Operating instructions
Roll-over car wash system
SoftCare Evo
Type SE10

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International:
see WashTec International

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Changes may be made at any time to the form, equipment and technology of items covered in this documentation. For this reason, no claims relating to the aforementioned may be derived from the information, illustration and descriptions provided in these operating instructions for appliances or systems manufactured after the date of issue of these operating instructions.

Warranty

We reserve the right to make changes to this publication.

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Introduction

These operating instructions are intended to help you familiarize yourself with your system.

To start with, we have a few important things to say about safety. Please observe these instructions without fail, in order to prevent damage to machinery and injury to persons.

You will then learn about the structure and function of your system. We show you step by step how to put the system into operation and how to operate it.

We also provide you with tips on maintenance and care, so that your system functions well at all times.

Please pay unconditional attention to the warranty specifications.

Any questions? Before you do anything else, always look in the table of contents. You are sure to find what you need there.

If you do need us in person: just call us or send a fax:

WashTec Service National

Service Phone: 0180 - 305 55 55

(0)1803 (=0.09 €/min. from a German fixed network, 0.42 €/min. maximum price from mobile networks)

Service Fax: 0180 - 505 55 55

(0)1805 (=0.14 €/ min. from a German fixed network, 0.42 €/ min. maximum price from mobile networks)

- **24 hours a day**
- **7 days a week**.

WashTec Service International see next page(s).

The term WashTec Service includes the personnel of the WashTec as well as the personnel of WashTec partners.

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Dear Customer,

thank you for opting for WashTec. You have selected a product that will be in reliable operation in your car wash business for a long time. And there is a lot you can do to ensure this. Please read this operating manual carefully and observe the maintenance and care instructions listed in it. This significantly increases the service life of your system.

In case of a **problem**, please check the following points first:

- Observe the error messages on the display of the operating unit!
- Could the problem be due to a power failure or a failure in the air or water supply?
- Are missing respectively wrong equipment or non-dearated feed pumps the cause?
- Is the emergency-off button/switch activated?
- Are the light barriers dirty?

Our customer service will remedy defects in/on the system in the scope of our **warranty**. These relate to the service that is part of the delivery scope of our machines and do not include: equipment, wear and tear parts, damages caused by improper operation, etc. The exclusions from warranty are listed on the next two pages.

If **components** were connected during the installation of your new system (for example existing aggregates like pumps etc. or equipment by other manufacturers like automatic doors, water recycling plants, etc.) that we did not deliver, possible operational breakdowns caused by these components are also excluded from our warranty. This naturally also applies to breakdowns directly related to this third-party equipment.

In order to prevent **damages to vehicles** passing through the car wash facility, you must observe all notices in the operating manual. A sequencer controls the automatic doors (in winter operation together with light barrier signals) by means of switching impulses for opening and closing the car wash facility. For protection against damage, the doors must be equipped with suitable safety installations. Please contact your door supplier.

We wish you lots of success with your business.

WashTec Cleaning Technology GmbH

Exclusions from warranty

Valid for machine types:		GW	WT	CW	WR	SW
●	Delivery and installation of any type of illuminates and lights	X	X	X		X
●	Delivery and installation of sign boards or –foils.	X	X	X	X	X
●	Program modifications on behalf of the ordering party	X	X	X	X	X
●	Delivery of operating facilities/ program cards	X	X	X	X	X
●	Provision of cleaning agents and operating facilities	X	X	X	X	X
●	Remedy of damages which are related to the impact of frost	X	X	X	X	X
●	Exchange of defect pre-fusing in the supply line (customer supplied main distributor)	X	X	X	X	X
●	Replacement of system parts which got lost by theft	X	X	X	X	X
●	Replacement and disposal of filter media such as quartz sand, filter pads, etc.				X	
●	Disposal of silt traps and sedimentation tanks	X	X	X	X	X
●	Filling and spindling of the under-floor heater					X
●	Remedy of damages or malfunctions which have been caused by improper operation of the system through the operator. **Examples:**	X	X	X	X	X
1.	Usage of non-original WashTec spare parts or non-original brush material by the ordering party	X	X	X	X	X
2.	Manual actuation of contactors	X	X	X	X	X
3.	Damage of the system or accessories by the operator or third party	X	X	X	X	X
4.	Cleaning of the system with unsuitable cleaning agents, e.g. hydrofluoric acid.	X	X	X	X	X
5.	Unprofessional cleaning of the system with high-pressure units	X	X	X	X	X
6.	Soiling of brushes or dosing facilities due to mixing up or using the wrong cleaning agents such as shampoo, wax, etc.	X	X	X	X	X
7.	Wrong setting of the dosing facilities by the ordering party and resultand malfunctions	X	X	X	X	X
8.	Empty cleaning agent containers or dosing pumps which have not been bleeded.	X	X	X	X	X
9.	Violent removal of jammed program cards	X	X	X	X	X
10.	Dirty light barriers and spray nozzles	X	X	X	X	X
11.	Malfunctions caused by clogging of the fresh water line, process water line and waste water line and by cleaning these lines	X	X	X	X	X
12.	Explicit non-observance of the maintenance and care work which has to be carried out by the operator and which is outlined in the operating instructions / operating journal	X	X	X	X	X

Valid for machine types:		GW	WT	CW	WR	SW
13.	Services which have to be supplied to remedy or minimize, odour problems and which have been caused by insufficient cleaning of the recycling system and its environment	X	X	X	X	X
14.	Not accurately timed disposal or cleaning of the silt trap, sedimentation tanks, pump storage tank and light oil- or coalescence separator	X	X	X	X	X
15.	Cleaning the filter of the water supply and the freeze protection facility					X
16.	No or wrong supply of coins, wrong coins					X
17.	Cleaning of the chimney and heater systems					X
18.	All malfunctions at the burner of the heating system and yearly emission control					X
	Submitance of evidence for the above examples rests with the ordering party					
•	**Consumable material which is not included in the scope of supplies:**					X

Aqua tester	Brush feet	Replacement brush for surface washer
Fine-filter plug	Flat jet nozzle	Hand lance
High-pressure pistol	Injectors	Lance holder
Lance pipe	Lance hose	Foam lance
Dirt filter	Protection hood	Protection hood for brush
Collar	Support for foam brush	

Explanation of the short terms:

GW ➢ Gantry wash system
WT ➢ Conveyor wash tunnel
CW ➢ Commercial vehicle wash system
WR ➢ Water recycling system
SW ➢ Self service wash systems

List of contents

Subject **Page no.**

Introduction

1. General information **1-1**

1.1. Guide to symbols 1-1
1.2. Declaration of conformity 1-1

2. Safety instructions **2-1**

2.1. General information 2-1
2.2. Intended use 2-2
2.3. Additional dangers 2-3
2.4. Working safely 2-3
2.5. Safety during operation 2-6

3. Structure and function **3-1**

3.1. Mechanical structure 3-2
3.2. Additional equipment - mechanical 3-7
3.3. Fluid technical system 3-16
3.3.1. Fluid system 3-17
3.3.2. Spray system 3-22
3.4. Control system and electronics 3-27
3.5. Special equipment 3-29

4. Commissioning/assembly/dis-mantling/ conversion/disposal **4-1**

4.1. Commissioning 4-1
4.2. Dismantling/conversion/transport/ assembly 4-9
4.3. Disposal 4-9

5. Washing operation **5-1**

5.1. Safety instructions 5-1
5.2. Preparing the vehicle 5-4
5.3. Car wash procedure 5-5
5.4. Procedure for emergency stops and malfunctions 5-8

6. Settings and checking 6-1

6.1. Adjusting the compressed air 6-1
6.2. Bleeding the suction lines at the dosing pumps 6-4
6.3. Adjusting the dosing pump 6-5
6.4. Bleeding the suction lines at the rim cleaner pump 6-6
6.5. Adjust rim cleaner pump 6-7
6.6. Reading and setting the water flowing pressure 6-8

7. Maintenance and care 7-1

7.1. Safety instructions 7-1
7.2. Care 7-2
7.2.1. Lime-scale removal 7-4
7.2.2. Cleaning of the system 7-5
7.2.3. Cleaning of the floor 7-5
7.2.4. Cleaning of plastic parts 7-6
7.2.5. Cleaning of the brushes 7-6
7.2.6. Special treatment 7-9
7.3. Maintenance 7-10
7.3.1. Maintenance on demand 7-10
7.3.2. Weekly Maintenance 7-11
7.3.3. Monthly Maintenance 7-12
7.3.4. Maintenance every six months 7-13
7.3.5. Annually 7-14

8. Error messages 8-1

9. Operating units 9-1

9.1. Operating terminal CP1 9-4
9.2. Operating terminal CP0 9-6
9.3. Starting up the operating terminal 9-9
9.4. Starting wash programs 9-9
9.5. Manual operation with the control buttons 9-12
9.6. Service programs 9-16
9.7. Multifunctional unit 9-90
9.7.1. Overview 9-90
9.7.2. Structure 9-91
9.7.3. Commissioning 9-91
9.7.4. Wash operation with card 9-92
9.7.5. Start wash programs with cards 9-93
9.7.6. Wash operation with slot machine 9-95
9.7.7. Wash operation with barcode reader 9-96
9.7.8. Cleaning the card reader 9-97

10. Special equipment **10-1**

10.1. Fresh-water supply systems 10-2
10.2. Under-body wash - turnable 10-4
10.3. Under-body wash – sectionwise 10-7
10.4. Vehicle moving device 10-8
10.5. Rolling shutter door control 10-9

11. Technical specifications **11-1**

11.1. Dimensions 11-1
11.2. Technical Data 11-2

12. Appendix **12-1**

1. General information

1.1. Guide to symbols

This section contains an explanation of the symbols used in these operating instructions.

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, may result in death or serious injury.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTICE

Indicates sections which contain important information.

Indicates work operations which need to be carried out.

This symbol is followed by a description about how the status of the system changes after an operation has been carried out.

1.2. Declaration of conformity

The system is developed and manufactured in compliance with valid European standards and guidelines. The EC declaration of conformity for your system will be handed to you by WashTec Service after commissioning of the system. Add the declaration to the end of these operating instructions. The declaration of conformity is part of the system documentation.

2. Safety instructions

2.1. General information

In order to guarantee safe use and fault-free operation, all individuals who are involved in any way with the roll-over car wash system must have read and understood this operating manual. The instructions in this operating manual must be complied with by all individuals who operate the roll-over car wash system or who work on it. In addition, the regulations and directives which are applicable in the place of use must also be observed (safety regulations, environmental requirements, etc.).

Operating company

The operating company is obliged only to allow individuals to work on the roll-over car wash system who

- are familiar with the regulations for safety in the workplace and for accident prevention,
- have been instructed in using the system,
- who have previously read and understood this operating manual.

We recommend that every operating company has this confirmed in writing by its personnel.

Personnel

All individuals who are commissioned to work on the roll-over car wash system must, before work commences, undertake

- to observe the regulations for safety in the workplace and accident prevention,
- and to read this operating manual carefully and to observe its content.

2.2. Intended use

The roll-over car wash system is designed for cleaning the outside of closed vehicles or parts of vehicles, in which the cleaning, drying or special treatment equipment are power driven.

⚠ CAUTION

Vehicles which extend beyond the allowed vehicle-width or vehicle-length should not be washed.

Pay attention to the information in chapter 11 "Technical specifications".

If the roll-over car wash system is used for vehicles with certain features, this may result in damage to the vehicle.

Pay attention to the information in chapter 5 "Washing operation".

⚠ DANGER

The safety of persons and animals, the roll-over car wash system and vehicles cannot be guaranteed if the wash system is not used in accordance with its intended use.

WashTec can accept no liability for any other usage or any modifications made to the roll-over car wash system.

2.3. Additional dangers

The roll-over car wash system has been manufactured in accordance with the latest safety standards and has been rated as absolutely operationally safe. Despite this fact, the system can represent a danger if it is used incorrectly or for any purpose other than its intended use by untrained personnel.

No liability can be accepted for damages caused by improper use, incorrect operation or non-observance of the operating instructions

2.4. Working safely

⚠ DANGER

General

All work on the roll-over car wash system other than that specifically described in this operating manual may only be carried out by WashTec Service personnel.

No liability can be accepted for damages that are caused by improper work - in particular work that is not described in this operating manual.

Work on the roll-over car wash system that is described in this operating manual may only be carried out by authorised, qualified and fully instructed personnel. These individuals must have received instruction from WashTec Service about potential dangers.

Work on the electrical parts of the system may only be carried out by qualified individuals as defined by DIN EN 50110-1 Section 3.2.1. In countries where DIN EN 50110-1 does not apply, the country-specific regulations must be observed.

⚠ DANGER

Protective clothes

Working without protective clothes can cause serious accidents.

- ☞ **Always refer to the safety instructions of the cleaning and care agent manufacturer for proper precautions.**
- ☞ **Observe the accident prevention regulations which apply to the place of operation.**
- ☞ **Wear proper non-skid boots, protective goggles and appropriate protective clothes.**

⚠ DANGER

Maintenance
Service
Care

Maintenance, service and care work carried out on the machine while it is switched on can cause serious accidents.

Always work through the following steps before starting maintenance, service and care work:

- ☞ **Move the roll-over car wash system into an easily accessible position**
- ☞ **Switch off the electricity on the complete system**
- ☞ **Turn off the compressed air. Close the air supply at the ball valve located in the fluid-technical system cabinet and turn the input pressure regulator to 0 bars.**
- ☞ **Switch off the water supply.**
- ☞ **Secure the system to prevent it from being switched on unintentionally.**

⚠ DANGER

Checks
Faults

Carrying out checking and adjustment work and attempting to rectify errors on the roll-over car wash system while it is switched on can result in serious accidents.

If necessary, authorised, qualified and instructed individuals who are familiar with the potential risks may enter the system while it is switched on.

In this case, there must always be a second person at the main switch who can switch off the roll-over car wash system in the event of an emergency.

A falling roof brush or roof nozzle can cause serious accidents. Never stand underneath the roof brush or roof nozzle.

Keep adequate distance to power driven elements.

Do not touch moving elements while the system is running.

Please observe that also idle elements may suddenly be moved by the controller.

⚠ DANGER

Operation with malfunctions and damages

On several pages within these operating instructions it is pointed out that WashTec Service has to be informed in case of malfunctions or damages to the system. Continued operation of the system without consideration of this information may cause damage to machinery and injury to persons.

Adhere to the instructions in these operating instructions and inform WashTec Service to avoid damage to machinery and injury to persons. WashTec can accept no responsibility for damage to machinery and injury to persons if this is not observed.

2.5. Safety during operation

⚠ DANGER

Safety instructions for the operator

The roll-over car wash system may only be operated by authorised, qualified and instructed personnel. These individuals must have received instruction from WashTec Service personnel about potential dangers.

With self-service wash systems, there must always be one person who can be reached during operation who is familiar with the system and is able to take or initiate the necessary measures to prevent dangerous situations in the event of failure.

For wash systems which are operated in self-service mode, e.g. the operator or his personnel are not present during the wash cycle, and where the driver remains seated in the vehicle during the wash cycle it is highly recommended to install a video surveillance for controlling the wash area.

In dangerous situations, the "emergency off" button is to be pressed immediately.

The wash system operator is obliged to inform vehicle wash customers of the potential risks involved in using the roll-over car wash system.

This information must be displayed on instruction notices in front of the vehicle wash building (see next page and chapter 5.1. and 5.2).

⚠ DANGER **Safety instructions for the customer**	**Incorrect use of the roll-over car wash system by customers can cause serious accidents.** **Customers must be informed of the following without fail:** ▪ **For safety reasons, the instructions of the car wash plant operator must be obeyed.**
Only for car wash systems, where the customer remains in his car during the wash cycle	▪ **The vehicle may not be left by any person in case of problems. Wait for instructions of the operator.**
Only for car wash systems, where the customer leaves his car during the wash cycle	▪ **The operating range of the roll-over car wash system should not be entered during the wash cycle without attendance of the operator and only with his agreement.** ▪ **Children and animals may not be left alone inside the car during the wash cycle.** ▪ **No persons are allowed within the operating range of the roll-over car wash system during the wash process. The drive in area has to be kept clear.** ▪ **Any animals are to be kept on a leash and under supervision.**

3. Structure and function

This chapter is designed to help you familiarise yourself with the structure and function of your roll-over car wash system. The following pages contain a short description of the individual assemblies, to assist you in this process:

Mechanical structure 3-2
Additional equipment - mechanical 3-7
Fluid technical system 3-16
Control system and electronics 3-27

The diagrams below will help you with orientation.

