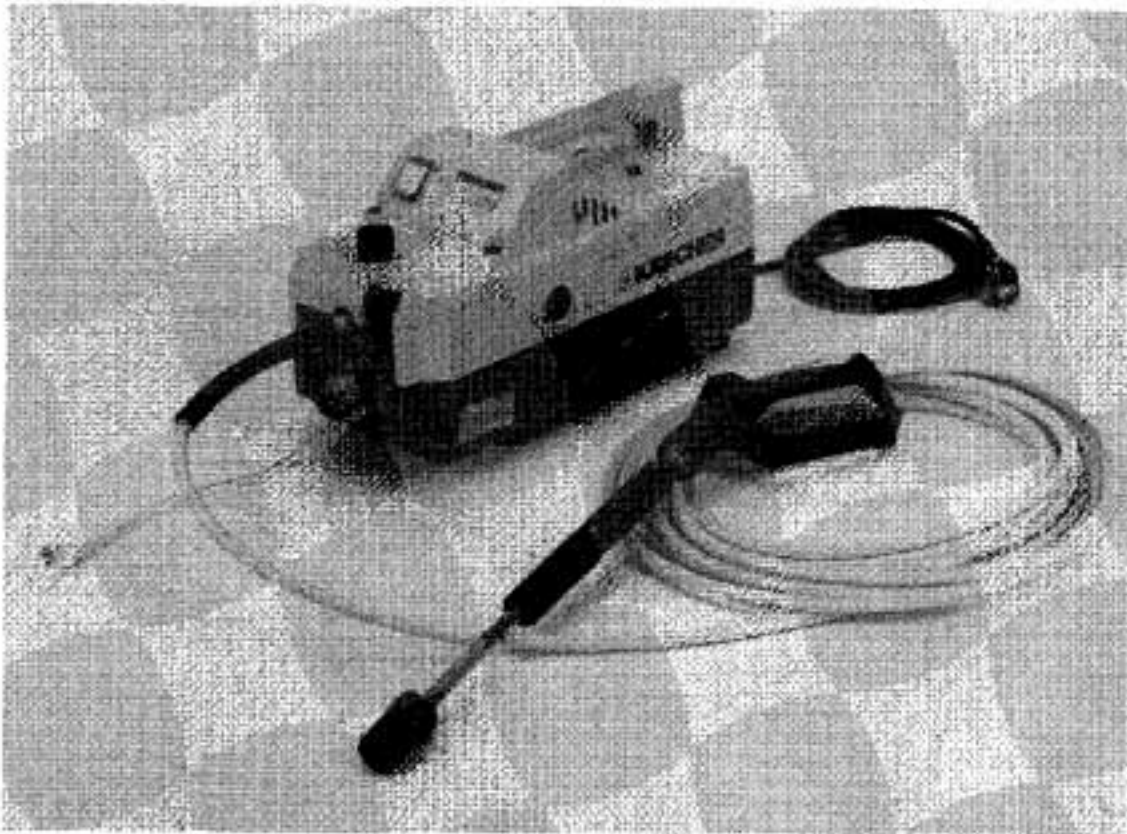


Service - Handbook



Karcher 570

Introduction

The success of our products is based on the ease and speed with which they are serviced.

Proper and effective service is only possible given adequate, practical training and the provision of easily understandable service documentation.

This handbook is designed to help you in your daily work, first as operating instructions and then as work of reference. It can also be used as a training manual.

The information contained in this handbook has been revised up to the date publication, April 1990. It is not covered by our amendment service. You will be regularly informed of modifications in our technical circulars.

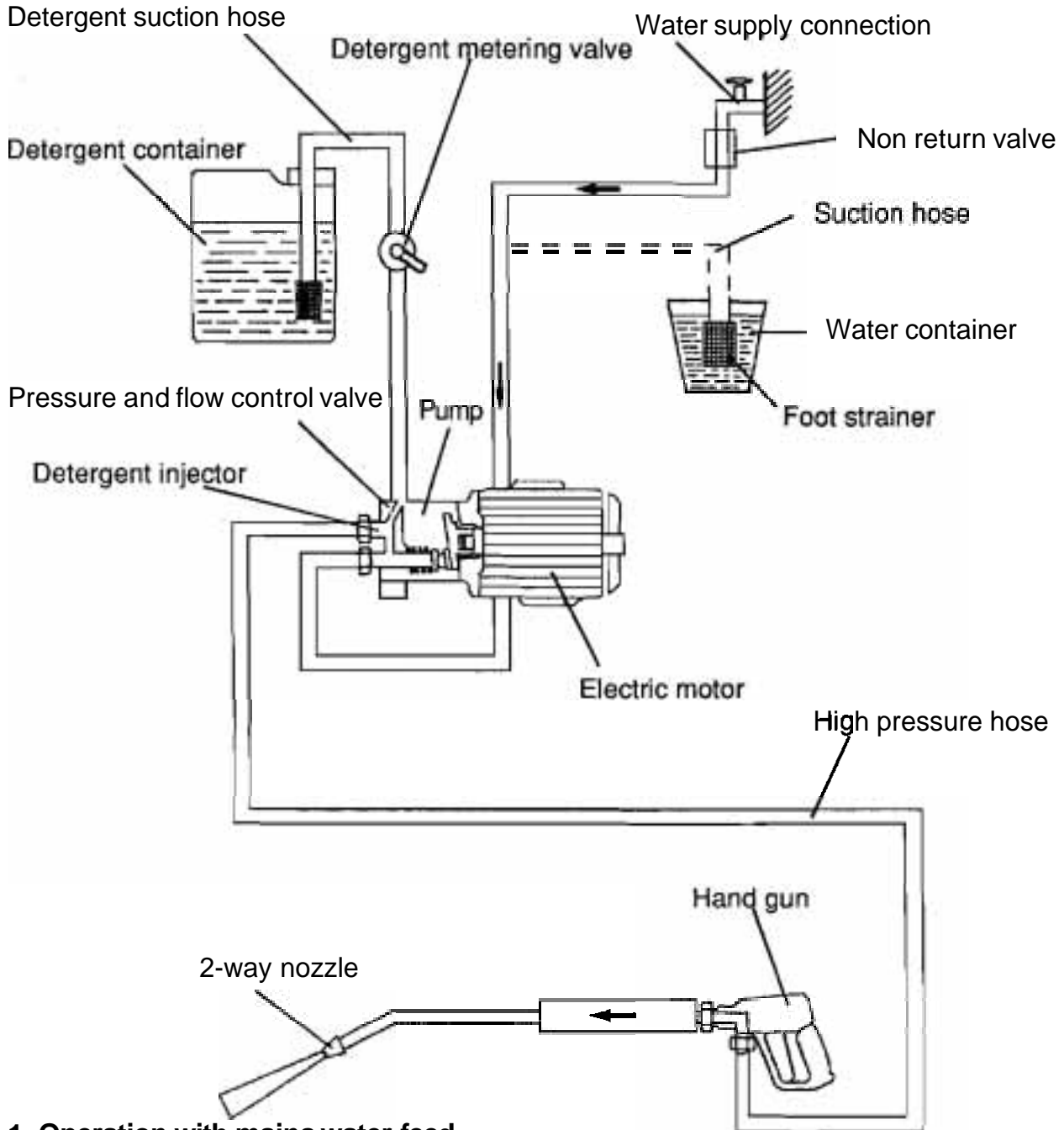
KÄRCHER CUSTOMER SERVICE TRAINING

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ALFRED KÄRCHER GMBH & Co.
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1. Operation with mains water feed

