter grip slowly until you feel a definite resistance and then give it a brisk, strong pull. When pulling the starter, be sure that nothing is in a position to be hit by the operator's hand or arm.

Warning!

When you pull the starter grip, do not wrap starting rope around your hands. Do not allow the grip to snap back, but guide the starter rope slowly back to permit the rope to rewind properly. Failure to follow these procedures may result in injury to hand or fingers and may damage the starter mechanism.

Working conditions

Warning!

Exhaust gases contain odorless and poisonous carbon monoxide. In order to reduce the risk of personal injury or even death, operate your water pump only outdoors in ventilated areas.

In order to reduce the risk of burns, do not touch hot cylinder, fins and muffler area. They become hot during operation and remain hot for a while after operation.

Operate the pump under good visibility and daylight conditions only. Don't work alone. Keep within calling distance of others in case help is needed.

Warning!

Your motor pump is designed for pumping water only. In order to reduce risk of serious or even fatal injury from fire or explosion, hazardous materials including flammable materials (e.g. acids, gasoline) should never be pumped.

Warning!

In order to reduce the risk of fire or explosion do not run the pump in areas having combustible conditions.

Warning!

Water can be a conductor of electric current when exposed to live electrical wiring. Electrocutation will result. In order to reduce the risk of personal injury from

electrocutation, do not operate pump in flooded areas near power lines unless electric service has been disconnected.

Warning!

The pressure of the water being pumped may cause reactive forces on the outlet hose. In order to control these forces including those which may push the hose back towards your face or body, always hold the outlet hose firmly with both hands or anchor it securely on the ground.

Always be sure the machine is on secure footing and cannot shift. The suction hose on the inlet tends to pull the pump towards the water source during pumping. Do not place hands or feet near moving or rotating parts.

MAINTENANCE, REPAIR AND STORING

Use only STIHL replacement parts for maintenance and repair. Use of parts manufactured by others may cause serious or fatal injury.

Never operate a motor pump that is damaged, improperly adjusted or not completely or securely assembled. Follow all maintenance and repair instructions in the appropriate section of your owner's manual.

Warning!

Always stop the engine and disconnect the spark plug wire before making any adjustments, maintenance, repair work or cleaning the motor pump. Do not attempt any maintenance or repair work not described in your owner's manual. Have such work performed at your STIHL service shop only.

Check fuel filler cap for leaks at regular intervals. Use the specified spark plug, and make sure it and the ignition lead are always in good condition.

Warning!

If engine does not stop using stop switch, shift choke lever to closed position. Check and repair stop switch before starting engine again.

Warning!

To reduce the risk of personal injury from fire, keep spark plug and wire connection tight and clean. The spark plug electrode gap should be checked with the feeler gauge at least every 50 operating hours and reset if necessary. Fit a new spark plug if the electrodes are badly pitted.

Inspect buffers periodically. Replace damaged, broken or excessively worn buffers immediately, since they may result in loss of control of the motor pump. Increased vibration during normal operation may indicate damage, breakage, or excessive wear.

Buffers should always be replaced in sets.

Warning!

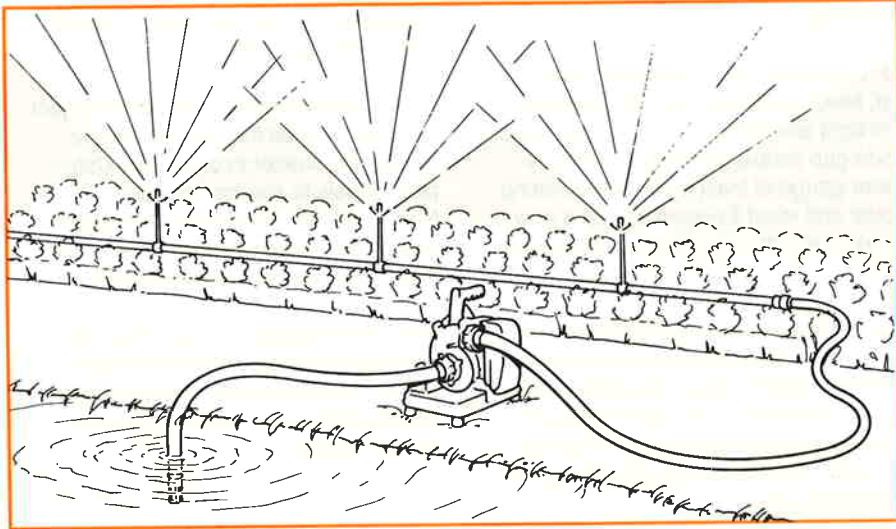
Do not operate your motor pump if the muffler is damaged, missing or modified. An improperly maintained muffler will increase the risk of fire and hearing loss. Never touch a muffler or burn will result. If your muffler was equipped with a spark arresting screen to reduce the risk of fire (e.g. in the USA, Canada and Australia) never operate your motor pump if the screen is missing or damaged. Remember that the risk of forest fires is greater in hot or dry weather. Before any operation, clean any accumulation of grass, leaves, dirt or other combustible