Side view

Front view

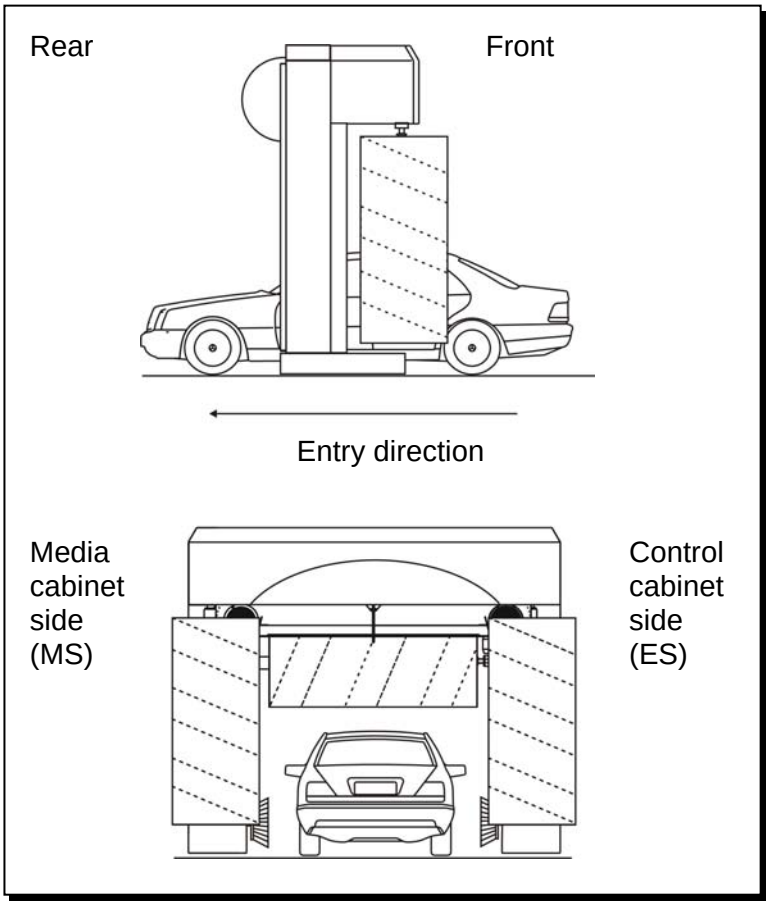


Fig. 3-1: Orientation diagrams

3.1. Mechanical structure

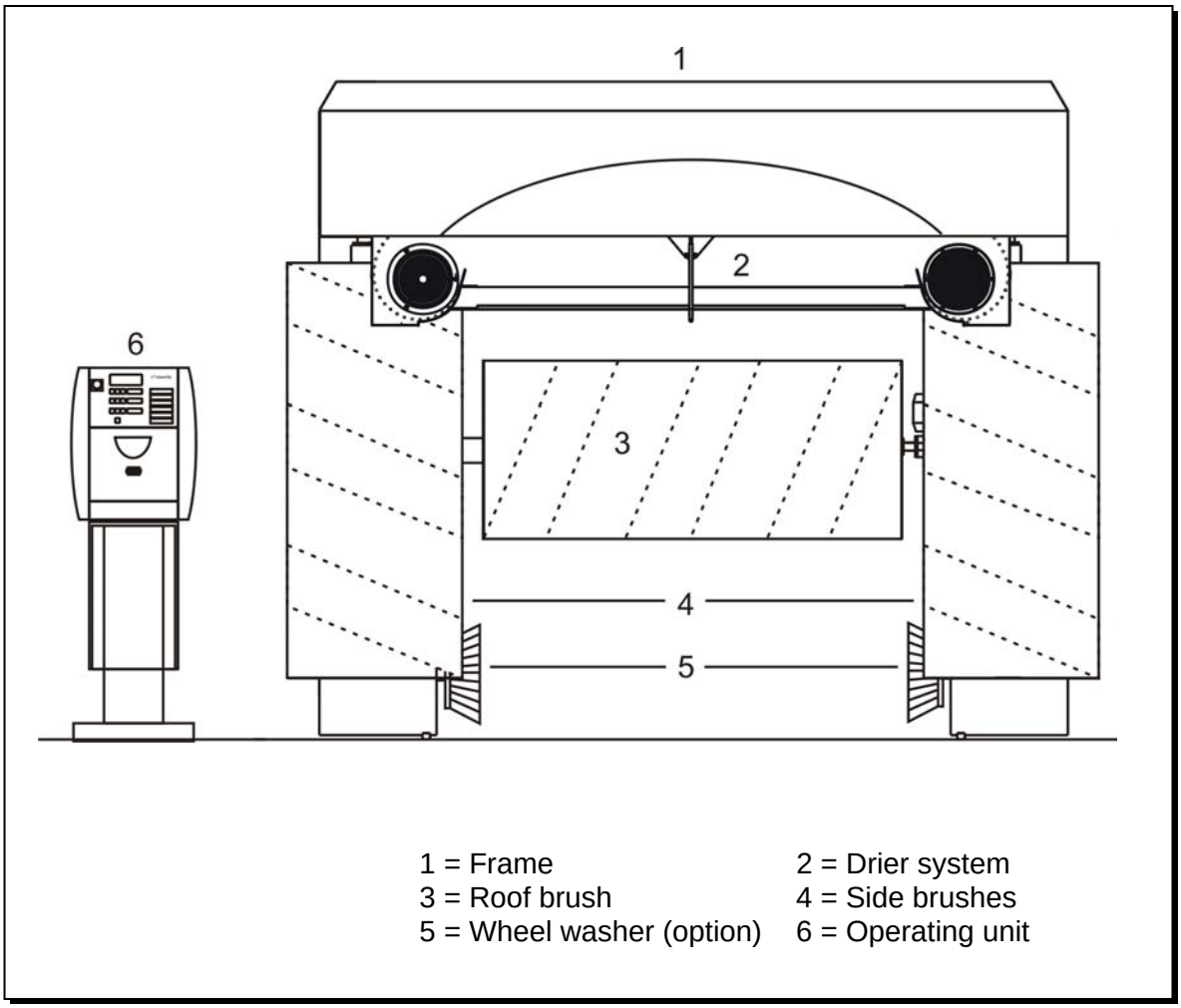


Fig. 3-2: Roll-over car wash system- front view

Frame

The self-supporting and galvanised sheet-steel frame forms the main framework of the roll-over car wash system. The two side elements contain the control cabinet on the right and the fluid technical system on the left side. They act as supporting elements for the upper frame. There is a base with a travel mechanism below each side element.

Roof brush

Up and down movements are executed steplessly by means of flat belts and the lift drive.

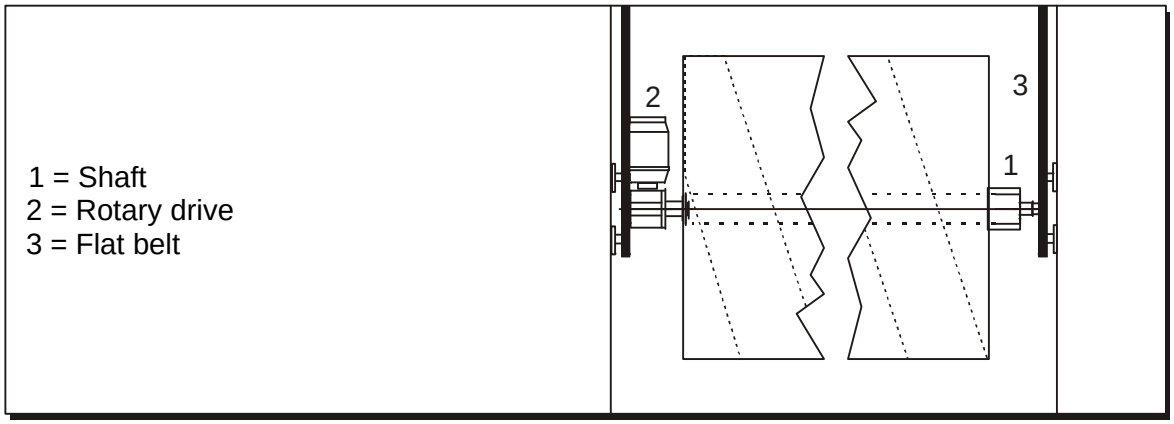


Fig. 3-3: Roof brush

During the wash stage, the vehicle contour is memorised. The central control system regulates the up and down movement based on this data.

Before the drying starts, the roof brush is switched on to remove remaining water out of the brush.

Side brushes

The side brushes are connected directly to the rotary drive by rollers. The side brushes are mounted on a moving bearing for precise adaptation to the vehicle contours.

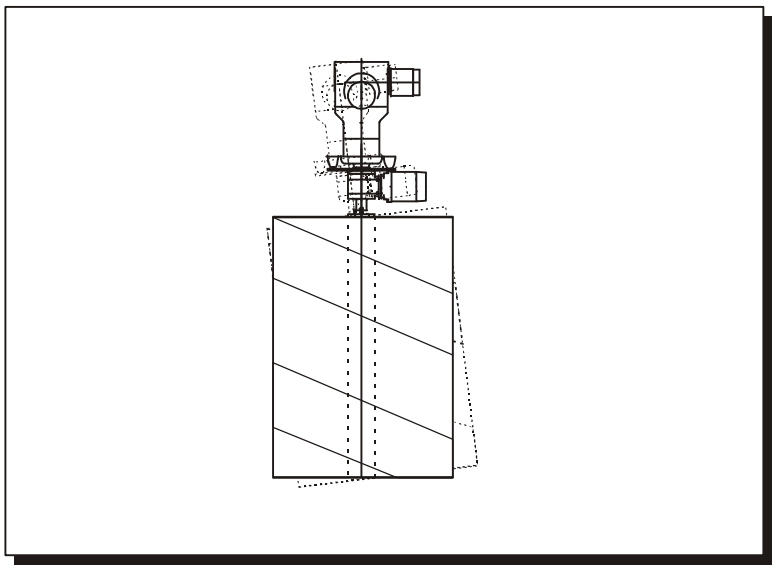


Fig. 3-4: Side brushes on movable bearings

During the wash stage, the vehicle contour is memorised. The microprocessor control system regulates the position and consequently the application pressure of the side brushes on the basis of these measured data.

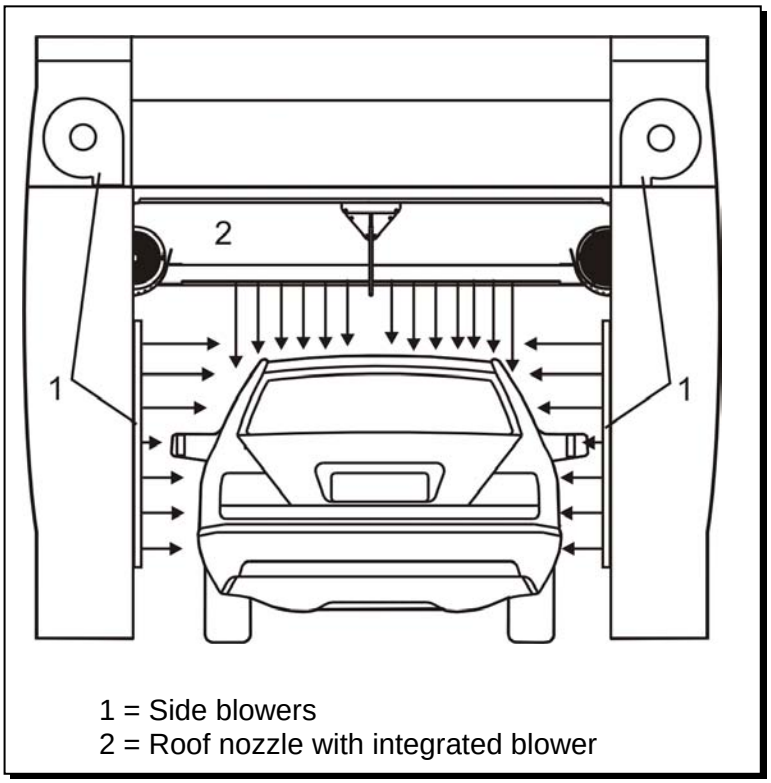
NOTICE

The roll-over car wash system is pre-set in the factory with the optimum settings for the type of brushes installed on commissioning. If other brush materials are subsequently used, adjustments must be made by WashTec Service.

Only original WashTec brushes and coverings may be used. If other brushes are used, no guarantee whatsoever can be provided for the function of the system.

Drier system

The drier system is made up of the two side nozzles and the two side blowers (1) as well as a roof nozzle with an integrated blower (2). Optionally the roof nozzle may be swivel-mounted (see Chapter 3.2. “Additional equipment - mechanical“). The roof nozzle is mounted on guide rails. Up and down movements are executed steplessly by means of two flat belts on each side and the lift drive.



1 = Side blowers
2 = Roof nozzle with integrated blower

Fig. 3-5: Drier system

Safety ring switch

There is a safety ring switch (1) located at the centre of the nozzle.

As soon as the safety ring switch touches a vehicle during the drying stage, the gantry is stopped and the roof nozzle makes a correcting movement (upwards). If the safety ring switch is thereby not released the system is switched off. The display on the operating terminal shows an error message.

As soon as safety ring switch touches a vehicle during the wash stage which is too high, the system is switched off. The display on the operating terminal shows an error message.

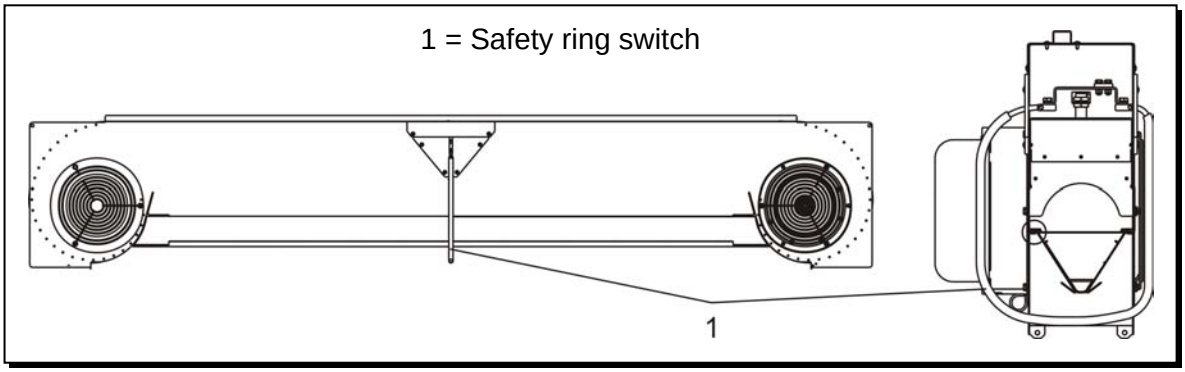


Fig. 3-6: Roof nozzle with safety ring switch

⚠ CAUTION

Faulty safety ring switches can cause damage to vehicles.

☞ **Check the safety ring switches every day before starting up (see Chapter 4, "Commissioning")**

Obstacles on the vehicle (taxi signs, ski-holders, etc.) may not, in some circumstances, be detected, and can be damaged.

☞ **Override obstacles manually (see chapter 9, "Operating units")**

3.2. Additional equipment - mechanical

Depending on the model, your roll-over car wash system will have various kinds of additional equipment.

Wheel washer

One of the following wheel washers may be installed in the system:

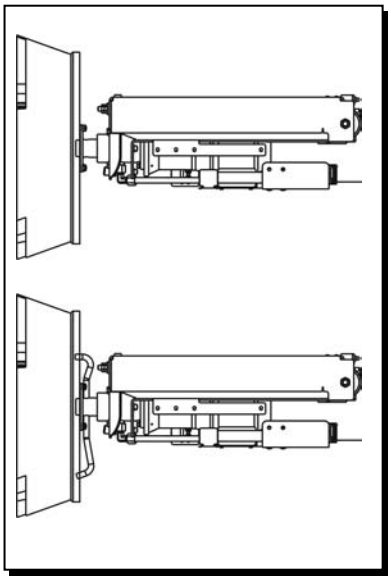


Fig. 3-7: Wheel washer

Low-pressure brush wheel washer 18“ rims. Horizontally guided. Directly driven.

High-pressure brush wheel washer for 18“ rims. Horizontally guided. Directly driven.

The wheel wash brushes are integrated in both side elements and are driven directly. A light barrier (1) identifies the wheel.

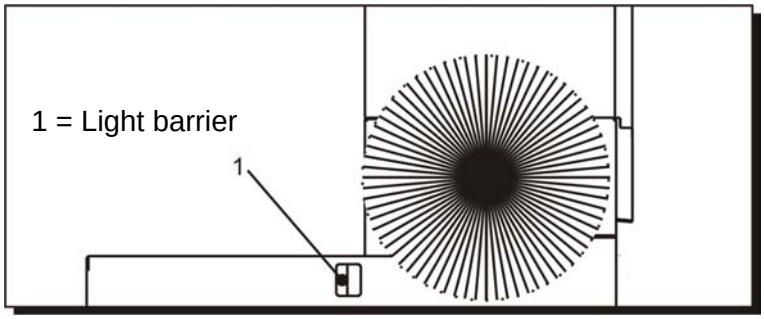


Fig. 3-8: Light barrier

The wheel wash is executed as described below:

⇒ The light barrier detects the wheel
⇒ The gantry comes to a standstill
⇒ The wheel washing brush is extended / The high-pressure spray system is switched on
⇒ The wheel is washed
⇒ The wheel washing brush returns to its starting position / The high-pressure spray system is switched off
⇒ The gantry starts again

High-pressure wheel washers may be set-up in a way that also the sills are cleaned. As soon as the vehicle front is detected the high-pressure spray system is switched on and the wheel wash brushes rotate. High-pressure spray system and wheel wash brushes are switched off at the vehicle rear. The wheel wash is executed as described before.

⚠ CAUTION

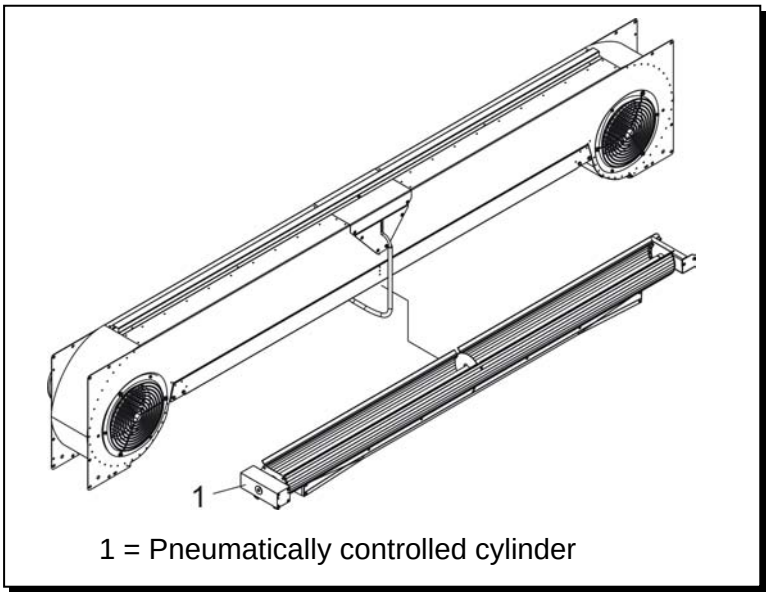
Vehicles with rear wheel cladding may be damaged in automatic operating mode (only brush wheel washer.