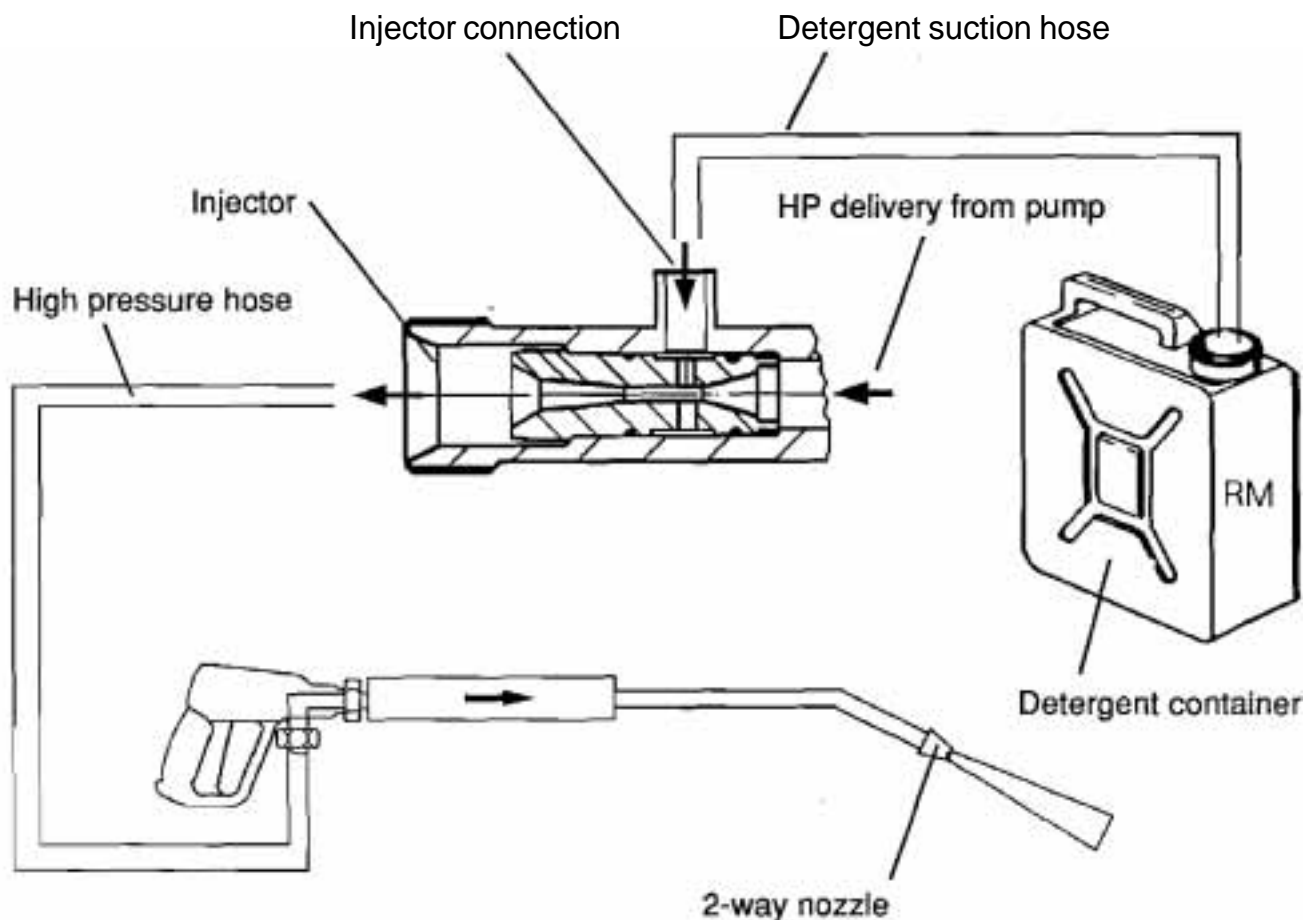
The water from the main connection flows through the non-return valve to the pump and, when the motor is switched on, the pump delivers water under high pressure through the high pressure hose and hand gun to the 2-way nozzle.

2. Operation with suction feed

When the motor is switched on, the pump draws water from the water tank or container, through the foot strainer and delivers it at high pressure through the high-pressure hose and hand gun to the 2-way nozzle.

3. Operation with detergent

When the 2-way nozzle is switched to a fan jet, detergent is drawn by the injector through the detergent suction hose and is mixed with the water delivered by the pump. On the Kärcher 570 cleaner, the amount of detergent fed can be adjusted by means of a metering valve.



1. High-pressure cleaning without detergent

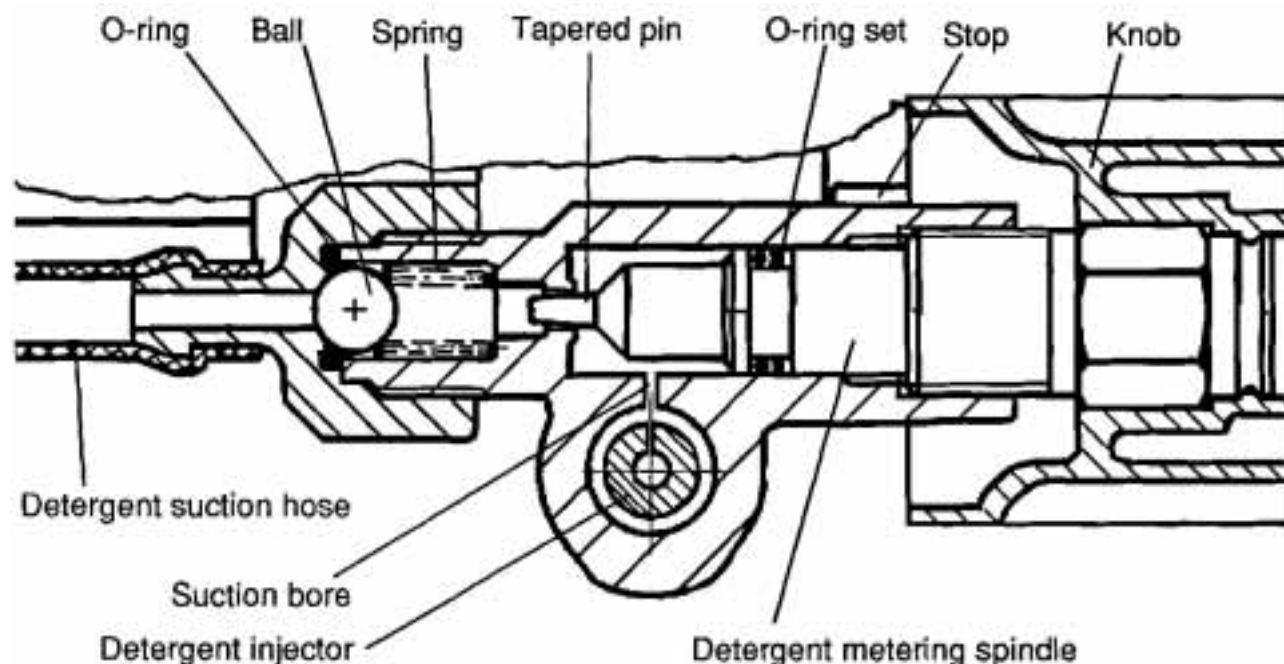
The water is pumped through the injector to the 2-way nozzle. The pressure at which the water leaves the nozzle depends on the size of nozzle bore, the larger the bore, the lower the jet pressure and vice-versa.

2. Low-pressure cleaning with detergent

With the 2-way nozzle switched to **low-pressure** (large nozzle bore), the water passes at high speed through the injector and this results in a reduction in pressure (vacuum) at the injector connection. Such a vacuum is only generated if the bore of the nozzle is larger than the bore of the injector.

The vacuum thus generated causes detergent to be drawn through the detergent non return valve and detergent metering valve, to be mixed with the water delivered by the pump.

Detergent metering valve



3. Detergent metering valve

Position closed

The knob, which is pressed over the metering valve is turned counter-clockwise to screw the tapered end of the metering spindle out of the metering bore.