materials in the muffler area in order to reduce the risk of fire.

Do not strike flywheel with a hard object or metal tools as this may cause the flywheel to shatter in operation. Use proper tools to service engine. Never use gasoline or low flash point solvent for cleaning the air cleaner element. Fire or explosion may result.

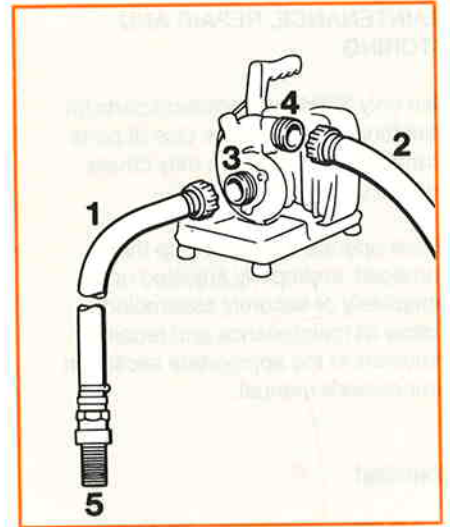
Store motor pump in a dry place and away from children. Before storing for longer than a few days, always empty the fuel tank. Let engine cool before storing indoors.

Use of the motor-driven pump



The motor-driven pump P 840 is a portable centrifugal pump and can be carried by a single person. It is primarily intended for use in irrigation systems for gardening, in agriculture or on building sites.

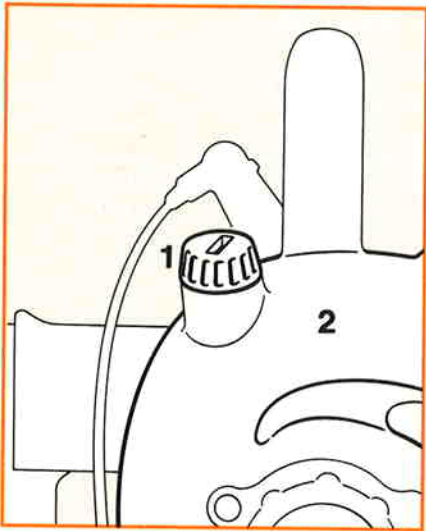
Making up the unit



The motor-driven pump is delivered as a complete unit. In order to prepare the pump for operation, the

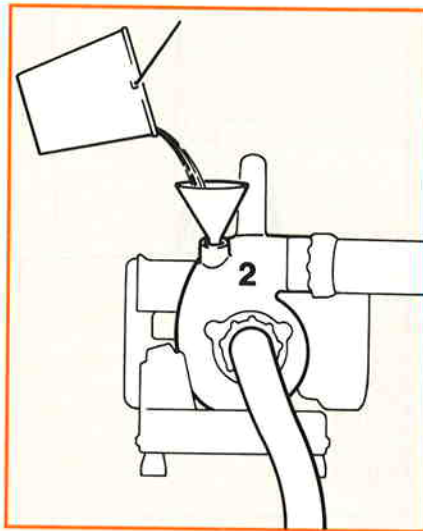
- intake hose (1) and the
- discharge hose (2) must be connected to the
- intake fitting (3) and to the
- discharge fitting (4).
- The foot valve (5) must be connected to the end of the intake hose.

Pump operation



The pump and intake hose must always be filled with water before being started up.

Open the
● cover (1) on the
pump (2).



Fill water into the
● pump (2) until it overflows. This ensures that the intake hose is also filled with water.