☞ **Control the wheel washing manually (see Chapter 9 "Operating units").**

Swivel mounted and rotating roof nozzle

The swivel mounted and the rotating roof nozzle improves the drying result.

Swivel-mounted roof nozzle: A pneumatically controlled cylinder (1) swivels the nozzle towards the front or rear of the vehicle.



1 = Pneumatically controlled cylinder

Fig. 3-9: Swivel-mounted roof nozzle

Roof nozzle with light barrier system

The light barrier system at the roof nozzle serves two functions:

1. Contour control

When a vehicle has not yet been captured by the brush wash the light barrier system controls the up and down movement of the roof nozzle.

2. Safety function

The light barriers serve as an additional safety device to the safety ring switch.

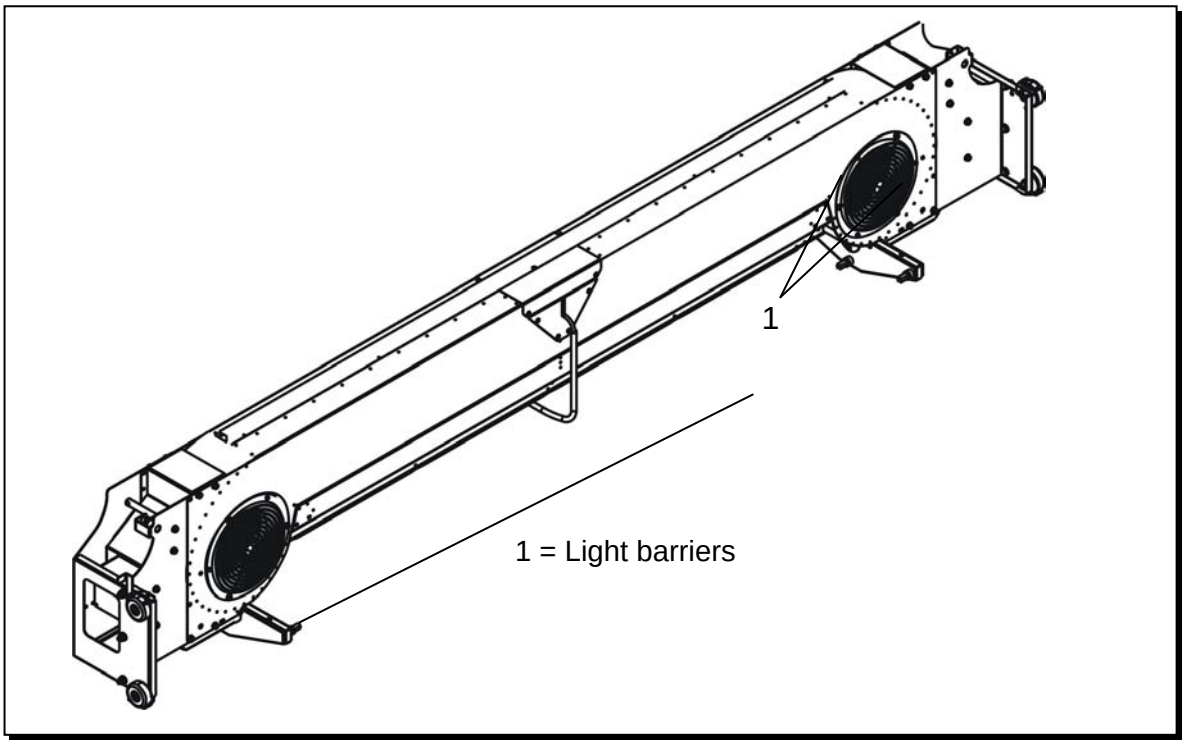


Fig. 3-10: Position of the light barriers

⚠ CAUTION

Defect light-barriers can cause damage to vehicles.

☞ **Observe the operating unit for failure messages during start-up of the system.**

Obstacles on the vehicle (taxi signs, ski-holders, etc.) may not, in some circumstances, be detected, and can be damaged.

☞ **Override obstacles manually (see chapter 9, "Operating units").**

Positioning aid and traffic light

Positioning of the vehicle in the wash hall is supported by a light barrier system and a traffic light in the side element.

Two light barriers (1) and (2) identify the position of the vehicle.

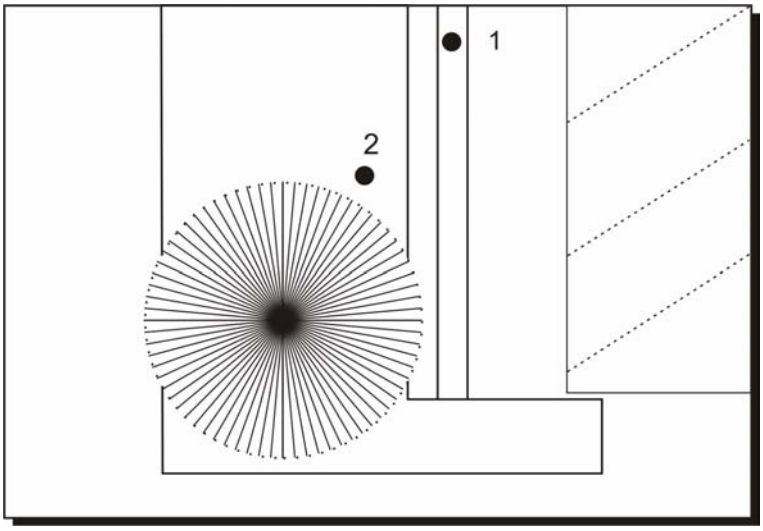


Fig. 3-11: Position of the traffic-light light barriers

The symbols for positioning the vehicle are actuated by the light barriers, e.g.:

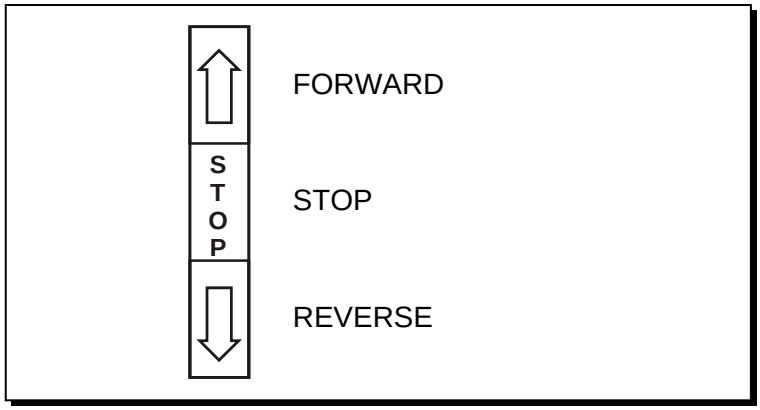


Fig. 3-12: Traffic-light symbols

⚠ DANGER

Insufficient safety distances may cause severe accidents.

Systems where the safety distance does not comply with local regulations may not be operated without safety shutdowns.

In case the system has been modified afterwards in a way that the safety distance does not comply anymore with local regulations (i.e. installation of a heater, a wash basin, etc.) the wash system has to be refitted with a safety shutdown.

The safety shutdown feature is used in short or narrow buildings in which the safety distance specified by the valid, applicable local regulations cannot be maintained.

Safety shutdown front side

The safety shutdown feature at the front side consists of a door mounted on moving bearings and a proximity switch which is located in the lower side element. The system shuts down as soon as pressure is applied to the door.

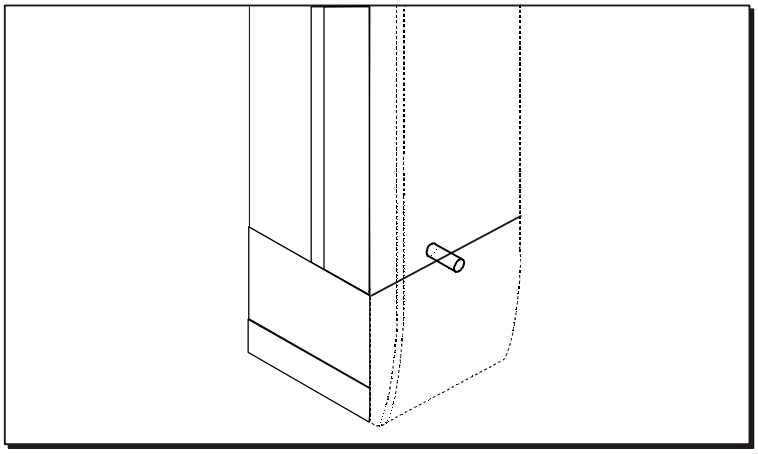


Fig. 3-13: Safety shutdown - front side

:

Safety shutdown rear side

The safety shutdown at the rear side consists of a u-profile (2) which is mounted above the guidance rail of the roof nozzle. The u-profile is swivel mounted and fastened by a bolt with a spring at the bottom. A switch (1) is located behind the u-profile. The system shuts down as soon as frontal pressure is applied to the u-profile.

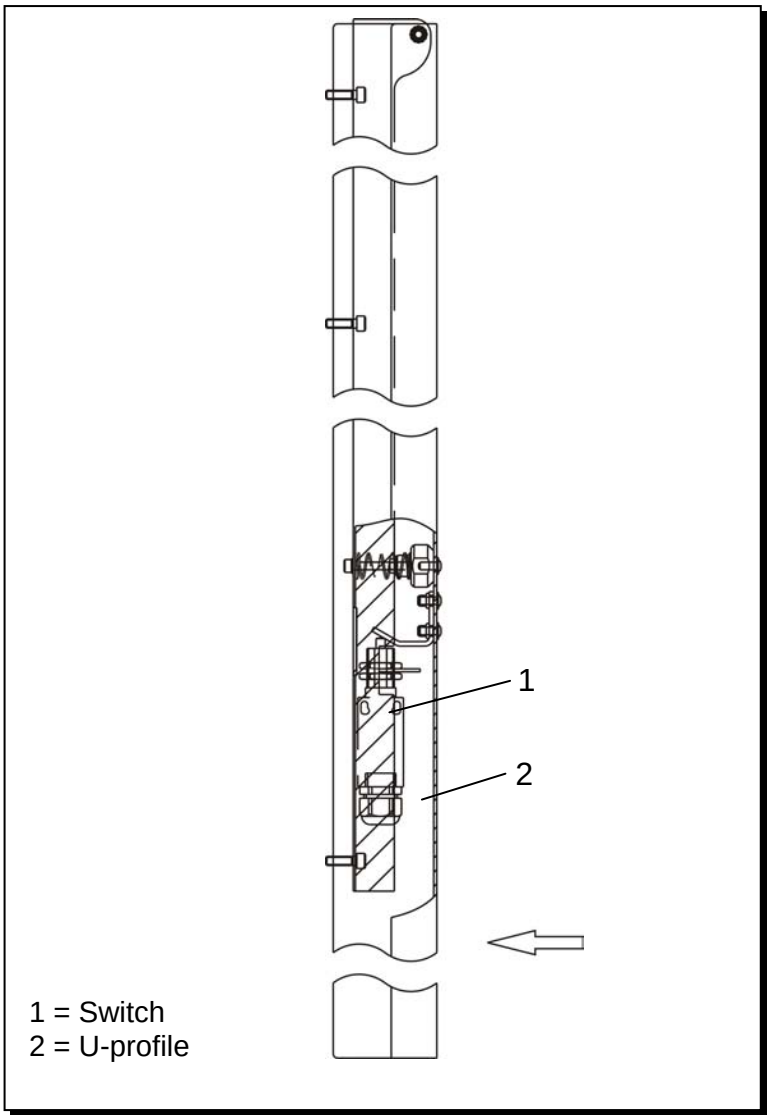


Fig. 3-14: Safety shutdown - rear side

Outer sides

The safety shutdown at the outer sides consists of a swivel mounted splash guard and a switch which is mounted behind the splash guard in the lower section. The system shuts down as soon as pressure is applied to the splash guard.

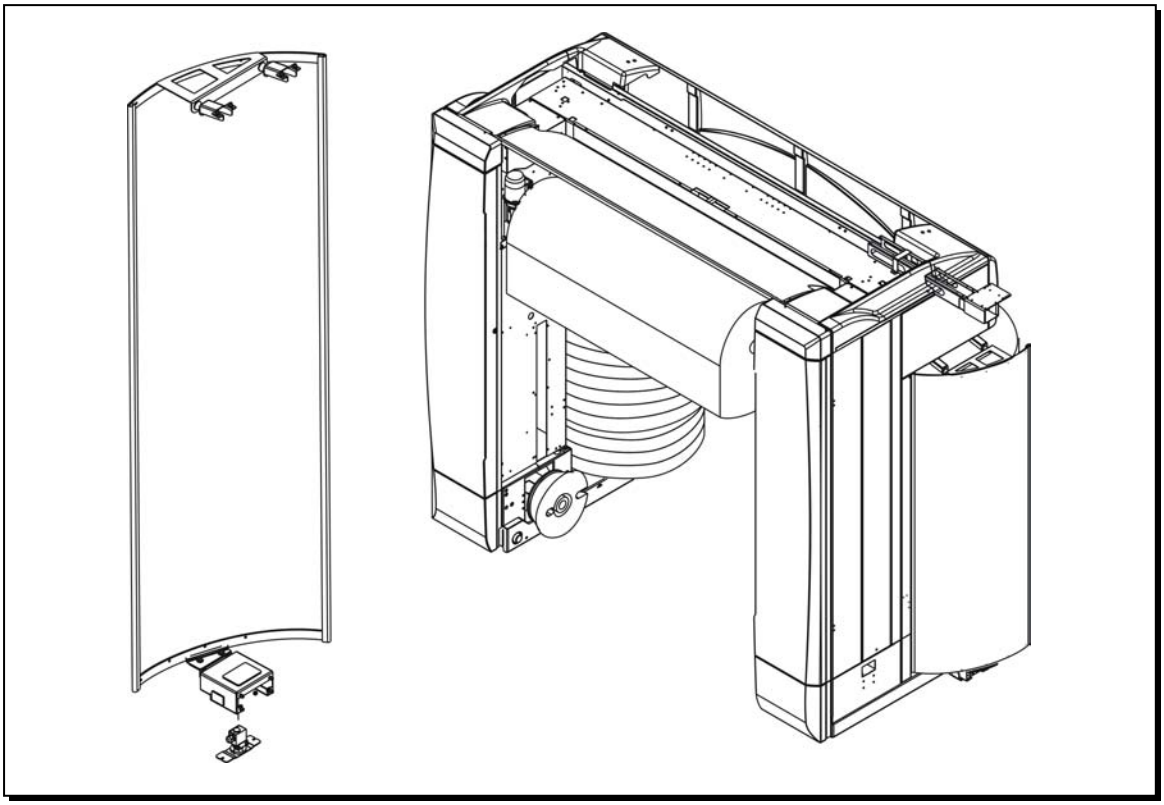


Fig. 3-15: Safety shutdown outer sides

⚠ DANGER

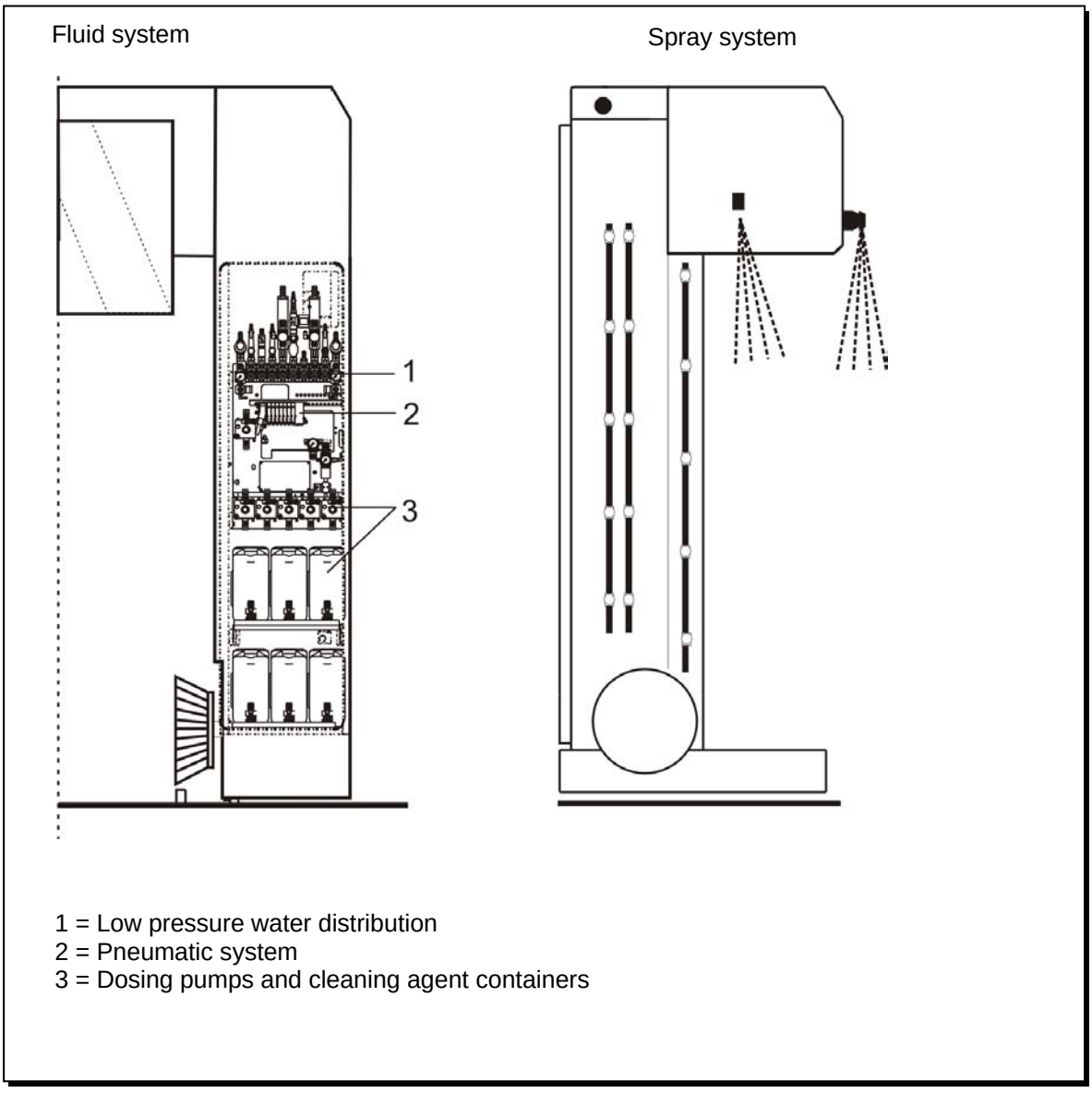
If the safety shutdown is faulty, people can get caught between the wall of the building and the wash gantry.