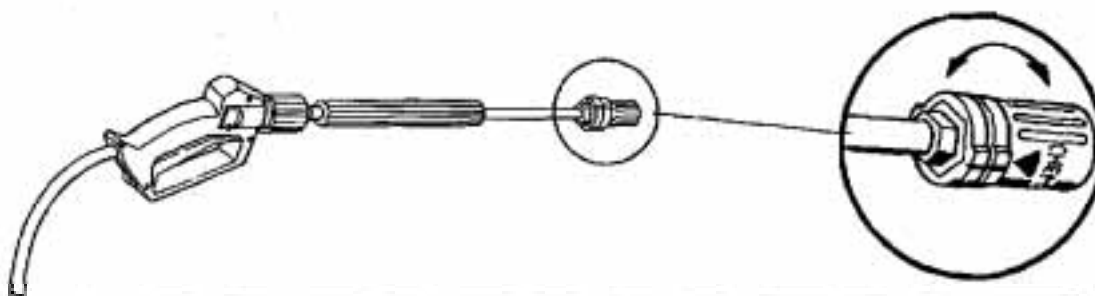
If the metering spindle is turned counter-clockwise as far as it will go, then a large quantity of detergent will be drawn into the water flow. If the spindle is turned clockwise as far as it will go, the valve will be completely closed and there will be no flow of detergent.

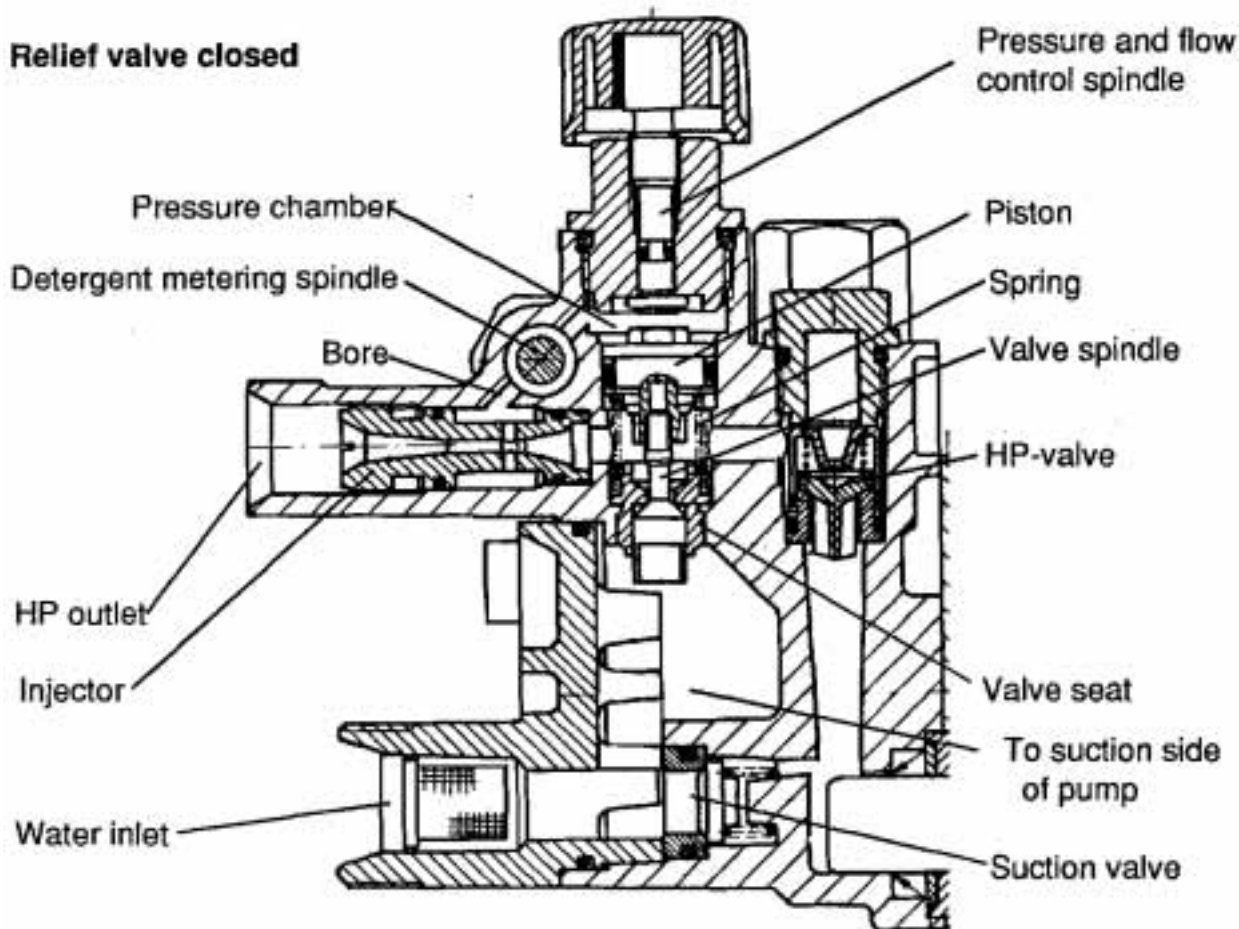
4. Nozzle setting

At normal working pressure (with the 2-way nozzle set to full jet 25°), there is no detergent feed. Detergent is only drawn into the water flow when working at low pressure, using the fan-jet nozzle (with the nozzle turned to "CHEM").

5. Switching the 2-way **nozzle**

On Kärcher 570 cleaners, the guard over the 2-way nozzle is turned to low-pressure fan-jet (CHEM).





1. Function with hand gun open

At standard working pressure with the pressure and flow control valve turned to full water flow the relief valve is closed and the full pump delivery passes to the hand gun.

2. Function with hand gun closed

When the trigger of the hand gun is released, the pressure in the chamber below the relief valve piston increases and water passing through the bore developing a similar pressure in the chamber above the piston. Since the piston has a larger area at the top than at the bottom (where its diameter is the same as that of the spindle), it follows that the force applied to the top of the piston (pressure x area = force) is greater than the force applied to the bottom and thus the force tending to press the piston and the spindle downwards is greater than the force (spring pressure) pressing it upwards. This causes the piston to open the valve spindle to allow water to flow between it and

the valve seat, back to the suction side of the pump.

The gap between the valve spindle and the valve seat is such as to cause a circulation pressure of 10 bar to be applied to the greater effective piston area and thus to hold the valve open against the spring pressure.

When the trigger of the hand gun is pressed again, the pressure in the chamber above the piston falls completely away and the spring closes the overflow valve. The pump then builds up the standard working pressure once again.

3. Pressure and flow control valve

By turning the knob on the pressure and flow control valve, it is possible to partly open the relief valve so that some of the water delivered by the pump is caused to flow back to its suction side, thus reducing the pressure and flow of water delivered to the hand gun.



1. Checking the pump delivery

Fit the **HP** outlet with the shutoff valve (special **tool**) connect the **HP** hose (without hand gun and spray lance), start the cleaner. Close the shutoff valve as far as necessary to bring the cleaner up to working pressure (see Technical Data) and measure the quantity of water delivered into a suitable container in litres, or gallons per minute.

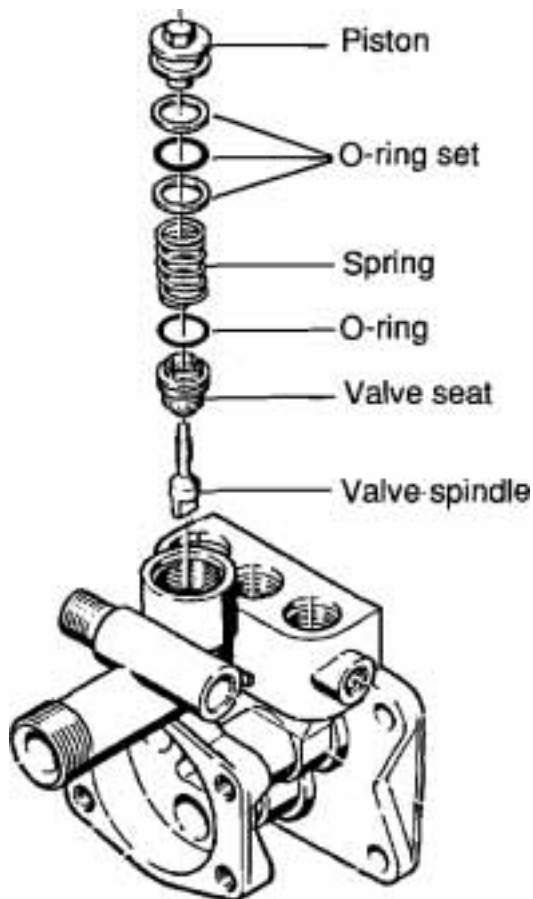
If the quantity of water delivered is too low, this indicates leakage within the pump.