Fuel Mix

Prepare the mixture of brand-name gasoline and quality two-stroke engine oil (**classification TC**) in an approved safety-type canister. Pour in the oil first and then add gasoline.
Use only brand name two-stroke air-cooled engine oils for mixing.

STIHL two-stroke engine oil is recommended. It is formulated specially for STIHL engines and guarantees a long engine life.

Stihl recommends that you always use unleaded fuel.
The gasoline - unleaded or leaded - must have a minimum octane number of 90 ROZ (USA/Canada: pump octane min. 87).

Gasoline with lower octane numbers may cause engine damage.
Inferior quality gasolines or oils may damage the engine, sealing rings, fuel lines or fuel tank.

Mix ratio

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

With other brand-name two-stroke engine oils (classification TC):
40 parts gasoline to 1 part oil.

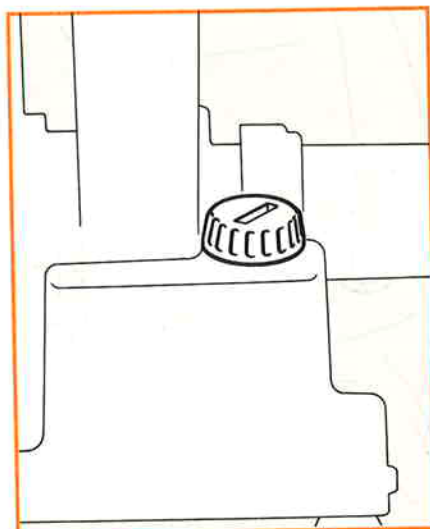
Do not use BIA or TCW (two-stroke water cooled) mix oils!

For example:

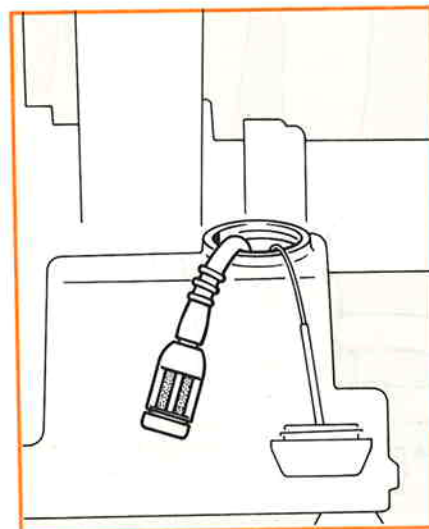
Gasoline	Stihl engine oil 50:1	Other branded TC oils 40:1
Liters	Liters (cc)	Liters (cc)
1	0.02 (20)	0.025 (25)
5	0.10 (100)	0.125 (120)
10	0.20 (200)	0.250 (250)
15	0.30 (300)	0.375 (375)
20	0.40 (400)	0.500 (500)
25	0.50 (500)	0.625 (625)

Gasoline	Stihl engine oil 50:1	Other branded TC oils 40:1
US gal.	US fl.oz	US fl.oz
1	2½	3
2½	6½	7¾
5	12¾	15

Fueling



Before fueling, clean the filler cap and the area around it to ensure that no dirt falls into the tank.



Change the fuel pickup body every year.

Fuel mix ages:
Only mix sufficient fuel for a few days work, not to exceed 30 days of storage. Store in approved safety fuel-canisters only.

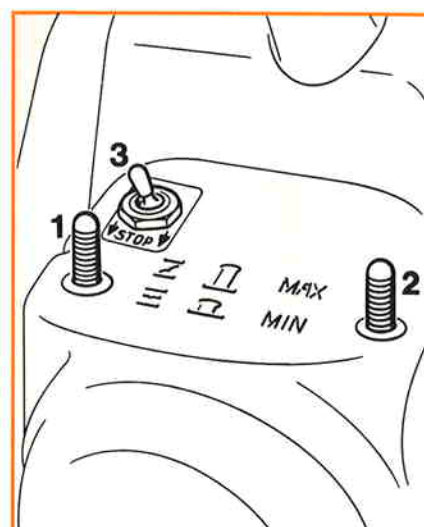
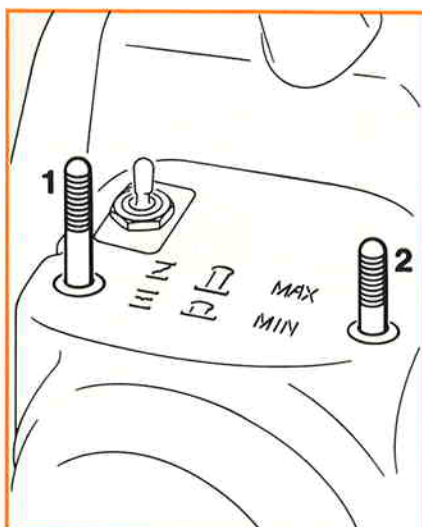
Thoroughly shake the mixture in the canister before fueling your machine.