☞ **Check the safety shutdown every day before starting up the system (see Chapter 4 "Commissioning")**

3.3. Fluid technical system

The fluid technical system is made up of the following elements:

- Fluid system
- Spray system



1 = Low pressure water distribution
2 = Pneumatic system
3 = Dosing pumps and cleaning agent containers

Fig. 3-16: Fluid technical system

3.3.1. Fluid system

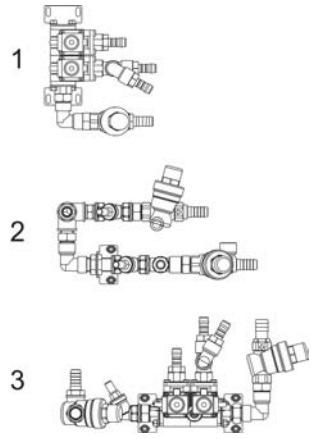
⚠ CAUTION

A modification of the water and air pressure settings may cause damage to the system and/or vehicle and/or a deterioration of the washing result.

Change settings only in agreement with WashTec.

Low-pressure water distribution

The low-pressure water distribution (see figure 3-18) distributes the fresh and process water through the outlets to the individual spray systems. It has a modular structure and varies depending on the configuration of the system.



1 = Hot water
2 = Winter water control
3 = Hot water + Winter water control

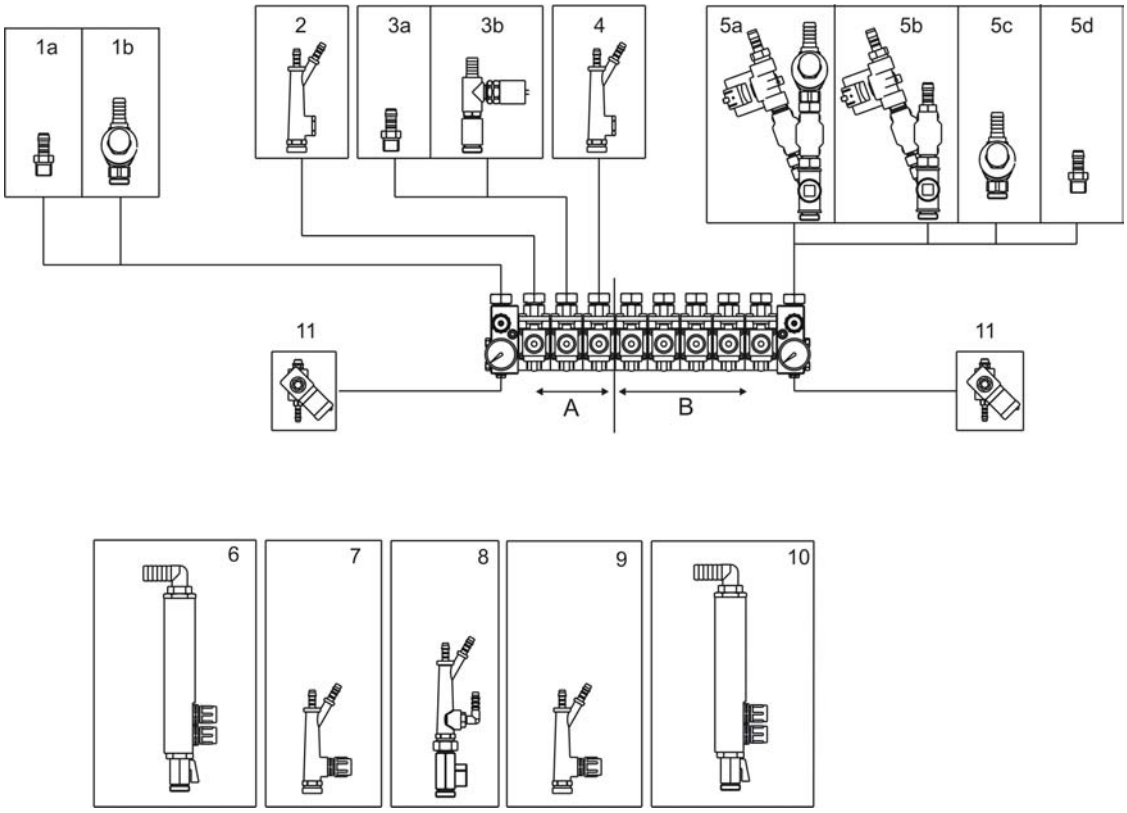
Fig. 3-17: Hot water supply and winter water control

The sequence of the outlets at the process water side (A) is fixed. The sequence of the outlets at the fresh water side (B) is variable. At systems without process water system, fresh water is supplied through the process water inlet.

The water flow pressure can be read off the water pressure gauges when the spray system is switched on. The water flow pressure can be adjusted at the pressure regulator (see chapter 6).

For systems with hot water supply and/or winter water control: The water distribution is located in the upper left corner of the media cabinet.

The illustration on the next page shows all possible configurations.



Process water side (A)	Inlet	1a =	Process water inlet with winter control
		1b =	Process water inlet w/o winter control
	Outlet	2 =	Pre-rinsing
		3a =	Brush wetting standard
		3b =	Brush wetting with dryrun protection
		4 =	Low-pressure wheel washer
Fresh water side (B)	Inlet	5a =	Fresh water with osmosis w/o winter control
		5 b =	Fresh water with osmosis with winter control
		5 c =	Fresh water w/o osmosis w/o winter control
		5 d =	Fresh water w/o osmosis with winter control
	Outlet	6 =	Foam pre-wash
		7 =	Chemical pre-wash unfoamed
		8 =	Rim cleaner intensive
		9 =	Post-rinsing standard
		10 =	Preservation
		11 =	Freeze protection

Fig. 3-18: Low-pressure water distribution

Dosing pumps and cleaning agent containers

The pneumatically controlled dosing pumps draw the cleaning and care products from the relevant cleaning agent containers and lead them to the injection points in the low-pressure water distribution.

NOTICE

See chapter 6 for information about adjusting and bleeding the dosing pumps.

See chapter 4 for refilling the cleaning agent containers.

Labeling

For an easy identification all chemical systems from the cleaning agent container up to the injection point are marked with different colours (markings at the lines, coloured rings at the cleaning agent containers and labels at the dosing pumps).

Meaning:

Yellow	Shampoo
Light green	Foam
Dark green	Chemical pre-wash
Red	Wax care
Orange	Preservation
Blue	Drying aid
White	Rim special

Pneumatic system

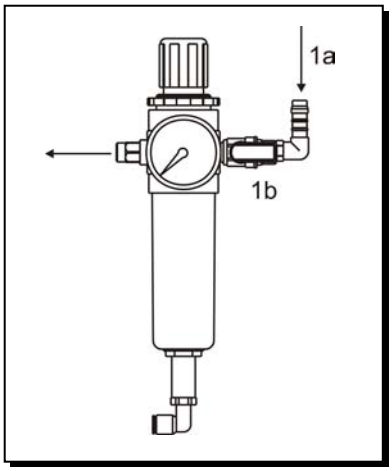


Fig. 3-19: Filter pressure regulator

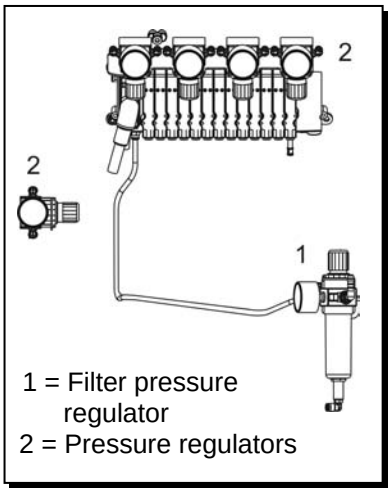


Fig. 3-20: Pneumatic system

The main connection for the customer supplied compressed air is located a the filter pressure regulator (1a). The compressed air supply is controlled by a ball valve (1b).

Only oil-free compressed air is permitted.

The filter pressure regulator cleans the compressed air from destructive particles and regulates the compressed air which is provided by the customer to the main pressure of approx. 6 bar.

Besides the main pressure the system is using reduced air pressure for several tasks. These are adjusted to the required value by additional pressure regulators (see chapter 6.1. for setting and pressure values).

The pneumatic valves are used to control all pneumatic components and devices.

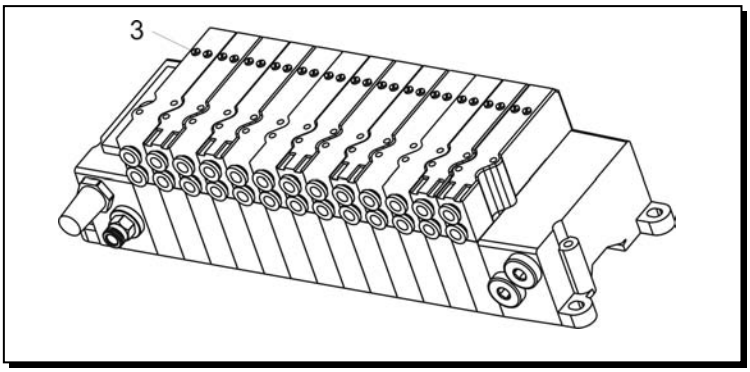


Fig. 3-21: Manual operation switches

⚠ DANGER

There is a risk of injury if the manual operation switches (3) are in position 1. Pneumatic units may suddenly be moved.

Switch manual operation switches (3) always in position 0 during automatic operation. No individuals close to the device when the according valve is controlled manually.

Heater and freeze protection device

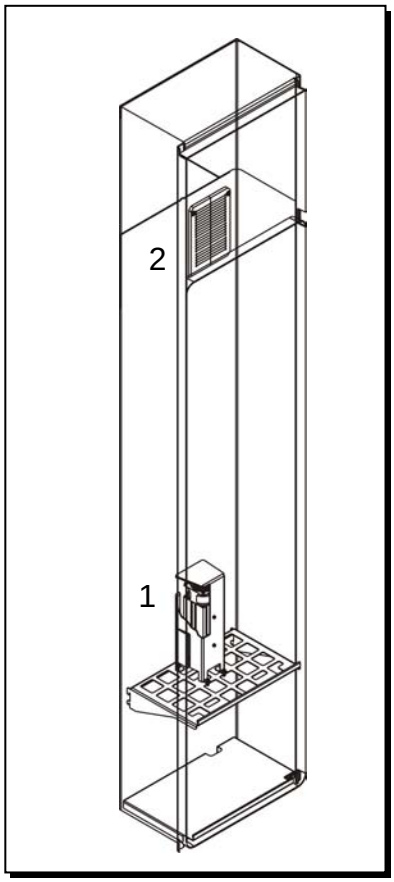


Fig. 3-22: Heater

The heater (1+2) in the media cabinet guarantees a safe operation during low temperatures. A temperature sensor controls the temperature in the cabinet. If the temperature drops 2° below the temperature set-point the heater is switched on automatically.

Temperature setting with service program menu 0371 (see chapter 9.6).

The freeze protection device provides protection from frost damage to the water system for roll-over car wash systems that are installed outdoors or which are not protected from frost. A temperature sensor controls the temperature. If the temperature drops 2° below the temperature set-point, the executing wash program will first be finished. Afterwards the freeze protection program will be started to drain all spray systems.

Temperature setting with service program menu 0370 (see chapter 9.6).

The system cannot execute a wash program while the freeze protection program is running.

⚠ CAUTION

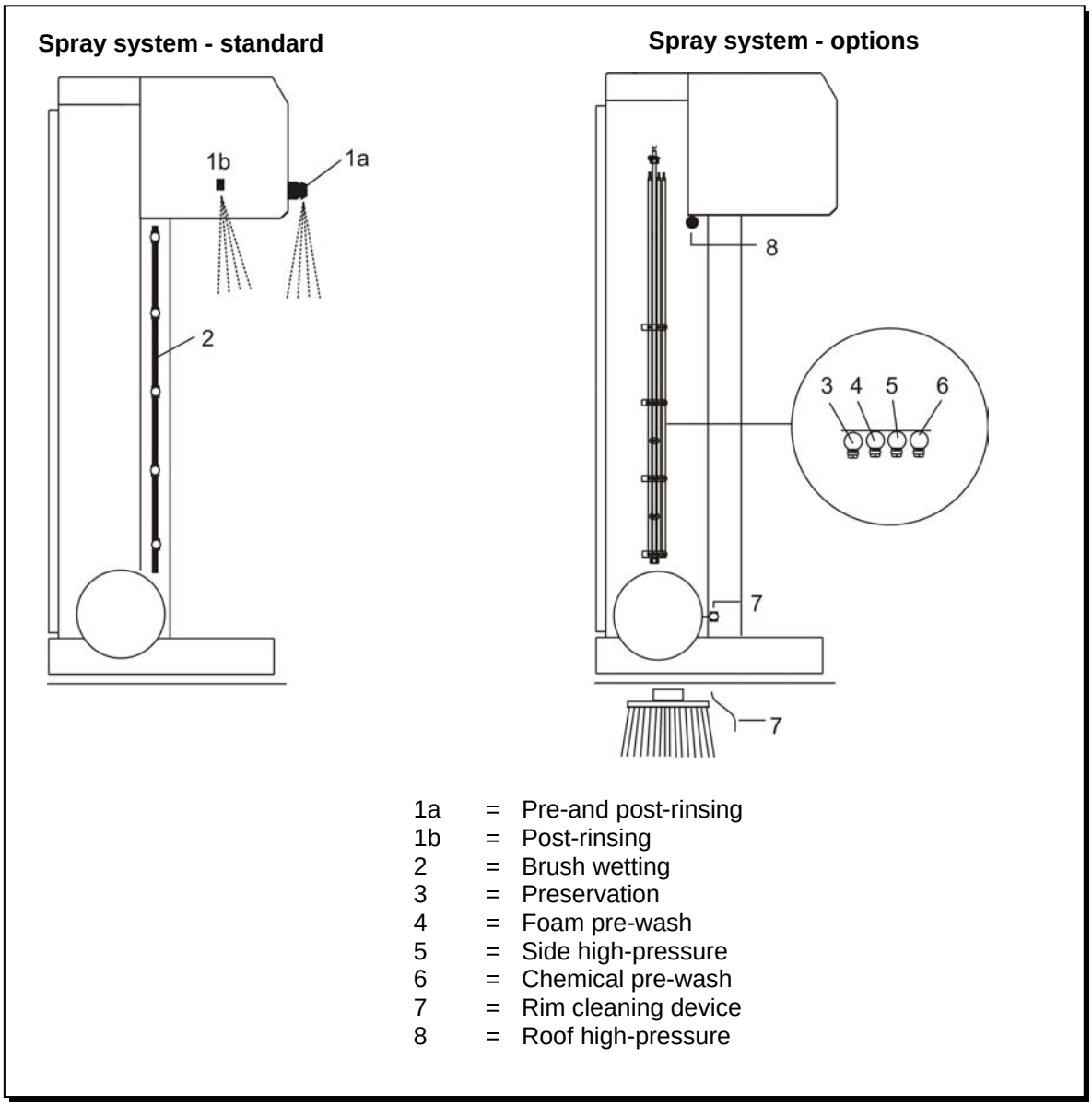
Frost damage when the system is switched off and/or not installed correctly.

Water supply has to be installed in a freeze protected room. All supply lines have to be installed frost-proof.

Leave main switch and compressed air turned on at the risk of frost. Release emergency-off button.

3.3.2. Spray system

Depending on the configuration your roll-over car wash system may be equipped with a varying number of spray heads and spray pipes. The spray pipes are connected with hoses to the water distribution



1a = Pre-and post-rinsing
1b = Post-rinsing
2 = Brush wetting
3 = Preservation
4 = Foam pre-wash
5 = Side high-pressure
6 = Chemical pre-wash
7 = Rim cleaning device
8 = Roof high-pressure

Fig. 3-23: Spray system in maximum configuration

Standard spray system

Pre-rinsing (1a)

Removes coarse dirt. Depending on the configuration with process water or fresh water.

Post-rinsing (1a + 1b)

Rinses the washed vehicle with fresh water.

NOTICE

Water pressure for post rinsing is adjustable at separate ball valve.

Do not reduce the flowing pressure at the fresh water inlet because this will also change the mixing ratio of the foam system.

Brush wetting (2)

1. wash stage: sprinkles water and shampoo onto the brushes.
2. wash stage: sprinkles only water onto the brushes.

Depending on the configuration with process water or fresh water.

For systems with fresh and process water supply:
The winter water control may be used to select either fresh or process water during the 2. wash stage (see chapter 9.6, menu 06).

Why fresh water?
During winter time a lot of salt ends up in the system and therewith also in the process water. Thereby stains appear on the vehicle during drying. By additional usage of fresh water a stainless drying is achieved.