2. Checking the pressure at which the relief valve opens

Fit the shutoff **valve**(special tool) to the HP outlet and start the cleaner. Slowly close the shutoff valve and note when the needle of the pressure gauge indicates that the relief valve has switched to circulation (approx. 10 bar).

The switchover must take place on reaching a pressure of approx. 120 bar.

ADJUSTMENT IS NOT POSSIBLE, THE PRESSURE DEPENDS ON THE DESIGN



3. Checking the detergent feed

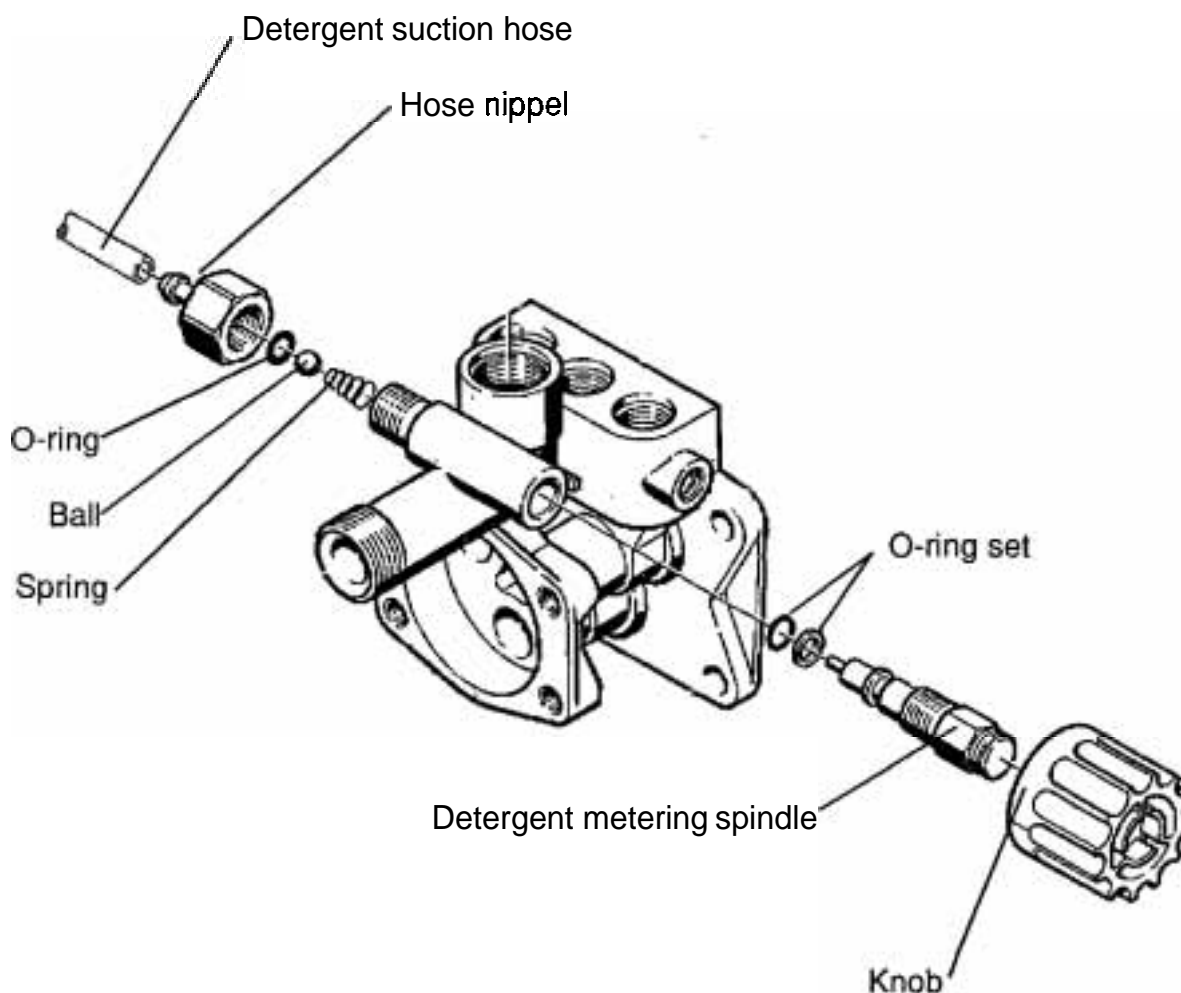
Start the cleaner and switch over to "operation with detergent" by turning the 2-way nozzle to "CHEM".

With the metering valve set to position "O", no detergent should be drawn into the cleaner. If detergent is drawn in, then the knob must be pulled off the metering spindle.

The spindle should be turned hand tight to close the valve completely and then the knob should be pressed back on (the stop limiting the rotation of the knob is at the top on the cylinder head).

4. Checking the detergent flow

The maximum detergent flow is checked by turning the knob to the maximum setting and by then measuring the quantity of detergent drawn from an measurement glass in a given time.



Cleaner does not run

1. Motor does not run

Check main fuse or circuit breaker (10-16 Amp delayed action).

Check the voltage at the power socket and compare it with voltage on the nameplate.

Check the switch on the cleaner.

Check the motor capacitor

2. Circuit breaker trips or fuse blows

Check main fuse or circuit breaker (10-16 Amp delayed action).

Extension cable has too small a conductor cross-section (see Operating Instructions).

Extension cable not unwound from drum.

3. Cleaner switches off after running for a short time

Check current consumption.

Extension cable has too small a conductor cross-section (see Operating Instructions).

Cleaner does not come up to pressure

1. **Inadequate water supply**

Check watersupplyhose (not less than 1/2" i.d.). A supply of at least 600 litres of water per hour must be available.

2. Water inlet filter is blocked

Ease the filter out with a screwdriver, clean it and press it back in by hand.

3. Pump not vented of air

Switch off the cleaner and keep the trigger of the hand gun pulled until a steady flow of water emerges. Then switch the cleaner on again.

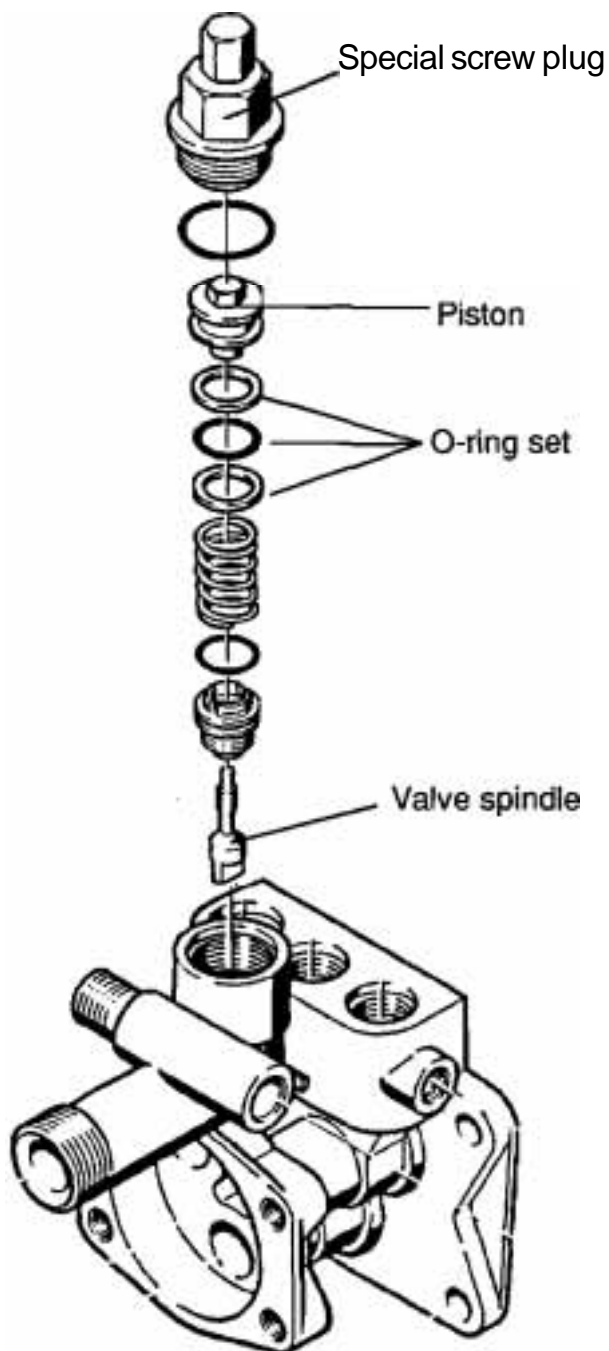
4. Pump is sucking air

Turn off the water-supply valve and check the hose connection.