Caution: Pressure may build up in canister - open it slowly.

Clean the fuel tank and canister from time to time.

Take care when handling gasoline. Avoid direct contact with the skin and avoid inhaling fuel vapour.

Starting the motor-driven pump






The engine may only be started when the pump has been filled with water, otherwise lubrication and cooling of the seal cannot be guaranteed.

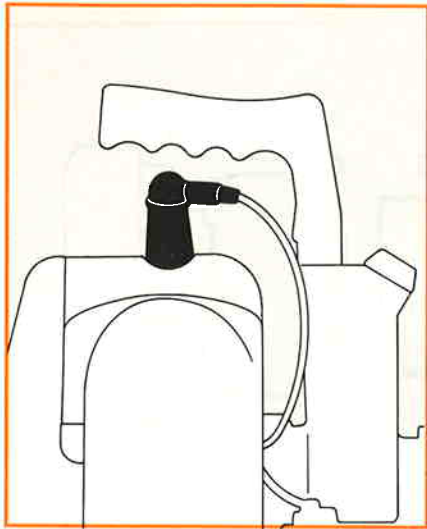
- Note the safety regulations - chapter entitled "Important safety precautions".

Place the motor-driven pump on a hard surface to start it.

Set the STOP switch to the position **opposite** the STOP position.

- Set the choke lever (1): to  if the engine is cold and to  if the engine is warm (also if the engine has already been run, but has not yet warmed up).
- Move the throttle pin (2) to the middle position.
- Hold the pump by its handle with your left hand and
- slowly draw out the starter handle with your right hand until you feel a distinct resistance. Then pull the starter rope out quickly and strongly, but not more than 70 cm altogether, otherwise it may break! Remember to replace the starter handle carefully.

- If the engine is new or has not been used for some time, pull the starter rope several times to ensure that sufficient fuel is delivered.
- When the engine has turned over for the first time,
- open the choke , press it down and carry on starting. **As soon as the engine has started, let it run for approx. 2 minutes.**
- Switch off the engine; reset the throttle pin and set the STOP switch (3) to STOP.
- The choke is not required to restart the engine when it is warm.



If the engine refuses to start:

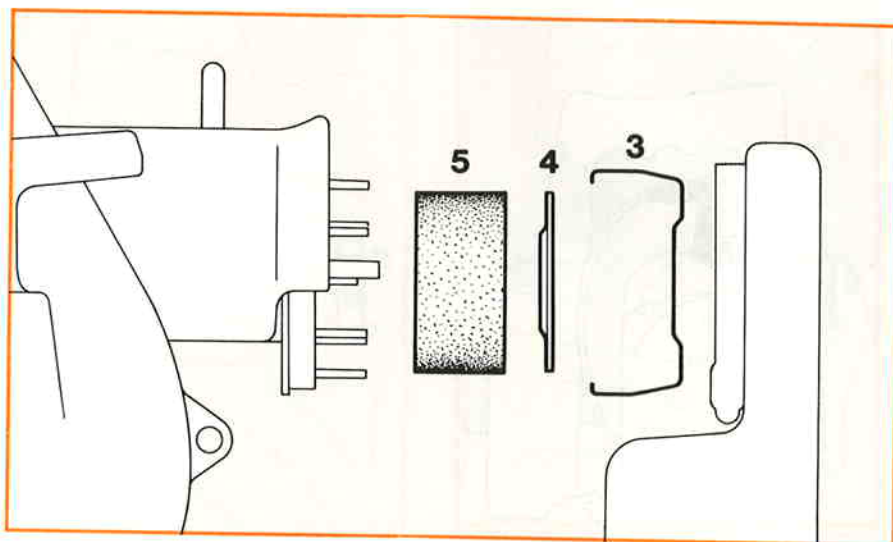
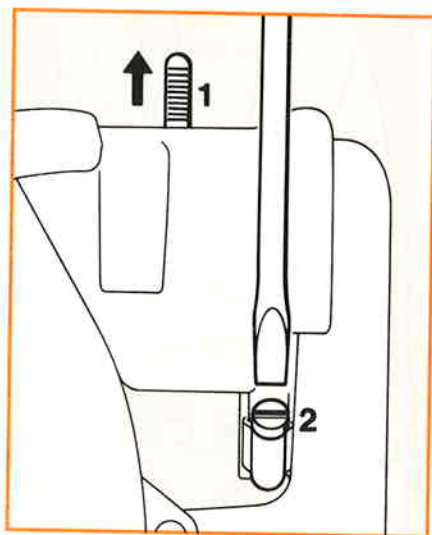
The choke was not opened in good time **1** when the engine turned over for the first time and it has stalled.