NOTICE

Don’t forget: Switch back to process water after winter time. Otherwise increased fresh water consumption.

Optional spray system

Foam pre-wash (4)

The foam device sprays a dirt- softening, highly foaming shampoo onto the surface of the vehicle during a separate stage.

NOTICE

The best cleaning result is achieved with liquid and fine blowy foam which flows down the vehicle. Dry foam does not absorb the dirt and has only a limited cleaning effect (see chapter 6 „Operation and settings“ for more information).

Chemical pre-wash (5)

The chemical pre-wash sprays a dirt-softening chemical solution onto the surface of the vehicle during a separate stage.

Preservation system (3)

The preservation system applies hot wax or cold wax onto the vehicle in a separate stage.

When the system is configured for hot wax care, a hot water boiler is integrated in the side element of the media cabinet side.

Osmosis

The osmosis device takes care of a stainless drying of the vehicle when no dryer system is installed. During post-rinsing it sprays the vehicle with osmosis water instead of fresh water. At the same time a chemical drying aid may be applied.

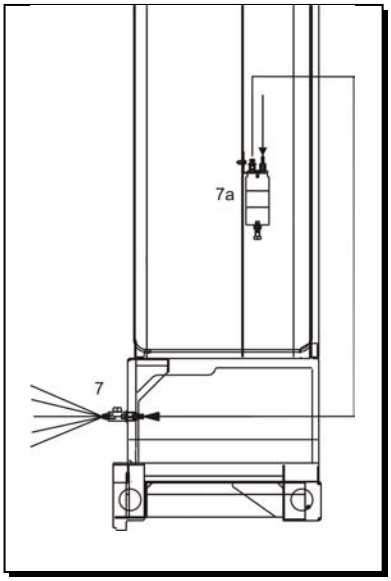


Fig. 3-24: Rim spraying device

Rim spraying device (7)

The rim spraying device applies a rim cleaner through a nozzle as soon as the wheel is detected by the light barrier.

A separate rim cleaner pump (7a) sucks the rim cleaner out of the cleaning agent container and leads it directly to the rim spray nozzle where it is applied undiluted. Information about setting and bleeding the rim cleaner pump can be found in chapter 6 „Operation and settings“.

High-pressure spray system

The high-pressure spray system is of modular structure and consists of a side and a roof high-pressure system which may be combined. The high-pressure spray system cleans the vehicle with high water pressure from coarse dirt. Depending on the configuration with fresh or process water.

Side high-pressure fixed (5)

The lateral spray pipes are fixed in the side frame

Side high-pressure for vans

The lateral spray pipes are extended and are supplied separately.

Roof high-pressure (8)

The high-pressure roof spray system is attached to the roof drier. It remains in its upper home position during cleaning.

For all high-pressure cleaning systems

A separate pump station supplies the necessary amount of water at the correct pressure for the high-pressure cleaning system (see Chapter 10 "Additional equipment").

3.4. Control system and electronics

The control system is installed in control cabinet.

1 = Microprocessor control
2 = Transformer
3 = Lamp module
4 = Fuses
5 = Motor protection switches
7 = Conductors
8 = Frequency converters

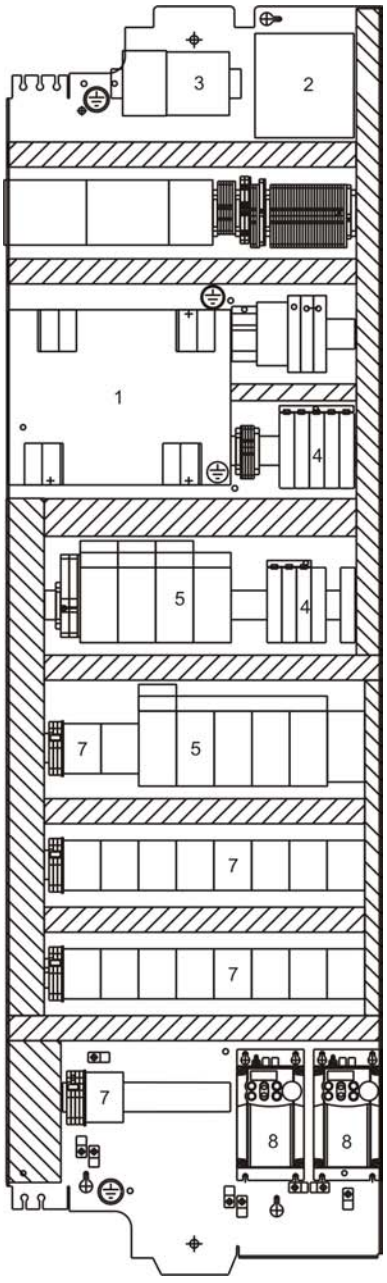


Fig. 3-25: Controller

⚠ DANGER

When the control cabinet door is opened, there is a risk of electrical shock injury when the system is switched on.

Switch the power off at the main switch before you open the control cabinet door.

If the door must be opened with the system switched on in order to carry out certain maintenance, testing and adjusting work observe the following information:

- **This may only be done by authorized, qualified and fully instructed personnel who have received instruction from WashTec Service about potential dangers.**
- **Do not touch any hazardous components and only carry out the work described in this operating manual.**

Microprocessor control

The microprocessor control system is the central intelligence unit of the roll-over car wash system. It controls all devices according to the selected wash program.

Circuit breakers

Circuit breakers may be switched on again after a malfunction.

Motor protection switches

The motor protection switches have an integrated fuse, which can be reinserted after failure.

3.5. Special equipment

Depending on the model, your roll-over car wash system may have

- an additional fresh water supply
- an under-body-wash
- a rolling shutter door control system
- …

You can find a detailed description of all the above in Chapter 10 "Special equipment".

4. Commissioning/assembly/dismantling/conversion/disposal

4.1. Commissioning

This chapter describes all the stages which must be worked through **daily** in order to put the roll-over car wash system into operation correctly.

Cleaning work

☞ Clean the floor of the building. Take particular care over the area around the floor rails.

☞ Clean the transmitters and receivers of all the light barriers with a clean cloth without additional cleaning agents.

⚠ CAUTION

Cleaners that contain hydrochloric acid, formic acid, hydrofluoric acid, or alkaline cleaners, can cause damage to the lenses.

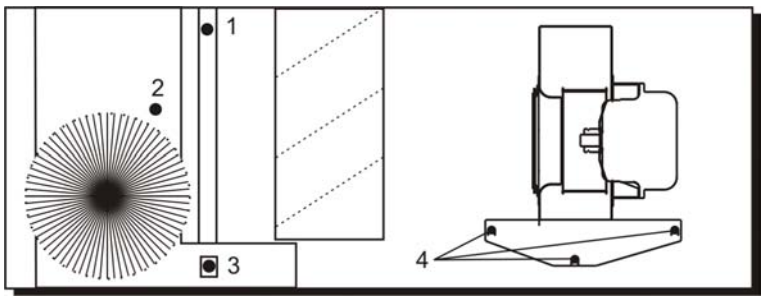


Fig. 4-1: Position of the light barriers

☞ Remove all obstacles, such as cleaning equipment, buckets, hoses, etc. from the wash bay.

⚠ DANGER

There is a risk of injury in frosty conditions by ice formations in the entrance and exit area.

Remove the ice from the entrance and exit area.

Check brushes

☞ Check all brushes for foreign parts (dirt, small stones, etc.) and remove them if necessary.

☞ Check all brushes for a tight fitting.

⚠ CAUTION

Foreign parts in the brushes and brushes which are not securely tightened may damage the vehicle.

Make sure that no foreign parts stuck in the brushes. Clean the brushes periodically (see chapter 7.2.4).

Make sure that all brushes are tightened securely.

WashTec can accept no responsibility for damage to vehicles which are caused by dirty or loose brushes.

Switching on

☞ Open the air and water connections.

☞ Switch the system on at the main switch.

The roll-over car wash system carries out a self-test which lasts about 10 seconds.

☞ Pay attention to the message displayed on the operating unit after completion of the self-test.

Cleaning agents

☞ Check the levels in the chemical storage containers.

☞ If necessary, fill up the containers with cleaning agent, pre-diluted as recommended by the supplier of the cleaning agents. If a chemical storage container has been emptied completely, all air must be bled out of the supply lead (see Chapter 6 "Operation and settings").

⚠ DANGER

There is a risk of injury when the system is switched on. The system may be moved when a wash program is started.

Secure the system with appropriate measurements, e.g. warning signs, cordon, pylons, etc. to avoid that a wash is started.

⚠ DANGER

Highly inflammable and toxic cleaning agents may cause damage to machinery and injury to persons.

Such cleaning agents may not be used because of the risk for fire hazard and health.

⚠ DANGER

Caution should be exercised in handling all chemical compounds. Some car wash chemicals are somewhat caustic and should not be permitted to come in direct contact with bare skins or eyes.

☞ **Always refer to product MSDS Sheets for proper precautions.**

☞ **Whenever handling such chemicals wear proper protective rubber gloves, boots and a face shield.**

⚠ CAUTION

The wrong selection of cleaning agents may cause poor cleaning results and damages to the vehicle and the system.

The selection of the best suited cleaning agents depends among other things on the water quality and water hardness.

Discuss with your cleaning agent supplier which cleaning agents are best suited for your system.

☞ After refilling containers, check the filters in the suction hoses to ensure they function correctly, and clean them if necessary.

☞ Carefully close the door of the fluid technical system cabinet and remove the socket wrench to prevent the door being opened without permission.

Safety devices

⚠ DANGER

A fault in the safety devices (emergency-off function, safety shut-down and safety switches) can cause serious accidents and/or damage to vehicles.

For this reason, all safety devices must be checked every day to ensure that they function correctly. If any safety device is faulty, please inform WashTec Service immediately. On no account may the roll-over car wash system be put into operation.

We recommend to each operating company that the performed tests with the test result as well as name, date and signature of the testing person should be documented in written form.

Proceed with the following steps to check the safety devices:

Moving the wash gantry

The test result of a function test is always displayed on the operating unit. Therefore it is recommended to move the wash gantry close to the operating unit to easily read off the test result. Use the manual control buttons as described in chapter 9.5. for moving the wash gantry.

Check emergency-off function

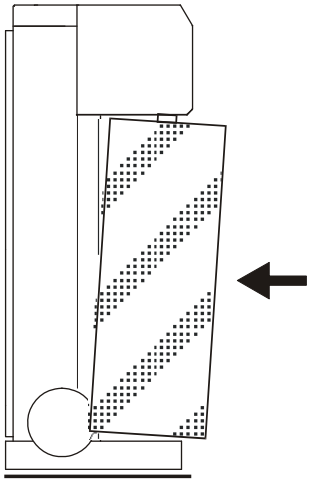
☞ Press the emergency-off button.

⇒ The display in the operating unit shows „Emergency Off“

☞ Release the emergency-off button.

☞ Acknowledge the message.

Checking safety switch on side brushes



☞ Push one of the side brushes strongly backward.

⇒ The display in the operating unit shows „Safety strip actuated“.

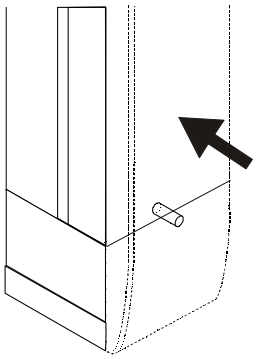
⇒ The message remains in the display after releasing the side brush.

☞ Acknowledge the message.

☞ Repeat the above steps for the other side brush.

Checking the safety shutdown

If your roll-over car wash system is fitted with additional safety shutdown features, these must be checked before the system is started up.



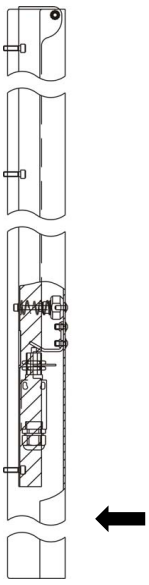
☞ Press strongly against one of the cabinet doors.

⇒ The display in the operating unit shows „Emergency stop actuated internally“.

⇒ The message remains in the display after releasing the door.

☞ Acknowledge the message.

☞ Repeat the above steps for the other door.



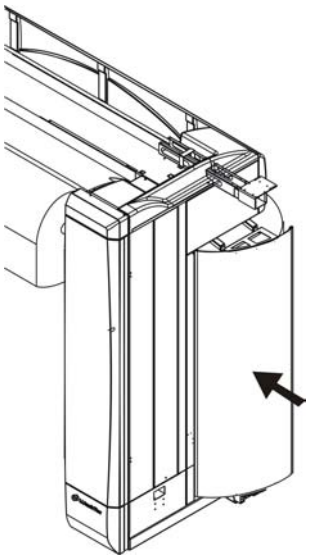
☞ Press frontal against the u-profile located above the guidance rail.

⇒ The display in the operating unit shows „Emergency stop actuated internally“.

⇒ The message remains in the display after releasing the u-profile.

☞ Acknowledge the message.

☞ Repeat the above steps for the second u-profile.



☞ Press frontal against the lateral splash guard.

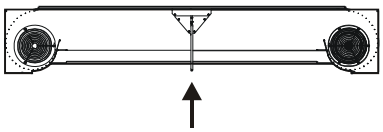
⇒ The display in the operating unit shows „Emergency stop actuated internally“.

⇒ The message remains in the display after releasing the splash guard.

☞ Acknowledge the message.

☞ Repeat the above steps for the splash guard on the other side.

Checking the safety ring switch



☞ Press the safety ring switch upwards.

⇒ The display in the operating unit shows „Safety ring“.

⇒ The message remains in the display after releasing the ring switch.

☞ Acknowledge the message.

Checking the positioning aid

If your roll-over car wash system is equipped with a positioning aid, it must be tested by covering the light barriers before the system is put into operation. If they function correctly, the following symbols should be illuminated:

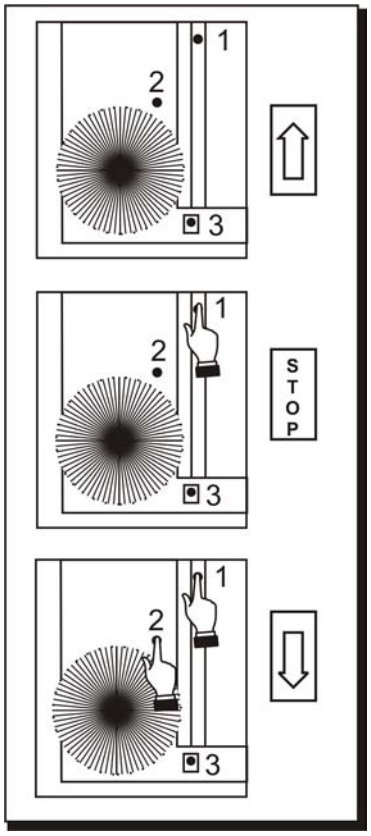


Fig. 4-2: Testing the traffic light

☞ Both light barriers free:

⇒ The traffic light shows "FORWARD" = arrow flashes.

☞ Cover light barrier 1.

⇒ The traffic light shows "STOP".

☞ Cover light barriers 1 and 2.

⇒ The traffic light shows "REVERSE" = arrow flashes.

In the event of malfunctions, see Chapter 6 "Operation and settings".

The roll-over wash system is now ready for operation.

⚠ DANGER

We can accept no liability for damage caused by dismantling, transportation or reconstruction or by conversion work carried out on the roll-over car wash system. This applies also for disposal of the roll-over car wash system.

4.2. Dismantling/conversion/transport/ assembly

Dismantling, transport and reconstruction or conversion of the roll-over car wash system calls for detailed specialist knowledge

We recommend you have this work carried out by WashTec Service.

4.3. Disposal

Disposal of the roll-over car wash system

We recommend that you have the roll-over car wash system dismantled for subsequent disposal/scrap by WashTec Service or by another company with suitable experience in your area.

You must comply with the applicable local waste disposal regulations and legislation when disposing of the system.

Disposing of brushes, coverings and waste water

You must observe the applicable local waste disposal regulations and legislation when disposing brushes, coverings and waste water.

5. Washing operation

This chapter contains important safety instructions for washing operation and describes all the stages which must be worked through when washing vehicles.

NOTICE

This information is intended for the wash system operator and for car wash customers. The car wash customer must be fully informed on instruction notices.

Instructions which are intended only for the wash system operator are marked separately.

5.1. Safety instructions

CAUTION

Vehicles which are not positioned correctly may be damaged during the wash.

Pay attention that the vehicle is positioned straight and within the track drive before a wash is started.

For wash systems which are operated in self-service mode, e.g. the operator or his personnel are not present during the wash cycle, it is highly recommended to install a video surveillance to inspect the vehicle position before the vehicle is cleaned.

WashTec can accept no responsibility for damage to vehicles which have been positioned incorrectly.

⚠ CAUTION

If the roll-over car wash system is used for vehicles with certain features, this may result in damage to the vehicle.

The customer has to be informed unconditionally about the following topics:

- Vehicles which are not suitable for the dimensions of the roll-over car wash system (see Chapter 11 "Technical specifications") may not be washed.
- Unprofessionally repainted or damaged vehicles may only be washed after inspection and with the approval of the operator.
- Vehicles with special attachments or mounted elements which cannot be removed (outside spare wheels, roof railing, taxi signs or similar) may only be washed after inspection and with the approval of the operator.
- Vehicles which vary heavily from the standard version such as vehicles with a low or high ground clearance, may only be washed after inspection and with the approval of the operator.
- Pick-ups, i.e. vehicles with an open loading area, and vehicles with unfavourable designed rear spoilers may only be washed after inspection and with the approval of the operator.
- For convertibles or semi-covered vehicles, the instructions/requirements for the use of car washes provided in the vehicle manual must be observed.