If you are drawing water by suction from a tank, check that the suction head is not more than 0.5 metres (20). If necessary, fill the suction hose with water.

5. HP nozzle worn (bore too large)

Replace the HP nozzle and check the pressure. If the pressure is still too low, the fault is in the HP pump (measure pump delivery).



Functional faults

1. Relief valve does not switch to circulation

Fault

Relief valve does not close

O-ring set defective

Remove the housing cover
Unscrew the special screw plug.

Using an **8mm** socketdriver, press down the piston and by turning the piston, unscrew it from the valve spindle. Pull out the piston with some suitable pliers.

Remove the O-ring set complete and replace it with a new set, using the special tool after applying silicon grease.

Insert the piston in the cylinder head, screw it to the spindle. Use Loctite (No. 6.869-002) to secure it.

Screw in the special screw plug complete and tighten it with a torque of 30 Nm.

- 2 No detergent is drawn in

Detergent non return valve and O-ring sticking together. Pull the suction hose from the hose nipple. Unscrew the hose nipple using a 19 mm open ended wrench.

Caution: The check ball could fall out.

Remove the spring, ball and O-ring and clean them. Replace the O-ring (without grease), ball and spring.

Note: The smaller end of the spring has to face towards the ball.

3. Air is drawn in when working with detergent

The detergent hose is not secured firmly.

Pull the hose off the nipple, cut off the end and press the hose back on.

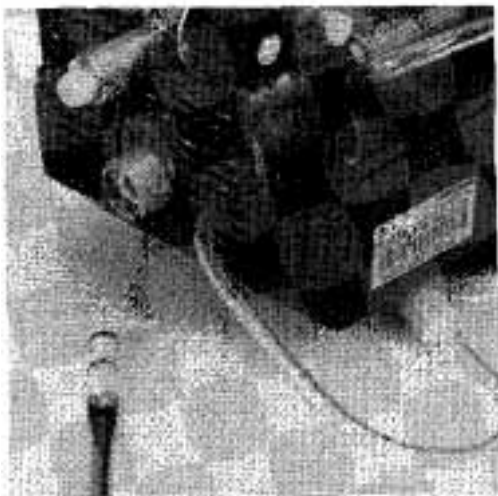
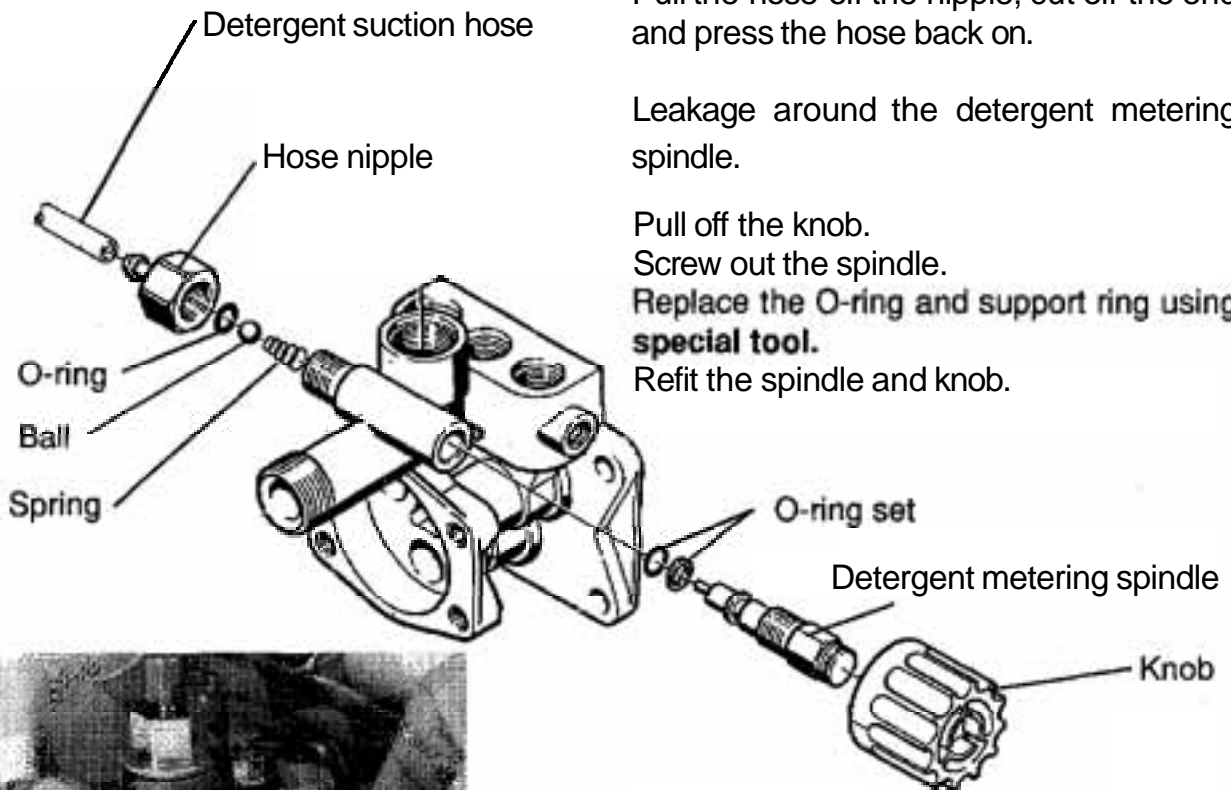
Leakage around the detergent metering spindle.

Pull off the knob.

Screw out the spindle.

Replace the O-ring and support ring using special tool.

Refit the spindle and knob.



4. Water in the detergent container

Detergent non return valve defective or incorrectly fitted.

Pull off the suction hose.

Unscrew the hose nipple.

Remove and clean the spring, ball and O-ring in the hose nipple.