- Disconnect the spark plug terminal
- Unscrew the spark plug and dry it
- Set the switch to STOP
- Actuate the starter several times to ventilate the combustion chamber
- Replace the spark plug and reconnect the spark plug terminal
- Restart the engine


The tank has been drained completely and then refilled.

- Pull the starter rope through several times to ensure that sufficient fuel is delivered.

Air filter

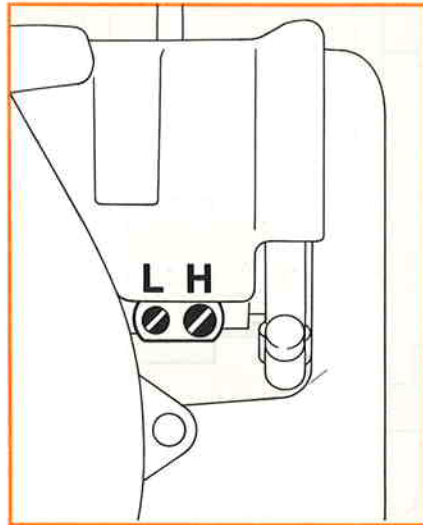


Daily when used all day and correspondingly more often in the presence of high dust loads.

- Set the choke (1) to the cold-start position 
- Unscrew the screw (2) on the strap retainer
- Remove the filter housing
- Remove any coarse dirt around the filter

- Remove the spring clip (3)
- Remove the cover (4)
- Remove the foam filter (5)
- Wash the filter in a fresh, non-flammable cleaning fluid (such as warm soapy water) and dry it. Damaged filters must be replaced.
- Refit the filter

Setting the carburetor

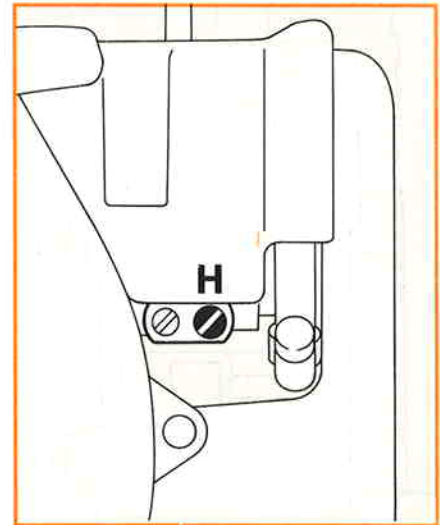


Standard setting

- H = High-speed adjusting screw
Open one turn
- L = Low-speed adjusting screw
Open one turn

The standard setting must be obtained first of all if the carburetor has to be reset completely.

The high-speed adjusting screw must not be set to a leaner position beyond the standard setting if a rev counter is not available.