NOTICE

Information only for the operator

WashTec can accept no responsibility for damage to vehicles where one or more of the points listed above are applicable. If these vehicles are washed irrespective of the above points, this must be done on the good judgement of the operator and will be his responsibility.

The following points must be observed here in particular:

Special attachments or mounted elements which cannot be removed must be overridden manually with the relevant control buttons on the operating unit (see Chapter 9 "Operating units").

For vehicles with wheel claddings and vehicles with low or high ground clearance, the wheel washer must be controlled manually (see Chapter 9 "Operating units").

For vehicles with a low ground clearance, there is a risk that the vehicle will get stuck if a non-recessed under-body wash or car shifting device is installed.

For pick-ups, i.e. vehicles with an open loading area, and vehicles with unfavourable designed rear spoilers the roof brush has to be manually controlled.

For wash systems which are operated in self-service mode, e.g. the operator or his personnel are not present during the wash cycle, it is highly recommended to install a video surveillance for inspecting every vehicle before the vehicle is cleaned.

NOTICE

Information only for the operator

The operating units offer various possibilities for starting the wash program and controlling it manually.

5.2. Preparing the vehicle

In order to prevent damage to vehicles, the following preparations must be made before washing.

These preparations can be made either by the wash plant operator or the customer.

The customer has to be informed unconditionally about the following topics:

- ☞ Remove aerials or push them in. Switch off radios if the vehicle is equipped with an automatic aerial.
- ☞ Fold in the mirrors if possible.
- ☞ Remove any extra mirrors.
- ☞ Check that additional lights or headlights are securely attached.
- ☞ Switch windshield wipers to their home position.
- ☞ Remove all loose parts, such as extra parts attached to windshield wipers or similar objects.
- ☞ Close the sliding roof or the roof (convertibles).
- ☞ Turn off the engine.
- ☞ Put the car in PARK (for a standard car put the car in 1st gear) and apply the parking brake.

Only for systems where the customer leaves the vehicle during the wash:

- ☞ Lock the vehicle before the wash cycle starts (including trunk or tailgate).

5.3. Car wash procedure

The car wash procedure depends on the selected start setting (see chapter 9.6. menu 035 Automatic start), on the setting of the entrance/exit doors (see chapter 9.6. menu 033 door functions) and whether the driver remains in the vehicle during the wash cycle or waits outside of the wash building.

Three typical car wash procedures are described below.

Operation mode 1

Automatic start is switched off, the entrance door is open and the driver waits outside of the wash building.

☞ Drive the vehicle forward into the wash system so that there is enough space on each side.

☞ Position the vehicle correctly

⇒ The traffic light shows “Stop”.

☞ Turn off the engine, put the car in PARK (for a standard car put the car in 1st gear) and apply the parking brake.

☞ Close the windows, leave the vehicle and lock all vehicle doors (including trunk or tailgate).

☞ Leave the car wash building.

☞ Select a wash program (by card or by input at the operating unit).

⇒ The wash program will be started automatically.

⇒ When the wash cycle is finished, the roll-over car wash system returns to its home position.

⇒ The traffic light shows the drive-out direction.

☞ Enter the vehicle and drive the car out of the wash building.

Operation mode 2

Automatic start is switched off, the entrance door is closed and the driver waits outside of the wash building.

☞ Select a wash program (by card or by input at the operating unit).
⇒ The entrance door opens

☞ Drive the vehicle forward into the wash system so that there is enough space on each side.

☞ Position the vehicle correctly
⇒ The traffic light shows “Stop”.

☞ Turn off the engine, put the car in PARK (for a standard car put the car in 1st gear) and apply the parking brake.

☞ Close windows, leave the vehicle and lock all vehicle doors (including trunk or tailgate).

☞ Leave the car wash building.

☞ Start the wash program with the button <<START>>.
⇒ The vehicle will be cleaned.
⇒ When the wash cycle is finished, the roll-over car wash system returns to its home position.
⇒ The traffic light shows the drive-out direction.

☞ Enter vehicle and drive the car out of the wash building.

⚠ CAUTION

Press the emergency-off button in case of problems or danger and inform the wash system operator.

Operation mode 3

Automatic start is switched on, the entrance door is closed and the driver remains in the vehicle during the wash cycle.

☞ Select a wash program (by card or by input at the operating unit).
⇒ The entrance door opens

☞ Close windows and doors and lock all doors from the inside.

☞ Drive the vehicle forward into the wash system so that there is enough space on each side.

☞ Position the vehicle correctly
⇒ The traffic light shows “Stop”.

☞ Turn off the engine, put the car in PARK (for a standard car put the car in 1st gear) and apply the parking brake.

☞ Remain seated in the vehicle.
⇒ The wash cycle starts.
⇒ The vehicle will now be washed.
⇒ When the wash cycle is finished, the roll-over car wash system returns to its home position.
⇒ The traffic light shows the drive-out direction.

☞ Drive the vehicle out of the car wash building.

⚠ DANGER

Leaving the vehicle can cause serious accidents.

Inform the customer that he should never leave the car and that he should wait for instructions.

For wash systems which are operated in self-service mode, e.g. the operator or his personnel are not present during the wash cycle, it is highly recommended to install a video surveillance for controlling the wash area.

5.4. Procedure for emergency stops and malfunctions

⚠ CAUTION

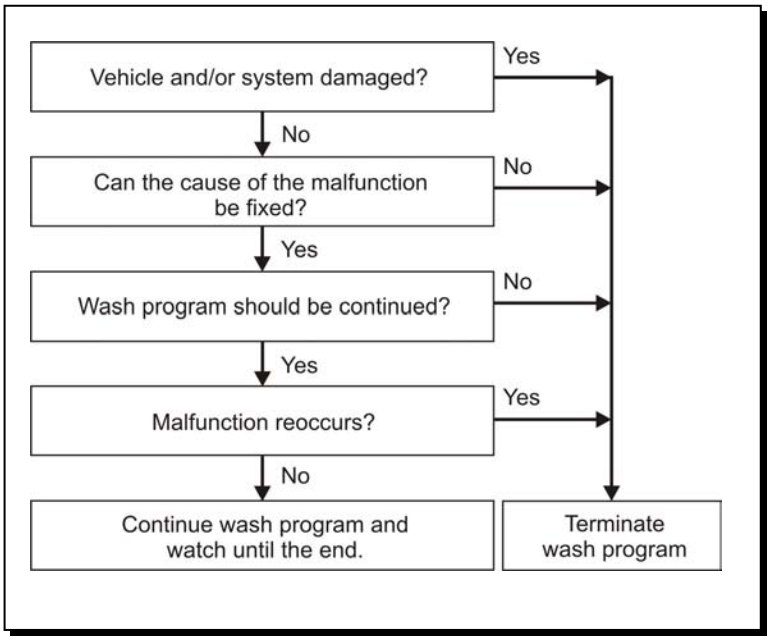
Information only for the operator!

Depending on the cause of the emergency stop or the malfunction you may continue or terminate the wash after the cause of the malfunction has been fixed.

Vehicle and/or wash system may be damaged if the wash is continued without fixing the cause of the emergency stop or the malfunction.

Continue the wash only when the cause of the emergency stop or the malfunction has been definitely fixed.

The flow chart below should assist in undertaking the appropriate steps after an emergency stop or a malfunction. The individual steps are described in detail on the next pages.



⚠ DANGER

Non-observance of the safety instructions may cause severe accidents.

Observe always the safety instructions in chapter 2.

Step 1

☞ Check whether the vehicle and/or the wash system have been damaged.

Continue with step 5 if the vehicle and/or the wash system have been damaged.

Step 2

☞ Ascertain the reason for the emergency-stop/ malfunction.

☞ Check if you can fix the cause of the emergency stop or the malfunction by yourself.

NOTICE

In chapter 8 „Error messages“ you may find important information about possible causes and their removal.

Step 3

Continue with step 7 if you cannot fix the cause of the emergency stop or malfunction by yourself.

☞ Fix the cause of the emergency stop or malfunction.

☞ Release the emergency-off button (if actuated).

☞ Check if brushes are caught up by vehicle parts, e.g. tow bar, etc.

☞ Check if all moveable units (brushes, wheel washer, dryer) are in their correct position.

The LEDs in the buttons <<OK>> and <<CANCEL>> flash alternately after the cause of the emergency stop or malfunction has been fixed.

Step 4
Continue wash

You may now continue or terminate the wash. Continue with step 6 if you would like to terminate the wash.

☞ Press the button <OK> at the operating unit.

⇒ The wash program will be continued.

NOTICE

Watch the further wash procedure. Press immediately the emergency-off button when you recognize that a malfunction may occur again.

CAUTION

Continuation of the wash after occurrence of further malfunctions may cause damages to the vehicle and/or wash system.

Repeat step 3 and terminate the wash (see step 6).

Step 5
Vehicle or system damaged

☞ Determine the damage.

☞ At damage to the vehicle: Make a note of the damage and its cause in a damage report. You can find an example in the appendix of these operating instructions. The damage report must be signed by the wash system operator and by the car wash customer.

☞ Ascertain the reason for the emergency-stop/ malfunction.

☞ Check if you can fix the cause of the emergency stop or the malfunction by yourself.

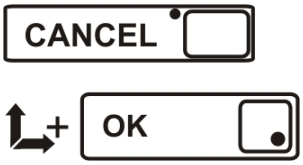
Continue with step 7 if you cannot fix the cause of the emergency stop or malfunction by yourself.

☞ Fix the cause of the emergency stop or malfunction.

☞ Release the emergency-off button (if actuated).

⇒ The LEDs in the buttons <<OK>> and <<CANCEL>> flash alternately after the cause of the emergency stop or malfunction has been fixed.

Step 6
Move system in home position



☞ Check if the roll-over car wash system can be moved in home position without further damage to the vehicle.

☞ Press the button <<CANCEL>>

☞ Press the button <<Home position>> (If the operating unit CP0 is installed you probably have to shift the home position symbol into the display by using the navigation buttons. Select the symbol with one of the buttons F1 to F4).

☞ Press the button <<OK>>

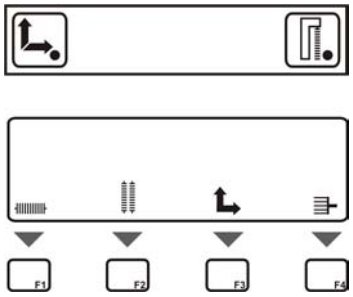
⇒ The roll-over car wash system moves into home position and the wash program will be terminated.

☞ Continue with step 8.

Step 7
Move system with malfunction in home position

If you cannot fix the cause for the emergency stop or the malfunction the failure cannot be acknowledged.

However you may move the system in home position under certain conditions.



☞ Check if the roll-over car wash system can be moved in home position without further damage to the vehicle.

☞ Release the emergency-off button (if actuated).

☞ Press the button <<Home position>> (If the operating unit CP0 is installed you probably have to shift the home position symbol into the display by using the navigation buttons. Select the symbol with one of the buttons F1 to F4).

⇒ All devices move outwards or upwards. Afterwards the roll-over moves in home position.

☞ Press immediately the emergency button when you recognize any problems, e.g. brush gets caught or device does not move. Inform WashTec Service.

Step 8

☞ Remove the vehicle from the roll-over car wash system and initiate steps for legal settlement of damage claims.

☞ Switch off the system (when the system has been damaged) and inform WashTec Service.

6. Settings and checking

⚠ DANGER

Adjustments at a system which is switched on may cause serious accidents.

Pay unconditional attention to the safety instructions in chapter 2.

6.1. Adjusting the compressed air

Main pressure

The filter pressure regulator cleans the compressed air from destructive particles and regulates the main pressure.

Set-value main pressure: approx. 6 bar.

The ball valve (7) is used to control the supply of compressed air. Always close the ball valve to separate the system from the existing compressed air supply (e.g. for maintenance work).

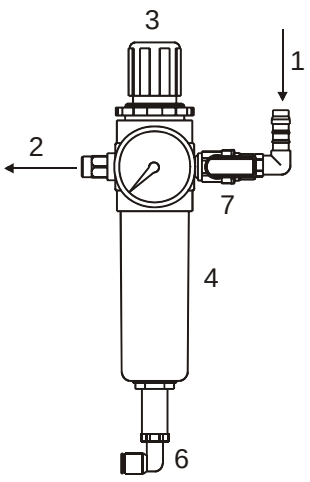
The compressed air is adjusted at the regulator knob (3).

☞ Release the regulator by pulling up the regulator knob.

☞ Set the required pressure by turning the regulator knob to the right or left. The adjustment range is between 0.6 and 10 bars.

☞ Secure the regulator by pushing the regulator knob back down again.

The compressed air may contain condensation water which settles in the condensation container (4). The draining is carried out automatically by the drain valve (6).



1 = Compressed air inlet
2 = Compressed air outlet
3 = Regulator knob
4 = Condensation container
6 = Drain valve
7 = Ball valve

Fig. 6-1: Filter pressure regulator

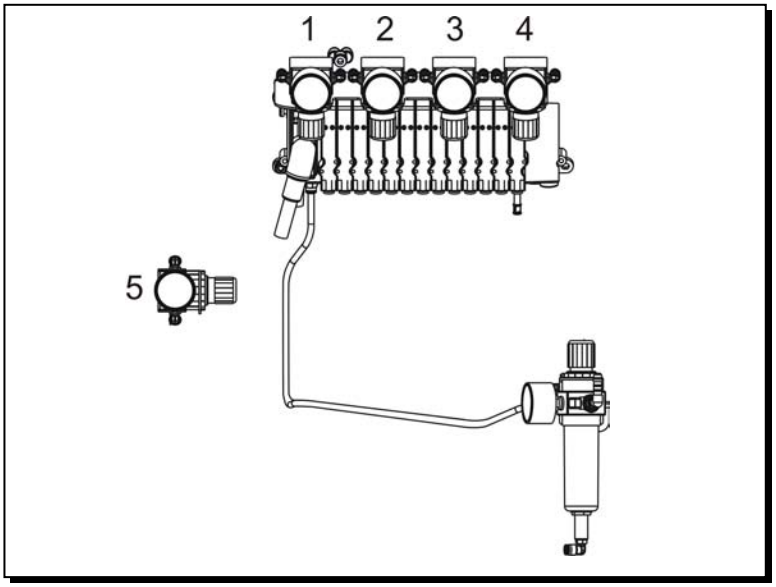
NOTICE

Only oil-free compressed air is permitted.
In most countries mandatory.

Reduced pressure

Several pneumatic components (e.g. wheel washer) and the foam spray systems are operated with reduced air pressure. This pressure is adjusted at the according pressure regulators.

The illustration below shows the position of the pressure regulators at maximum configuration. The location of the pressure regulators changes if less pressure regulators are installed (e.g. no foamed chemical pre-wash). You may identify the pressure regulators either by coloured markings (e.g. foam pre-wash = light green) or by labels.



Pos.	Function	Marking
1	Wheel washer	Label
2	Foam pre-wash	By colour (light green)
3	Preservation (e.g. foam wax)	By colour (orange)
4	Chemical pre-wash foamed	By colour (dark green)
5	PE brush as from height 28	Label

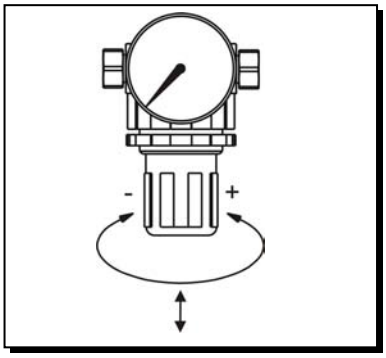


Fig. 6-2: Adjusting air pressure

The air pressure is adjusted by the control knob.

☞ Release the regulator by pulling the knob downwards.

☞ Set the required pressure by turning the knob to the right or to the left.

☞ Secure the regulator by pushing the knob upwards.

NOTICE

Reading and setting of the air pressure for foam spray systems is only possible when the spray system is switched on.

☞ Switch on the desired foam spray arch by using the menu 038 in the service program (see chapter 9.6).

☞ Readjust air pressure.

☞ Check the result.

The best cleaning result is achieved with liquid and fine blowy foam which flows down the vehicle.

☞ Switch off the foam spray arch by using the menu 038 in the service program (see chapter 9.6).

NOTICE

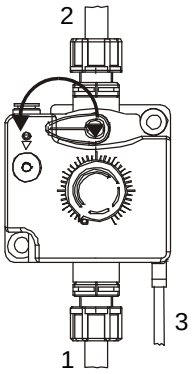
The optimum air pressure depends essentially from the chemical cleaning agents used in the system and has been optimally adjusted by WashTec Service during initial commissioning of the system.

A modification of the settings may cause a deterioration of the washing or preservation result.

Change settings only in agreement with WashTec.

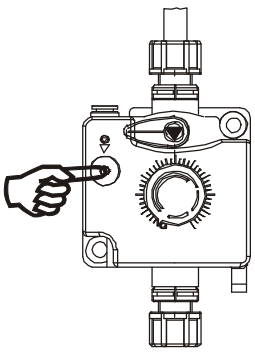
6.2. Bleeding the suction lines at the dosing pumps

If a cleaning agent container has been emptied completely, all air must be bled out of the suction line after the container has been refilled.

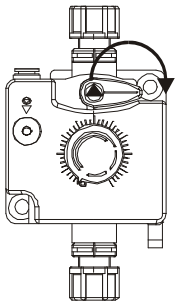


1 = Suction line from cleaning agent container
2 = Supply line to injection point
3 = Bleed line

☞ Turn the bleeder lever to the left to „Bleeding“ = arrow downwards.



☞ Press the bleeder button several times until the liquid runs through the hose without any bubbles.

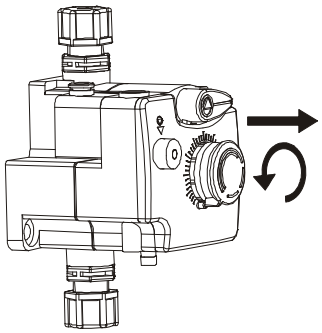


☞ Close the bleeder lever = arrow upwards.