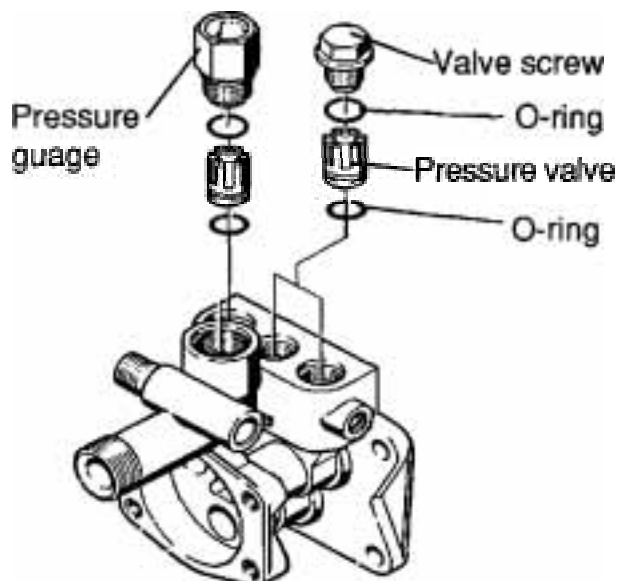
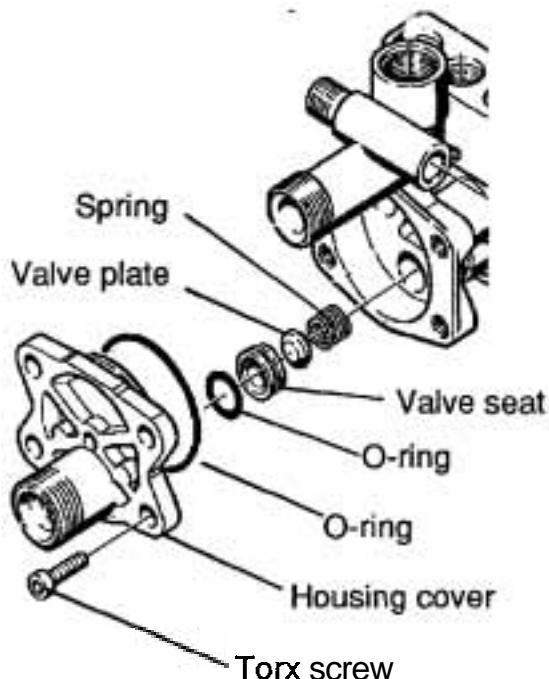
Replace any parts as necessary.

Insert the spring, ball and O-ring in the hose nipple (without grease).

5. Injector defective

Screw out the injector with the aid of a suitable screwdriver.

Replace the O-rings or, if necessary, replace the injector and o-rings.



Measuring the pump delivery indicates a loss of some water.

Possible cause: The suction valve, delivery valve or relief valve defective.

1. Checking the suction valve

Remove the housing cover.

Pull out the valve seat using **special tool**.

Check and, if necessary, replace the valve seat and O-ring.

Remove the valve plate and spring.

Check the sealing surfaces of the valve seat and valve plate for dirt or groove and replace if necessary.

If necessary, replace the O-ring seal of the housing cover.

Tighten the Torx screws with a **torque of 13 Nm**.

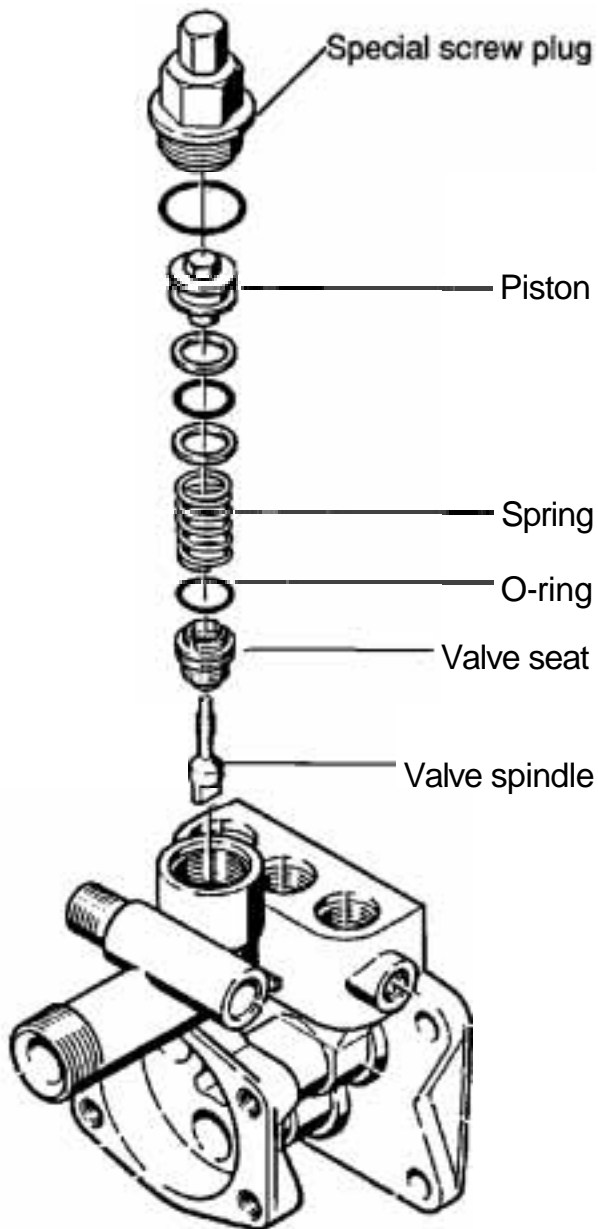
2. Checking the pressure valves

Unscrew the valve screw.

Remove the pressure valve completely with the **special tool**.

Check the sealing surface of the valve and replace if necessary.

Press the valve into the cylinder head, screw in the valve screw and tighten with a **torque of 30 Nm**.



3. Checking the relief valve

Unscrew the special screw plug.

Using an **8mm** socket driver, press the piston downwards and unscrew it from the valve spindle.

Pull out the piston with pliers and remove the spring. Using the special tool, screw out the valve seat.

Remove the valve seat and valve spindle from the cylinder head.

Check the valve seat and valve spindle for damage or wear and replace if necessary.

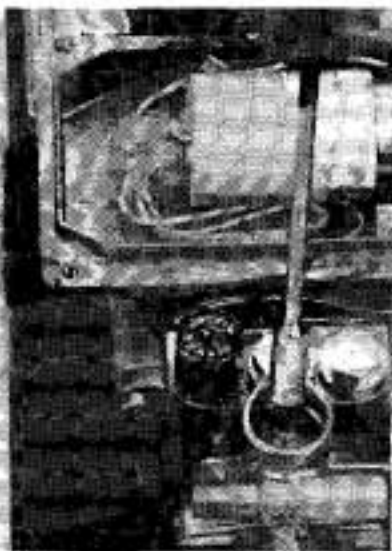
If necessary, replace the valve-seat O-ring.

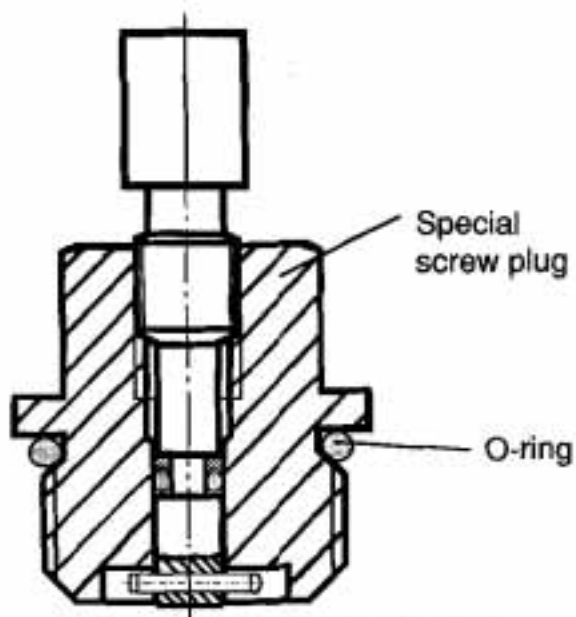
Insert the valve seat and valve spindle in the cylinder head and screw in firmly with special tool.

Insert the spring and piston and screw the piston on tightly.

Secure the piston with loctite (No. **6.869-002**).

Screw in the special screw plug and tighten with a torque of 30 Nm.