When used at high altitudes (mountains) or at sea level

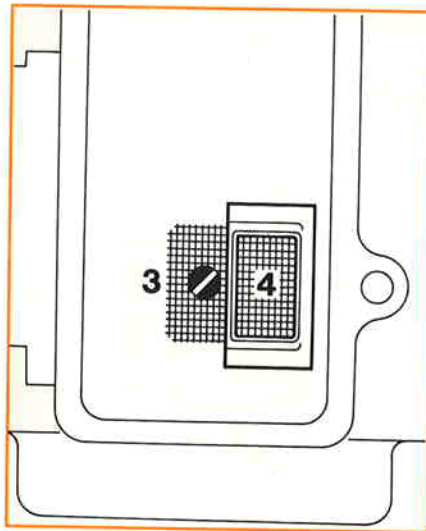
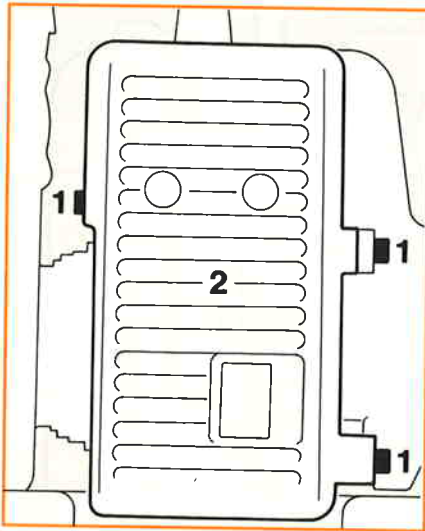
it **may** be necessary to adjust the setting marginally.

When correcting the setting of the H = high-speed adjusting screw: **remember to use a rev counter and do not exceed the maximum permissible speed!**

The engine may be damaged as a result of the shortage of lubricant and over-heating. Maximum speed: 7000 rpm.

The carburetor is delivered with a **standard setting**. This setting of the high-speed adjusting screw corresponds to the optimum setting for the air pressure and climatic conditions prevailing at the manufacturer's location. This setting guarantees optimum pump efficiency with economic fuel consumption and maximum operational reliability.

Spark arresting screen in the muffler



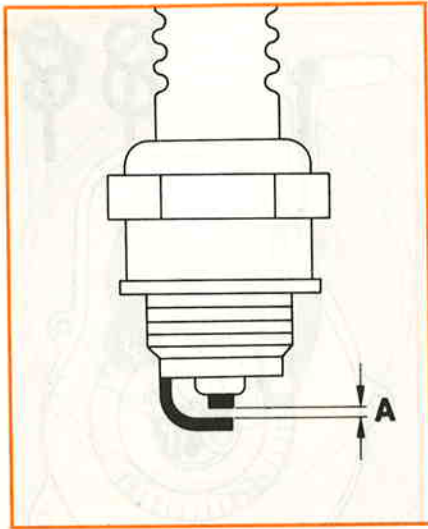
The spark arresting screen in the muffler must be checked if the engine performance deteriorates:

- Remove screw (1)
- Remove the shroud (2)
- Unscrew and remove the screw (3)
- Draw out the spark arresting screen (4)

Clean the spark arresting screen if necessary. It must be replaced if damaged or severely charred.

Refit the spark arresting screen and retighten the screw.

Checking the spark plug



The spark plug must be checked first of all if the engine is down on power, has trouble starting or runs poorly at idle speed.

- Remove the spark plug as described under "Starting the engine"
- Clean the spark plug if necessary
- Check the electrode gap

A = 0.5 mm is correct
Adjust if necessary

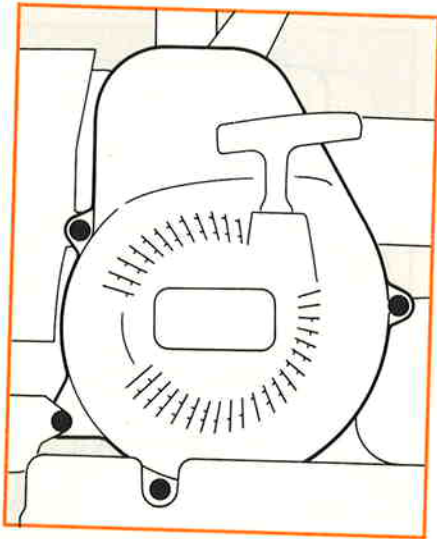
- Ensure that suppressed spark plugs are used exclusively

The fouling on the spark plug may have been caused by any of the following: incorrect carburetor setting, too much engine oil in the fuel, air filter clogged, unfavourable operating conditions.