⚠ CAUTION

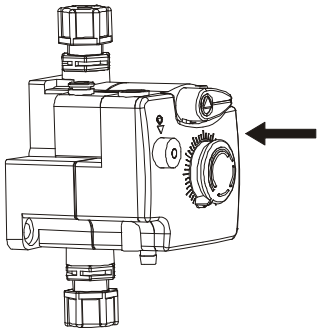
The foam reactor may be damaged if the bleeder lever is not turned. Always turn bleeder lever!

6.3. Adjusting the dosing pump



The required volume of chemical agent depends on the type of chemical agent. Please follow the detergent manufacturer's instructions.

Release the click-stop by pulling out the adjuster and adjust to the delivery volume recommended by the supplier.



Push in the adjuster afterwards.

⚠ CAUTION

The adjustment of the volume may only be done during operation of the dosing pump.

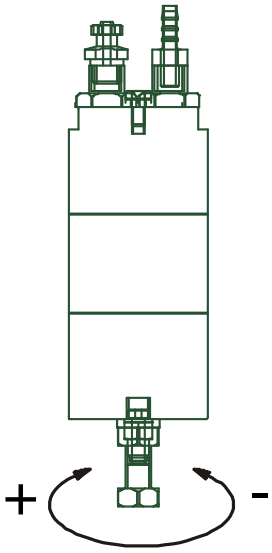
Adjustments at a dosing pump which is switched off may cause damage to the pump.

6.4. Bleeding the suction lines at the rim cleaner pump

If a cleaning agent container has been emptied completely, all air must be bled out of the suction line after the container has been refilled.

☞ Switch on the dosing pump by using the menu 039 in the service program (see chapter 9.6. “Service program – program menus”).

In condition „rim cleaner pump on“ the pump will be clocked, i.e. with each stroke cleaning agent is drawn out of the container. Leave the pump switched on until the cleaning agent sprays out of the nozzle.



1

6.5. Adjust rim cleaner pump

The volume of chemical agent required depends on the type of chemical agent. Please follow the detergent manufacturer's instructions.

☞ Adjust the delivery volume at the adjusting screw (1) at the rim cleaner pump.

⚠ CAUTION

The use of improper cleaning agents (such as cleaners that contain hydrochloric acid, sulphuric acid, formic acid, hydrofluoric acid or oxalic acid) and/or incorrect mixing proportions as well as use of undiluted cleaning agents may cause damage to the system or the vehicles.

Use only products which are recommended for the automatic cleaning of vehicles.

Never use the cleaning agents undiluted. Dilute the cleaning agents as specified by the supplier.

For damages caused by using improper cleaning agents or incorrect mixing proportions no warranty claims will be accepted.

NOTICE

The maximum adjustable volume is 50 ml/stroke.

6.6. Reading and setting the water flowing pressure

The water flowing pressure can be read of at the pressure gauges (2) and can be adjusted at the pressure regulators (1).

NOTICE

The water flowing pressure has been optimally adjusted by WashTec Service during initial commissioning of the system.

A modification of the settings may cause a deterioration of the washing result.

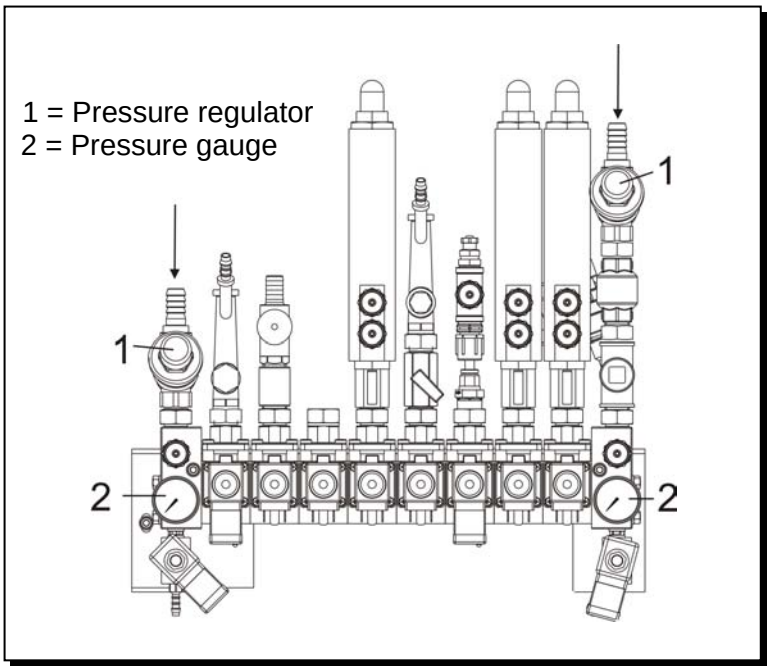


Fig. 6-3: Water flowing pressure (hot water system)

NOTICE

Reading and adjusting of the flowing pressure is only possible when the spray system is switched on.

Water flow pressure for process water- / fresh water supply and for fresh water supply at systems without foam system

☞ Switch on a spray arch which is supplied with process water, e.g. pre-rinsing, by using the menu 038 in the service program (see chapter 9.6. “Service program – program menus”).

☞ Read off the flowing pressure at the pressure gauge.

☞ Readjust the setting if necessary at the pressure regulator.

Set value with spray system is switched on: 3 bar.

☞ Switch off the spray arch by using the menu 038 in the service program.

☞ Regulate the air pressure at one foam reactor (e.g. foam wax) to zero.

Important: Memorize setting.

Water flow pressure for fresh water supply at systems with foam system

The flow pressure may be adulterated when air pressure is applied on the foam reactor (higher flow pressure).

☞ Switch on the spray arch which is associated to the selected foam reactor, e.g. foam wax, by using the service program.

☞ Read off the flowing pressure for the fresh water supply at the pressure gauge.

☞ Readjust the setting if necessary at the pressure regulator.

Set value with spray system switched on: 3 bar

☞ Switch off the spray arch by using the menu 038 in the service program.

☞ Adjust the air pressure at the foam reactor to the previously set value.

7. Maintenance and care

7.1. Safety instructions

⚠ DANGER

Maintenance, service and care work carried out on the machine while it is switched on can cause serious accidents.

Always work through the following steps before starting maintenance, service and care work:

- ☞ **Move the roll-over car wash system into an easily accessible position**
- ☞ **Switch off the electricity on the complete system**
- ☞ **Turn off the compressed air. Close the air supply at the ball valve located in the fluid-technical system cabinet and turn the input pressure regulator to 0 bars.**
- ☞ **Switch off water supply.**
- ☞ **Secure the system to prevent it from being switched on unintentionally.**

⚠ CAUTION

Objects such as tools, cleaning supplies, etc. which remain in or on the system after completion of maintenance or care work may cause damage to the system or vehicles.

- ☞ **Makes sure that all objects are removed from the system after completion of maintenance or care work.**

7.2. Care

Regular care of the roll-over car wash system contributes considerably to its smooth running and helps retain its value. The essential care programme includes:

- Lime-scale removal
- Cleaning of the system
- Cleaning of the floor
- Cleaning of the brushes
- Special treatment

The care intervals depend on the water quality and the degree of soiling.

⚠ DANGER

Caution should be exercised in handling all chemical compounds. Some cleaning agents are somewhat caustic and should not be permitted to come in direct contact with bare skins or eyes.

☞ **Always refer to product MSDS Sheets for proper precautions.**

☞ **Whenever handling such cleaning agents wear proper protective rubber gloves, anti-skid boots and a face shield.**

⚠ DANGER

Highly inflammable and toxic cleaning agents may cause damage to machinery and injury to persons.

Such cleaning agents may not be used because of the risk for fire hazard and health.

Use only cleaning agents which are particularly suited for car wash systems.

⚠ CAUTION

Cleaning with high pressure may cause damage to the roll-over car wash system.

Do not use high pressure appliances for cleaning.

7.2.1. Lime-scale removal

Sooner or later, depending on the water quality, lime-scale deposits will build up on the system. These must be removed carefully.

☞ Only use products for lime-scale removal that are based on citric acid, amidosulphuric acid or phosphoric acid.

☞ Mix these with water in the proportions specified by the manufacturer.

☞ Use these products to remove the lime-scale deposits carefully from the system.

☞ Rinse the system down with plenty clear water.

⚠ CAUTION

Use of other products, such as cleaners that contain hydrochloric acid, sulphuric acid, formic acid, hydrofluoric acid or oxalic acid or incorrect mixing proportions, can cause corrosion damage and damage to tiles and the surface of the system.

For damages caused by using one of the cleaners stated above no warranty claims will be accepted.

When removing lime-scale, avoid bringing the products into contact with plastic components, belts, sensors and cables. The acidic mixture can cause damage to these elements.

Only for systems with water recycling system

☞ After removing lime-scale, check the pH-value in the water recycling system. The pH-value must be between 7,0 and 8,0.

☞ Wash at least 30 vehicles with fresh water if the pH-value is below 7.

7.2.2. Cleaning of the system

☞ Clean the entire frame of the roll-over car wash system.

☞ Clean the flat belts of the lifting system of roof brush and drier system.

Only use pH-neutral cleaning and treatment products for this purpose (see below) or the cleaning agent that is also used for cleaning vehicles in the prescribed concentration.

☞ Rinse the system down with plenty clear water.

⚠ CAUTION

The permissible pH-value for the cleaning and treatment products used for cleaning the frame must be between 5 and 8 and must not contain any solvent.

Any products with higher or lower values than these may fade colour and deteriorate material and will reduce the lifetime of the roll-over car wash system.

7.2.3. Cleaning of the floor

⚠ DANGER

A slippery floor may cause severe accidents.

☞ **Clean the floor as necessary. Remove all remaining detergents carefully to reduce the slip hazard.**

7.2.4. Cleaning of plastic parts

⚠ CAUTION

Plastic parts (claddings, displays, etc.) may be damaged or scratched when they are cleaned with rough surfaces (e.g. brushes) or when they are dry cleaned.

Clean plastic parts only with wet soft clothes or sponges.

7.2.5. Cleaning of the brushes

The following description applies to the cleaning of original WashTec brushes.

Water hardness

The water hardness has substantial influence on the type of pollution. If the water hardness is higher than 10 °dH (German hardness) lime deposit may be causing the pollution in the first place.

☞ Ask your water supply company for the water hardness.

The water hardness can be specified in hardness grade or by the content of calcium and magnesium. Furthermore the hardness grades are country specific.

The information and conversion table below should assist you in the definition:

Specification in hardness grades:

French hardness:	English hardness:
1 °dH = 1,78 °fH	1 °dH = 1,25 °eH
1 ° fH = 0,56 °dH	1 ° eH = 0,8 °dH

Specification in calcium and magnesium ions:

10 °dH = 1,8 mmol/l Ca + Mg

If calcium and magnesium are specified in mg/l use the conversion below:

1 mg/l calcium = 0,025 mmol/l calcium
1 mg/l magnesium = 0,043 mmol/l magnesium

⚠ CAUTION

Cleaning

Brushes may be damaged if they are cleaned too hot.

Brushes may also be damaged if cleaners are used which contain hydrochloric acid, sulphuric acid, formic acid, hydrofluoric acid or oxalic acid.

Use only cold or lukewarm water (max 30°) for cleaning the brushes.

Clean the brushes first with an acid cleaner (cleaner with a pH value < 7) if the water hardness is higher then 10 ° dH,. If the water hardness is lower you can start immediately with the alkaline cleaning (pH-value > 7).

Acid cleaning

- ☞ Spray the brushes with acid cleaner.
- ☞ Let the cleaner act on the brushes for approx. 10-15 min.
- ☞ Flush the cleaner out of the brushes with a strong jet and plenty of water.

Alkaline cleaning

- ☞ Spray the brushes with alkaline cleaner.
- ☞ Let the cleaner act on the brushes for approx. 10-15 min.
- ☞ Flush the cleaner out of the brushes with a strong jet and plenty of water.

Final work

- ☞ Check the pH-value in the tank system after cleaning the brushes when the system is equipped with a water recycling system. The pH-value must be between 7,0 and 8,0.
- ☞ Wash at least 30 vehicles with fresh water if the pH-value is below 7.

7.2.6. Special treatment

Rollover maintenance should be completed with the application of a protective coating.

Treatment can be carried out with commercially available treatment products that are water repellent and form an invisible protective film.

☞ Apply the treatment product to the frame of the roll-over car wash system.

☞ Rub off any extra treatment product.

NOTICE

Exercise caution when using treatment products.

Always follow the instructions for use and safety instructions provided by the manufacturer.

Do not spray into the roof or side brushes.

7.3. Maintenance

Your roll-over car wash system has been developed and manufactured so that a minimum of maintenance and care work is necessary.

In order to ensure that constantly good washing results and the maximum system operating time are always achieved, you should carry out the following work on a regular basis.

You can find a check-list for maintenance and care work in the appendix. Please use this list as a reminder when carrying out the necessary work.

7.3.1. Maintenance on demand

Proceed with the following steps if the spray nozzles are clogged (insufficient spray pattern):

☞ Remove and clean clogged or soiled nozzles. Exchange defect nozzles.

NOTICE

Inform WashTec Service if the spray pattern is not sufficient after cleaning or exchanging the nozzles.

7.3.2. Weekly Maintenance

Flat belt

☞ Check the belts for deterioration and wear. If there is a high degree of deterioration or wear, i.e. the belts are frayed, ripped or fragile, please inform WashTec Service.

⚠ DANGER

Operation with damaged belts may cause serious injury to persons or damage to the vehicle.

Pay attention to the safety instructions in chapter 2.

Energy chains

☞ Check all the energy chains including leads and cables (roof brush, dryer system, etc.) for wear and breakage. In the event of heavy wear or breakage, please inform WashTec Service.

System of hoses

☞ Check the system of hoses for loose connections and leaks. Tighten any loose connections. If you find any leaks, please inform WashTec Service.

Low-pressure water distribution

☞ Check the low-pressure water distribution for damage and leakages. Please inform WashTec Service in case of damages or leakages.

Clean the suction grids

☞ Clean the suction grids of the dryer blowers.

7.3.3. Monthly Maintenance

Cleaning agent containers

- ☞ Rinse out the cleaning agent containers with water to remove any thickened chemicals.
- ☞ Fill each container with the correct cleaning agent.
- ☞ Bleed all air out of the supply hoses (see Chapter 6 "Operation and settings")

Checking brushes

- ☞ Check the side and roof brushes and wheel washing brushes for wear. In the event of heavy wear, please inform WashTec Service.

Track and guide rollers

- ☞ Clean all the track and guide rollers.
- ☞ Check all drive, track and guide rollers for wear. In the event of heavy wear, please inform WashTec Service.

7.3.4. Maintenance every six months

Safety ring switch

☞ Check the safety ring switch for smooth operation.

☞ Spray the guide of the safety ring switch with the WashTec special-grease-spray.

Slide bearings

☞ Spray all slide bearings with the WashTec special-grease-spray.

NOTICE

Use the WashTec special-grease-spray with caution: do not spray into the wash brushes.

Drives

☞ Ensure that all the drives are properly sealed. You can recognise leaks by traces of oil on the housing. If you detect any leaks, please inform WashTec Service.

NOTICE

We recommend an inspection and maintenance by WashTec Service at six-monthly intervals.

7.3.5. Annually

We recommend an annual inspection of the high-pressure system and of the safety devices by WashTec Service.

NOTICE

Check whether your roll-over car wash system is fitted with additional equipment.

If this is the case, please also carry out the required maintenance and care work for these appliances. You can find a detailed description in Chapter 10 "Special equipment" or in the separate operating instructions of the appliances.

8. Error messages

The error messages will be shown in the display of the operating unit according to the pattern shown below:

Module	Part name	Failure No.	Type of failure	Cause of failure
DB1	S15	025	No travel pulses	Pulse counter
DD1	B4	039	Short circuit transmitter	Light barrier front
CHK		061	Safety strip initiated	Emergency-off

The module abbreviation shows the module where the failure has been occurred, for example DB1 = roof brush. The table on page 8-3 shows the assignment of the abbreviations to the modules.

The part name indicates the part, e.g. S15 = switch no. 15.

The failure number is a consecutive number which is associated to the type of failure.

The type of failure is an indication for the failure, e.g. short circuit at the transmitter of a light barrier. The cause of failure indicates the failure source, e.g. light barrier front. The tables on page 8-5 to 8-10 show the different type of failures and causes of failures.

Modules, type of failure and cause of failure are combined by the controller and displayed on the operating unit.

Example:

Module	Part name	Failure No.	Type of failure	Cause of failure
DB1	S14	002	Stop position not discon-nected	Upper limit switch
DD1	S19	002	Stop position not discon-nected	Upper limit switch

Procedure at error messages

☞ Read off the error message on the operating unit and make notice of the message.

☞ Execute the steps as described in chapter 5.4. “Procedure for emergency stops and malfunctions“.