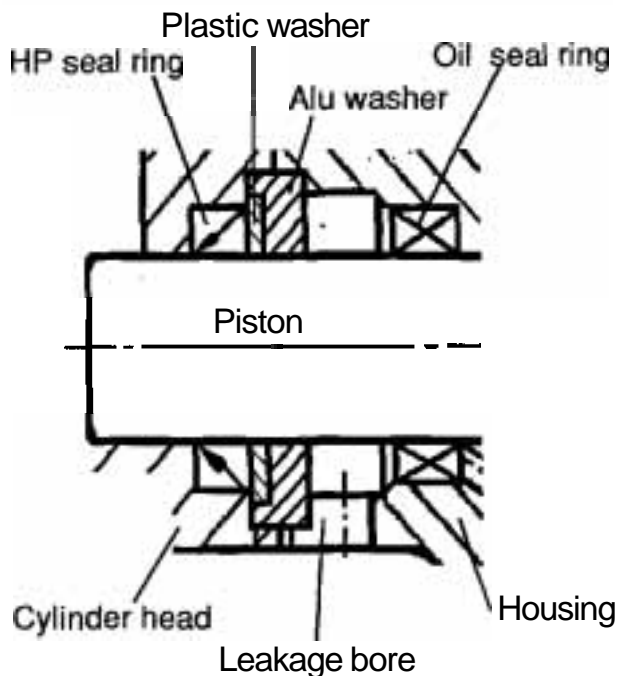


1. Pressure and Flow Control

When there is leakage between the control spindle and the screw plug, then it is necessary to replace the special screw plug complete.

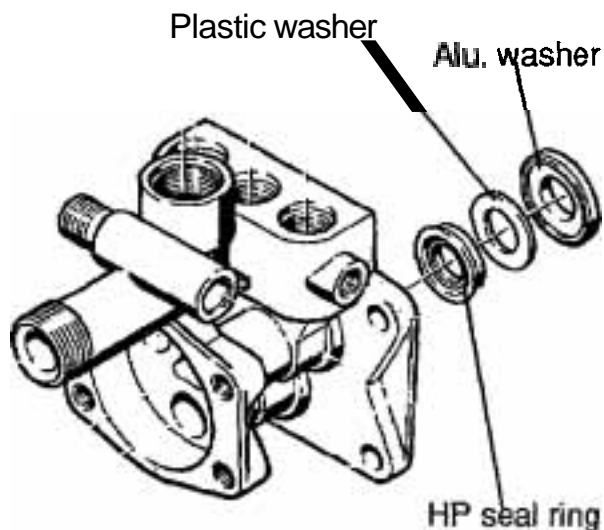
Before screwing in the special screw plug, fit it with a new O-ring.

Screw the special screw plug back into the cylinder head and tighten with a **torque of 30 Nm**.



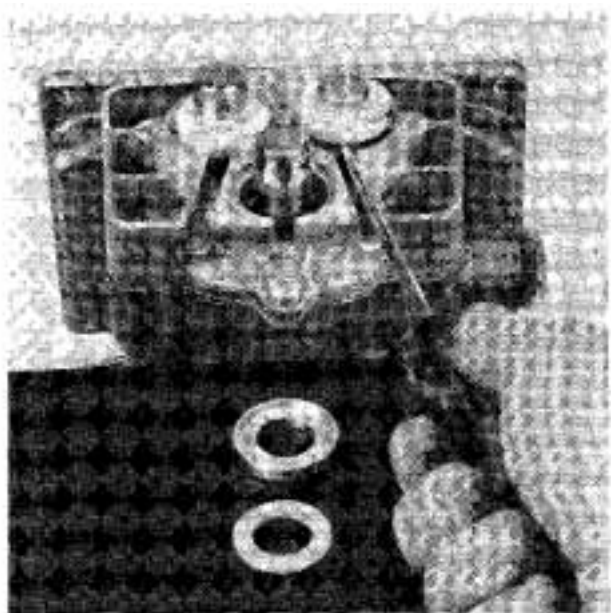
2. Leakage between the cylinder head and housing.

A leakage of one drop per minute is acceptable.



Unscrew the cylinder head screws.
Remove the cylinder head.

Pull out the HP seal ring by hand or, if this is difficult, use a puller.



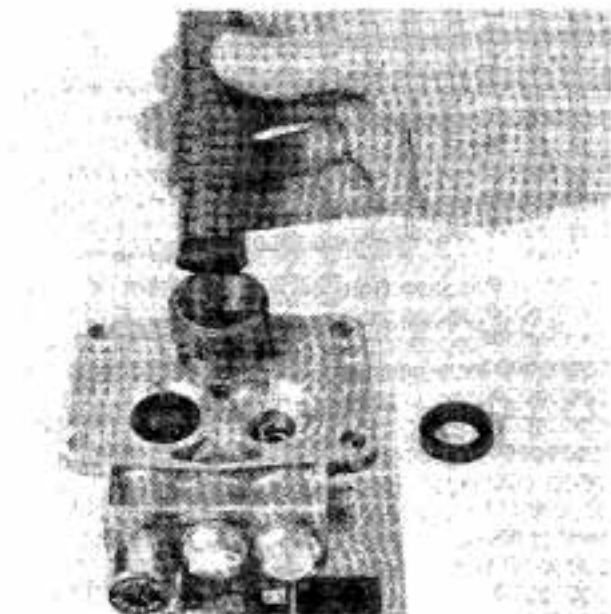
3. Leakage at the low-pressure seal

Pass a screwdriver through the leakage groove and carefully lever out the aluminium washer.

Caution: Take care not to damage the piston.

Replace plastic washer.

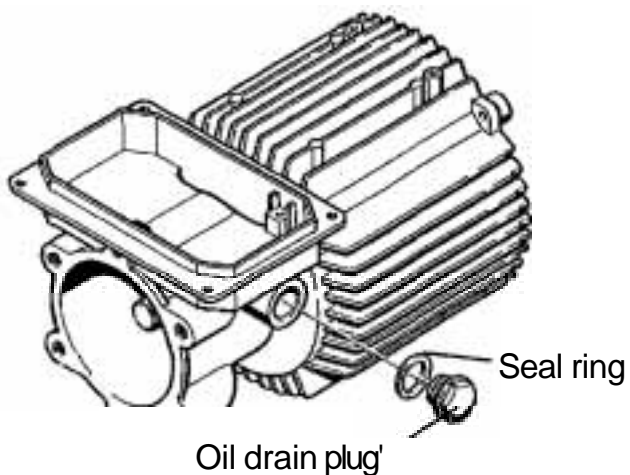
Note: The crowned side of the plastic washer faces towards the cylinder head.



Grease a new HP seal ring with silicon grease and fit it using the **special tool**.

Be sure to fit it correctly with the lips facing the cylinder head.

Reinstall cylinder head and tighten the screws with a torque of 15 Nm.



1. Oil drain plug leaking

Lay the cleaner on its side and unscrew the oil drain plug.

Top off with correct oil.

6.288-050 SAE 15W40

Replace the seal ring and screw in the oil drain plug.

2. Piston seals and housing seal leaking

Remove the cylinder head.
Drain the oil and replace the drain plug seal ring.

Screw assembly screws (extralong screws) into the housing.

Unscrew the housing fastening screws.

Caution: Loosen the assembly screws evenly as you draw off the housing.



Remove the housing together with the pistons.



Pass a screwdriver through the leakage grooves and lever out the oil seal rings.

Caution: Take care not to damage the sealing surfaces in the guide.

Remove the O-ring.
Clean the housing.

Note: The new oil seal rings should be soaked in water for some time before they are fitted.

Without applying any grease, fit the oil seal rings in the housing using the special tool.

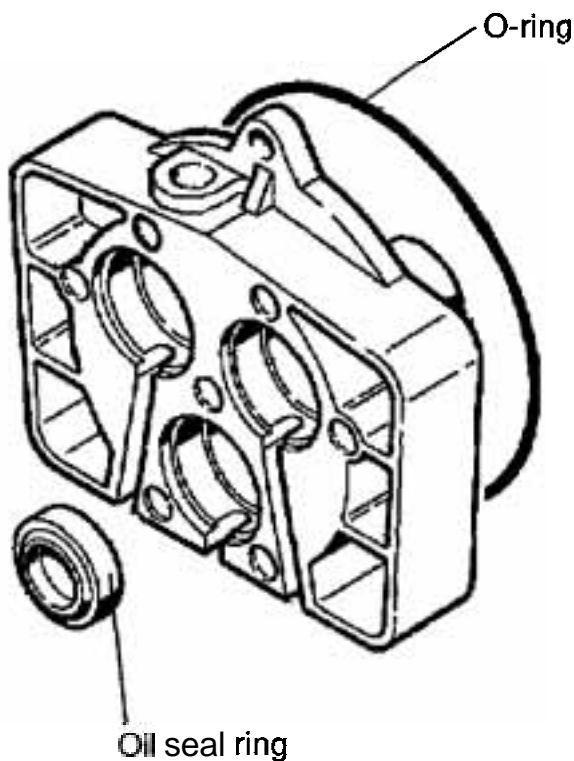
Coat the O-ring with silicon grease and place it in the groove of the housing.