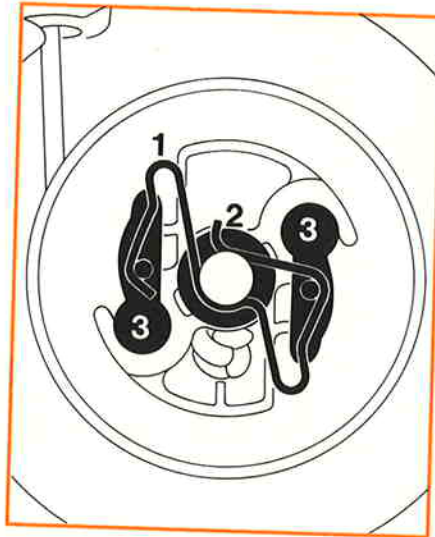
The spark plug must be replaced after approx. 100 hours of operation.

It must be replaced even sooner if the electrodes have burned down considerably.

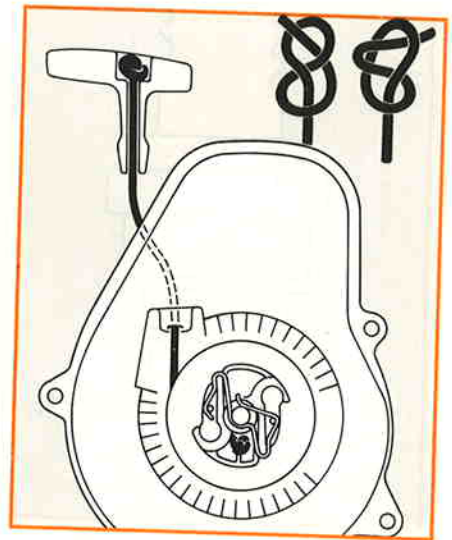
Replacing the starter rope and rewind spring



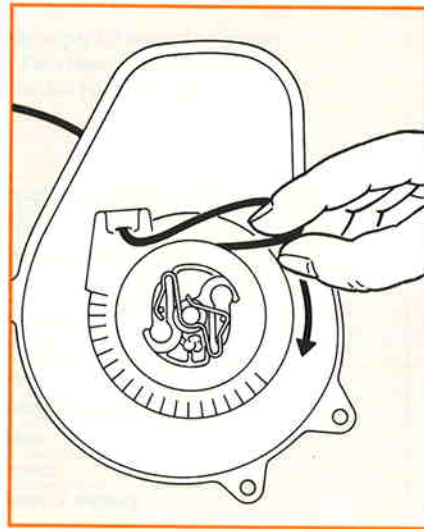
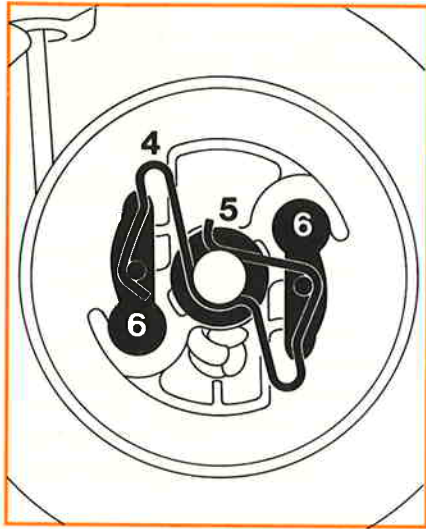
- Remove the screws.
- Remove the starter cap from the power unit.



- Using a screwdriver or suitable pliers, carefully prise the spring clip (1) off the axle,
- then draw off the rope rotor with the washer (2) and pawls (3).



- Remove any rope remnants from the rotor, thread in a new starter rope - 4.5 x 1000 mm - and secure it in the rope rotor with a simple knot. Lead the other end through the guide bush from the inside and into the handle from below. Secure it with a special knot. Do not wind up the rope.



- Wet the bearing bore in the rope rotor with resin-free oil
- Slip the rope rotor onto the axle and slide it back and forth until the eye of the rewind spring engages
- Replace the pawls (4) in the rope rotor
- Slide the washer (5) onto the axle
- Press the spring clip (6) onto the axle with a screwdriver or suitable pliers and force it over the pegs on the pawls. The spring clip must point in clockwise direction, as shown in the diagram.

Tensioning the rewind spring

Form a loop with the starter rope and use it to turn the rope rotor six times in clockwise direction. Hold the rope rotor tight, pull out and disentangle any twisted rope, then release the rope rotor. Slowly relax the starter rope so that it is wound onto the rope rotor.

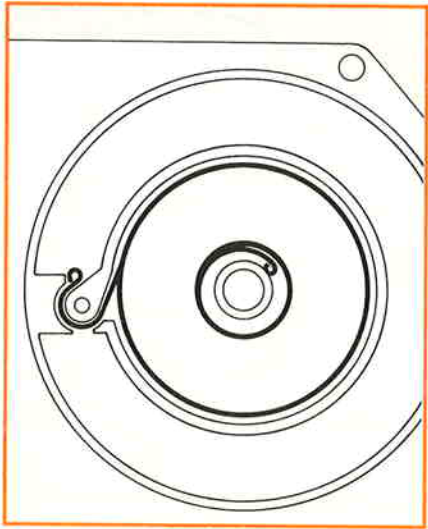
The starter handle must be drawn firmly into the guide bush. If it falls to one side, the spring must be tensioned by another turn.

It must be possible to turn the rope rotor by another half-turn when the rope is fully extended. If this is not possible, the spring has been tensioned excessively and may break!

Unwind one turn of the rope from the rotor.

Replacing a broken rewind spring

- Wet the new replacement spring with a few drops of resin-free oil



- Remove the rope rotor as described under "Replacing the starter rope"
- Remove the spring housing and spring parts
- Insert a new spring housing with the bottom uppermost and fit the outer spring loop round the lug
- Refit the rope rotor and tension the rewind spring. Replace the fan housing and screw into place. If the spring has popped out of the spring housing, replace it working counterclockwise from the outside inwards.

Maintenance chart

Please note that the following maintenance intervals apply for normal operating conditions only. If your daily working time is longer than normal or operating conditions are difficult (very dusty work area) shorten the specified intervals accordingly.

		before starting work	after finishing work or daily	after each refueling stop	weekly	monthly	if faulty	if damaged	as required	see page:
Complete machine	Visual inspection (condition, leaks)	x		x						
	Clean		x							
Control handle	Check operation	x		x						
Air filter	Clean						x			16
	Replace							x		16
Filter in fuel tank	Check						x			13
Fuel tank	Clean					x				13
Spark plug	Readjust electrode gap						x			19
Cylinder fins	Clean				x					
Spark arresting screen in muffler	Inspect					x				18
	Clean or replace							x		18
All accessible screws and nuts (not adjusting screws)	Retighten								x	

Specifications

Output Table

Nozzles		Total Manometric Height of discharge (in Meter of Water Column)							
suction	discharge	6	9	12	15	18	21	24	27
2"		Total Manometric Height of Discharge (ft)							
		19.7	29.5	39.4	49.0	59.0	69.0	79.0	89.0
		Discharge in Cubic Meters per Hour							
		29	27	25.5	23.5	21.5	19	16	12
		Discharge (US gal/min)							
128	119	112	103	95	84	70	53		

In the following conditions
 Suction height: 1.5 m (5 ft)
 Motor rotation: 6700 rpm

Power unit

STIHL single-cylinder
 two-stroke engine
 Displacement: 56 cm³ (3.4 cu in)
 Bore: 47 mm (1.85 in)
 Piston stroke: 32 mm (1.26 in)

Fuel system:

Carburetor:
 All-position diaphragm carburetor with
 integral fuel pump
 Air filter: Foam filter
 Fuel tank capacity: 2.65 l (0.6 gal)

Fuel mix:
 see chapter headed "Fuel"

Ignition system

Principle:
 Contact magneto ignition system
 Ignition timing: 2.0...2.2 mm (0.8 in)
 before UDC
 Electrode gap: 0.5 mm (0.02 in)
 Contact gap: 0.35...0.4mm
 (0.014 - 0.016 in)

Pump

Maximum speed: 6500 ... 7000 rpm
 Max. intake height: 7 m (22.5 ft)
 Diameter of
 intake hose: 2"
 discharge hose: 2"

Pressure (max.): 3.5 bar (kg/cm²)
 (50 lbf/in²)
 Weight (complete): 7.9 kg (17.4 lb)