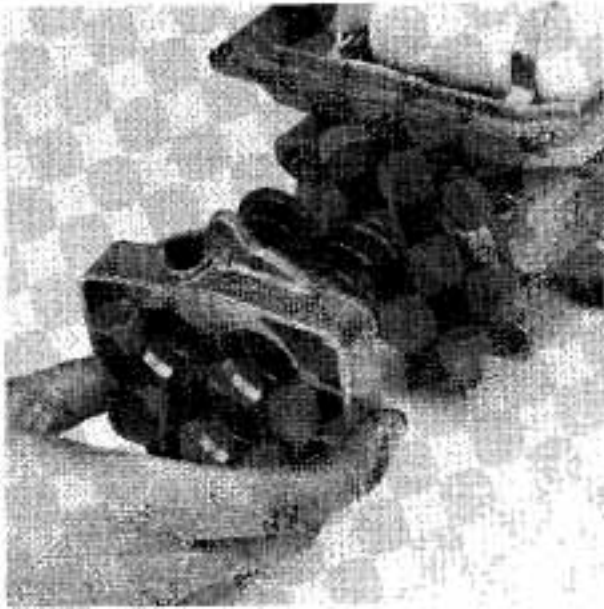
Insert the pistons and springs in the housing.

Pull the housing evenly into place by means of the assembly screws.

Fill with app. **0.2 l** SAE **15W40** (6.288-050).

Refit oil drain plug.





Pump runs very noisily

1. Piston jammed, swash plate worn

Remove the cylinder head.

Use the assembly screws to pull off the housing.

Check the pistons for wear and, if necessary, replace the pistons and springs.

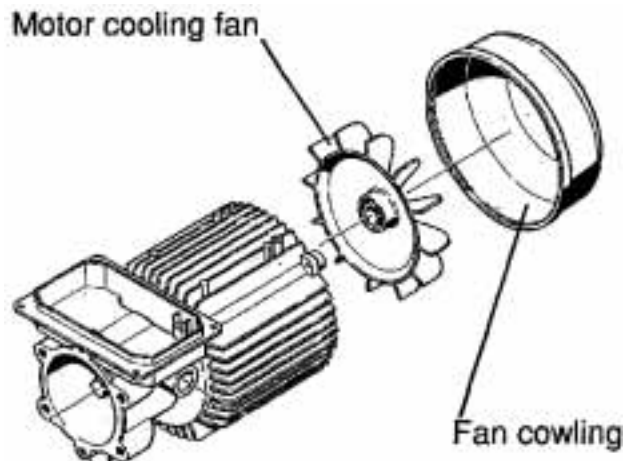
Carefully lever out the oil seal rings with a screwdriver.

Fit new oil seal rings without applying grease or oil.

Check the swash plate for wear and replace if worn.

The motor is generally replaced complete with the swash plate.

The swash plate can only be removed by pressing the motor shaft out of it in the direction of the motor cooling fan with a hand-lever press.



2 Motor fan defective

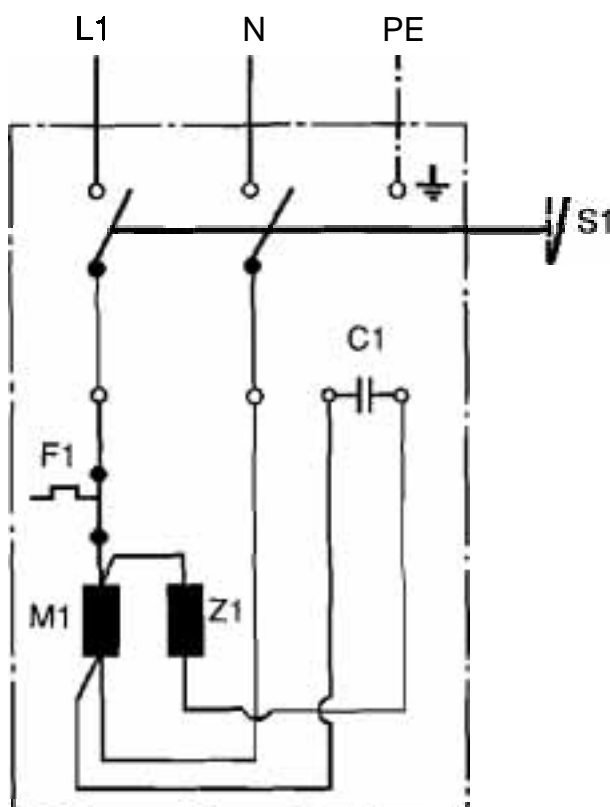
Pull off the motor cooling fan using the special tool.

Press a new fan onto the motor shaft.
Fit the fan cowling.

	Part No.	Page
Shutoff valve	2.901 -030	8
O-ring insertion mandrel for relief valve piston	5.901 -104	11
O-ring insertion mandrel for detergent metering spindle	5.901-102	12
Valve pliers	4.901-062	13
Valveseat removal tool	4.901-054	14
Mounting mandrel for HP and oil seal rings.	2.901 -031	16
Puller for motor cooling	6.81 6-069	19

Cleaner type		Kärcher 570	From Serial No. 426281
Part No. for cleaner		1.721-120	1.721-120
Circuit diagram Part No.		0.087-354	0.087-354
Voltage	Volt	220	220
Type of current	Ph/Hz	1/50	1/50
Full-load power consumption	Amp.	9,5	9,5
HP nozzle		050	045
Working pressure - full load*)	bar	80	82 - 92
Working pressure - part load	bar	10	10
Circulation pressure	bar	10	10
Relief valve opening pressure	bar	120	120
Flow volume - full load	l/h	505 - 540	505 - 540
Flow volume - part load	l/h	150	150
Detergent flow - max.	l/min	0,4	0,4

*) on the cleaner's pressure gauge.



1. Electrical connection

The electrical voltage is connected from L1 to the motor M1 by way of the motor switch S1.

The phase L1 is fed by way of the thermal overload trip L1 to the main auxiliary winding Z1 of the motor.

The capacitor is connected between the main and auxiliary windings C1.

A lead from the main winding of the motor leads back to the neutral terminal N.

2. Circuit diagram

Legend

S1 Motor switch

F1 Thermo contact

M1 Motor

Z1 Auxiliary winding



C1 Capacitor

Modification as of April 1989

Old		New	
Cylinder head	5.550-116	Cylinder head	5.550-144
Delivery valve		Delivery Valve	
Spring	5.332-116	Valve complete	4.580-180
Valve Pin	5.584-056	O-ring	6.362-480
Valve screw	5.583-088	Valve screw	5.583-108
Working pressure		Working pressure	
Cleaner's pressure guage	80 bar	Cleaner's pressure guage	90 bar
Calibrated pressure guage	68-78 bar	Calibrated pressure guage	80-88 bar
Spray nozzle 050	6.415-480	Spray nozzle 045	6.415-461
Spray lance	4.760-177	Spray lance	4.760-166
Connected load	1.85 kW	Connected load	2.00 kW

Modification kit: For cleaners with serial No. up to 423 780, there is a modification kit available to change over to the latest version. Modifikation kit No. 2.882-293

Modifikation as of December 1989

Old	New
 <p>The individual parts for the pressure and flow control spindle are still available.</p>	 <p>The pressure and flow control adjustment can only be ordered complete with this part Nr. 4.401-054</p>



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