Table of modules – part 1

Abbreviation	Module
DB1	Roof brush 1
SB1	Side brush 1
SB2	Side brush 2
RAW	Wheel wash brush
DD1	Roof nozzle 1
UBW	Under-body wash
Q1	Pre-rinsing
C2	Brush wetting
C3	Foam CVW
C4	Wax
C5	Post-rinsing / CTH
C6	Special chemistry with foam
C7	Special chemistry without foam
Q9	Hot water
Q10	Cold water
Q50	Chemical pre-wash bumper
Q1	Chemical pre-wash lower side
Q52	Chemical pre-wash roof front
Q53	Chemical pre-wash roof rear
Q25	High-pressure roof
Q27	Rim cleaner
Q54	Chemical pre-wash upper side
Q37	High-pressure lower side
Q38	Swivel pipes
Q44	High-pressure upper side
Q13	Osmosis
Q43	High-pressure under-body wash
Q55	Insect remover bumper
Q56	Insect remover side
DOP	Dosing pumps
PMP	Water pumps
ANL	System
M 1	Machine 1
M 2	Machine 2
M 3	Machine 3

Table of modules – part 2

Abbreviation	Module
CHK	Check, monitoring
FUP	Frequency converter gantry
FUH	Frequency converter lifting
FS1	Frequency converter side brush 1
FS2	Frequency converter side brush 2
WAB	Vehicle moving device
EFT	Entrance door
AFT	Exit door
TTO	Separation door
KLG	Card reader unit
LED	LED display
PVS	Peripheral distributor cabinet
RPD	Real Power Device, Effective power measurement device
SER	Serial interfaces
BED	Operating unit, parallel input
KFZ	Vehicle position
LS	Light barrier module
TST	Test
SOF	Special functions

Type of failure and cause of failure – Part 1

No.	Type of failure	Cause of failure
001	Cable or electronics	Limit switch, top
002	End position keeps touched	Limit switch, top
003	End position left by itself	Limit switch, top
004	End position not reached	Limit switch, top
005	Cable or electronics	Limit switch, bottom
006	End position keeps touched	Limit switch, bottom
007	End position left by itself	Limit switch, bottom
008	End position not reached	Limit switch, bottom
009	Cable or electronics	Limit switch, inside
010	End position keeps touched	Limit switch, inside
011	End position left by itself	Limit switch, inside
012	End position not reached	Limit switch, inside
013	Cable or electronics	Limit switch, outside
014	End position keeps touched	Limit switch, outside
015	End position left by itself	Limit switch, outside
016	End position not reached	Limit switch, outside
017	Cable or electronics	Limit switch, end of bay
018	End position keeps touched	Limit switch, end of bay
019	End position left by itself	Limit switch, end of bay
020	End position not reached	Limit switch, end of bay
021	Cable or electronics	Limit switch, begin of bay
022	End position keeps touched	Limit switch, begin of bay
023	End position left by itself	Limit switch, begin of bay
024	End position not reached	Limit switch, begin of bay
025	No position pulses	Pulse counter
026	Cable or electronics	Pulse counter
027	Actuated	Personnel protection
028	Cable or electronics	Personnel protection
029	Actuated	Safety switch, brush
030	Cable or electronics	Safety switch, brush
031	Actuated	Belt monitor
032	Cable or electronics	Belt monitor
033	Actuated	Anti collision switch
034	Cable or electronics	Anti collision switch
035	Actuated	Safety switch
036	Cable or electronics	Safety switch
037	Actuated	Safety device
038	Cable or electronics	Safety device

Type of failure and cause of failure – Part 2

No.	Type of failure	Cause of failure
039	Short-circuit, transmitter	Light barrier, front
040	Wire break, transmitter	Light barrier, front
041	Short-circuit, receiver	Light barrier, front
042	Wire break, receiver	Light barrier, front
043	Power limit reached	Light barrier, front
044	Short-circuit, transmitter	Light barrier, center
045	Wire break, transmitter	Light barrier, center
046	Short-circuit, receiver	Light barrier, center
047	Wire break, receiver	Light barrier, center
048	Power limit reached	Light barrier, center
049	Short-circuit, transmitter	Light barrier, rear
050	Wire break, transmitter	Light barrier, rear
051	Short-circuit, receiver	Light barrier, rear
052	Wire break, receiver	Light barrier, rear
053	Power limit reached	Light barrier, rear
054	Short-circuit, transmitter	Light barrier
055	Wire break, transmitter	Light barrier
056	Short-circuit, receiver	Light barrier
057	Wire break, receiver	Light barrier
058	Power limit reached	Light barrier
059	Actuated	Emergency cut off
060	Actuated internally	Emergency cut off
061	Safety strip activated	Emergency cut off
062	No voltage	X11-X13 (FC and inputs)
063	No voltage	X2, X3 (24VDC outputs)
064	No voltage	X5, X6 (24VDC outputs)
065	No voltage	X7 (24VDC outputs)
066	No voltage	Px, control voltage
067	Fuse tripped	Motor protection, rotation
068	Fuse tripped	Motor protection, feed
069	Fuse tripped	Motor protection, blower
070	Cable or electronics	Power measurement
071	Power limit reached	Power measurement
072	Short-circuit, overload	Power measurement
073	No measured value	Power measurement
074	Tank empty	Shampoo
075	Tank empty	Drying aid
076	Tank empty	Wax

Type of failure and cause of failure – Part 3

No.	Type of failure	Cause of failure
077	Tank empty	Foam
078	Tank empty	Special chemical 1
079	Tank empty	Special chemical 2
080	Dry running protection	System
081	Dry running protection	Fresh water pump
082	Dry running protection	Recycled water pump
083	Dry running protection	High pressure pump
084	Dry running protection	Osmosis pump
085	Frost protection activated	Plant
086	Fuse tripped	Pumps
087	Fuse tripped	
088	System switched on	
089	Factory settings loaded	Parameter
090	Data error: copy loaded	Parameter
091	Emergency copy loaded	Parameter
092	Config. update loaded	
093	Counter deleted	
094	Data exchange with PC	
095	Cannot initialize SMC	
096	Data backup deviation	Parameter
097	Data backup Parameter	
098	Read/write error SMC	
099	Hardware configuration error	
100	Communication interrupted	
101	Card memory full	
102	Remaining value too low	
103	Card invalid	
104	Power limit reached	Frequency converter
105	Short-circuit, overload	Output, mains for FC
106	Short-circuit, overload	Output, lift motor brake
107	Short-circuit, overload	Output, forwards rotation
108	Short-circuit, overload	Output, backwards rotation
109	Short-circuit, overload	Output, feed in
110	Short-circuit, overload	Output, feed out

Type of failure and cause of failure – Part 4

No.	Type of failure	Cause of failure
111	Short-circuit, overload	Output, fix brushes
112	Short-circuit, overload	Output, lift brushes
113	Short-circuit, overload	Output, FC at lift motor
114	Short-circuit, overload	Output, brush watering
115	Short-circuit, overload	Output, high-pressure valve
116	Short-circuit, overload	Output, blower 1
117	Short-circuit, overload	Output, blower 2
118	Short-circuit, overload	Output, fill boiler
119	Short-circuit, overload	Output, boiler heating
120	Short-circuit, overload	Output, drain fresh water
121	Short-circuit, overload	Output, drain recycled water
122	Short-circuit, overload	Output, drain boiler
123	No portal movement for 1 min.	
124	Both limit switches actuated	
125	No voltage/internal fault	Light barrier
126	Factory settings loaded	Counter
127	Data error: copy loaded	Counter
128	Emergency copy loaded	Counter
129	Data backup deviation	Counter
130	Data backup	Counter
131	Factory settings loaded	Program sequence table
132	Data error: copy loaded	Program sequence table
133	Emergency copy loaded	Program sequence table
134	Data backup deviation	Program sequence table
135	Data backup	Program sequence table
136	Card Intake/outlet faulty	
137	Card Locked	
138	Card Wrong station number	
139	Card Wrong price zone	
140	Card Expired	
141	Card R/W error	
142	Card Not inserted	
143	Service interval elapsed	
144	Data exchange with PC	SMS parameters changed

Type of failure and cause of failure – Part 5

No.	Type of failure	Cause of failure
145	Short-circuit, overload	Limit switch, clock cycle
146	System ready for operation	
147	Actuated unexpectedly	Limit switch, top
148	Actuated unexpectedly	Limit switch, hall begin
149	Switched on	Service program
150	Program invalid	
151	Cable or electronics	Limit switch, initial position
152	End position keeps touched	Limit switch, initial position
153	End position left by itself	Limit switch, initial position
154	End position not reached	Limit switch, initial position
155	Fuse tripped	Fresh water pump
156	Fuse tripped	Recycled water pump
157	Fuse tripped	High-pressure pump
158	Fuse tripped	Osmosis pump
159	Completed	Self test
160	Tank empty	Extra treatment 3
161	Report counters	
162	File not existing	Language
163	Slowing down to large	Lift motor
164	No type support	SMC
165	Data back-up	Program
166	actuated	Light barrier
167	Code not valid	WRAS system
168	Factory settings loaded	WRAS system
169	Data error copy loaded	WRAS system
170	End position not reached	
171	Safety strip activated	Width monitor
172	IFSF program aborted	
173	IFSF programm paused	
174	Fuse tripped	Output, boiler heating
175	Hardware configuration error	WRAS-System
176	Stack Overflow	
177	No voltage/internal fault	Dryer
178	Switched off	System
179	Phase L1 missing	
180	Phase L2 missing	
181	Phase L3 missing	

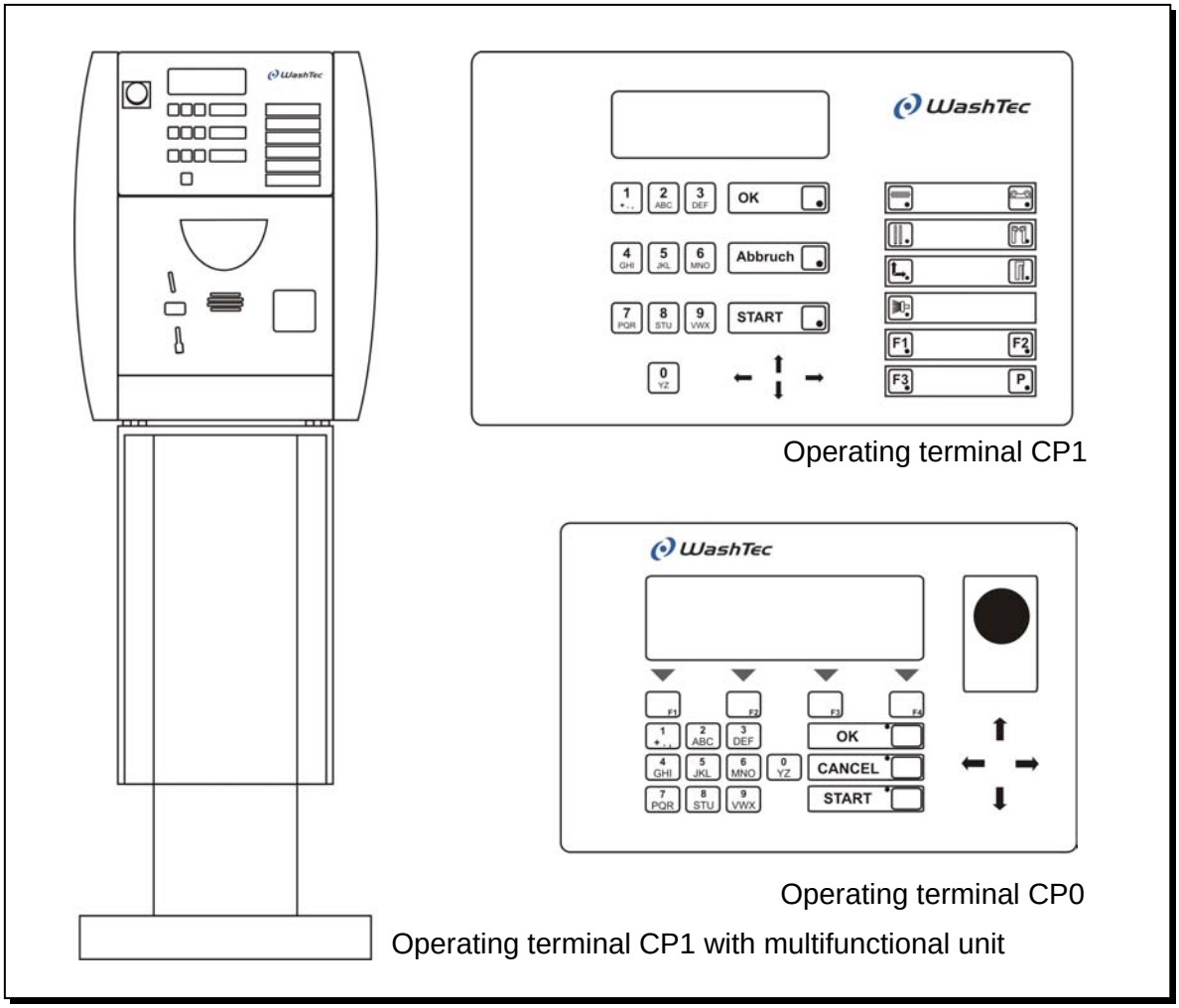
Type of failure and cause of failure – Part 6

No.	Type of failure	Cause of failure
182	Motor protection	
183	Phase sequence left	
184	No Real Power	
185	Generator operation	
186	Current threshold	
187	Error separation door	
188	Power limit reached	
189	SPI-Error	
190	Active purging	
191	Container empty	
192	Camera 1 defect	
193	Camera 2 defect	
194	Camera housing 1 shutter defect	
195	Camera housing 2 shutter defect	
196	Laser 1 defect	
197	Laser 2 defect	
198	Camera software defect	
199	PC communication interrupted	
200	Water recycling fresh water consumption	
201	Multibox communication interrupted	
202	Unexpected actuation safety device	

9. Operating units

The roll-over car wash system can be operated, i.e. starting the wash programs and making adjustments, with various different operating units.

The roll-over car wash system is always equipped with an operating terminal of type CP1 or CP0. Wash programs can be started from the operating terminal by pressing a program button or by entering a code. The operating terminal CP1 may be equipped with a multifunctional unit (option). The multifunctional unit is used to start wash programs with transponder cards, with coins and tokens or with barcode tickets.



Operating terminal CP1

Operating terminal CP0

Operating terminal CP1 with multifunctional unit

Fig. 9.1: Operating units

Instead of the optional card reader other card readers may be installed. From these card readers wash programs may be started by using punched-cards, magnetic cards or transponder cards. These card readers are described in separate operating instructions.

NOTICE

Important information for systems with other card readers!

Several functions such as the start of wash programs with the key pad or the manual operation of machine components with the function keys may be executed from the operating terminal CP0/CP1 as well as from the card readers.

It is also possible that certain functions may not be executed at all from the card reader.

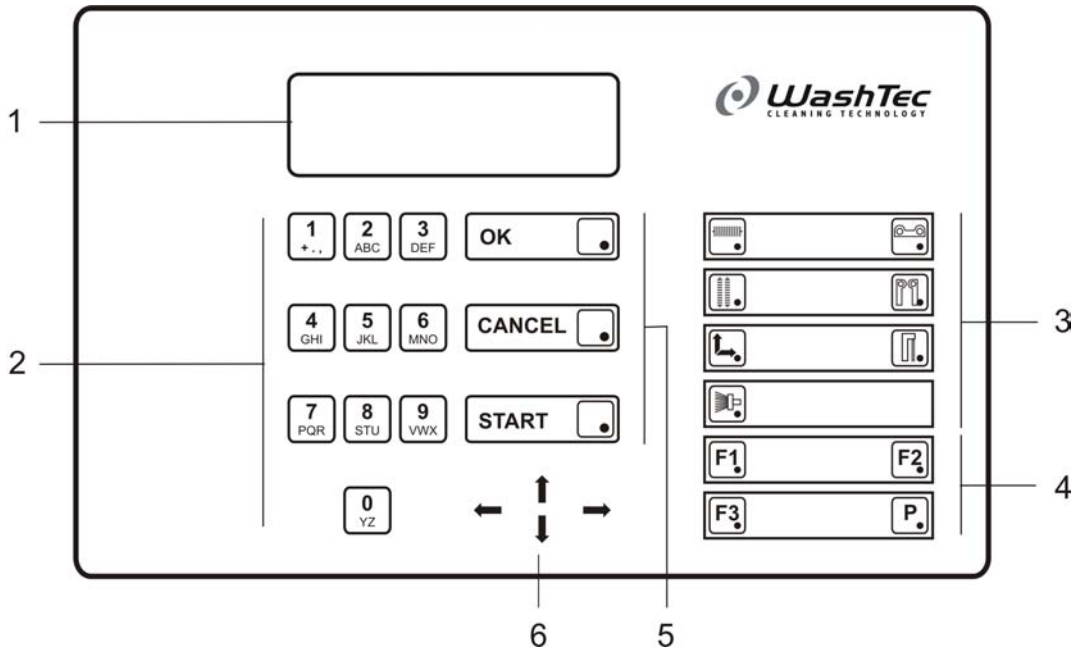
It is therefore recommended, to execute these functions only from the operating terminal CP0/CP1.

Check which type of operating terminal is used in your system and turn to the relevant chapter or read the individual operating instructions.

Operating terminal CP1..... 9-4
Operating terminal CP0…….....……. 9-6
Start-up of the terminal..... 9-9
Start of wash programs..... 9-9
Manual operation with control buttons..... 9-12
Service programs..... 9-16
Operating terminal CP1 with multifunctional unit 9-90

9.1. Operating terminal CP1

The operating terminal CP1 is used to control the wash system. It is installed in a plastic housing which can be wall-mounted or rack-mounted.



1 = Display
2 = Numeric keys
3 = Control buttons
4 = Special function buttons
5 = Function buttons
6 = Navigation buttons
7 = Emergency-Off button

Fig. 9-2: Operating terminal CP1- front view

Numeric keys

Numeric keys are used to select programs and to enter data in the service programs.

Control buttons

Control buttons are used for manual operation of individual machine elements such as roof brush, side brushes, etc.

Special function buttons

The buttons F1 – F3 are used to start special functions which have been previously assigned by WashTec Service. The button P is used to start the service program.

Function buttons

The button <<OK>> is used to acknowledge inputs.

The button <<Cancel>> is used to cancel inputs.

The button <<Start>> is used to start wash programs.

Navigation buttons

The navigation buttons are used to select the direction of motion of the machine elements during manual operation and to navigate within service program menus.

9.2. Operating terminal CP0

The operating terminal CP0 is used to control the wash system. It is installed in a plastic housing which can be wall-mounted or integrated in a door cut-out.

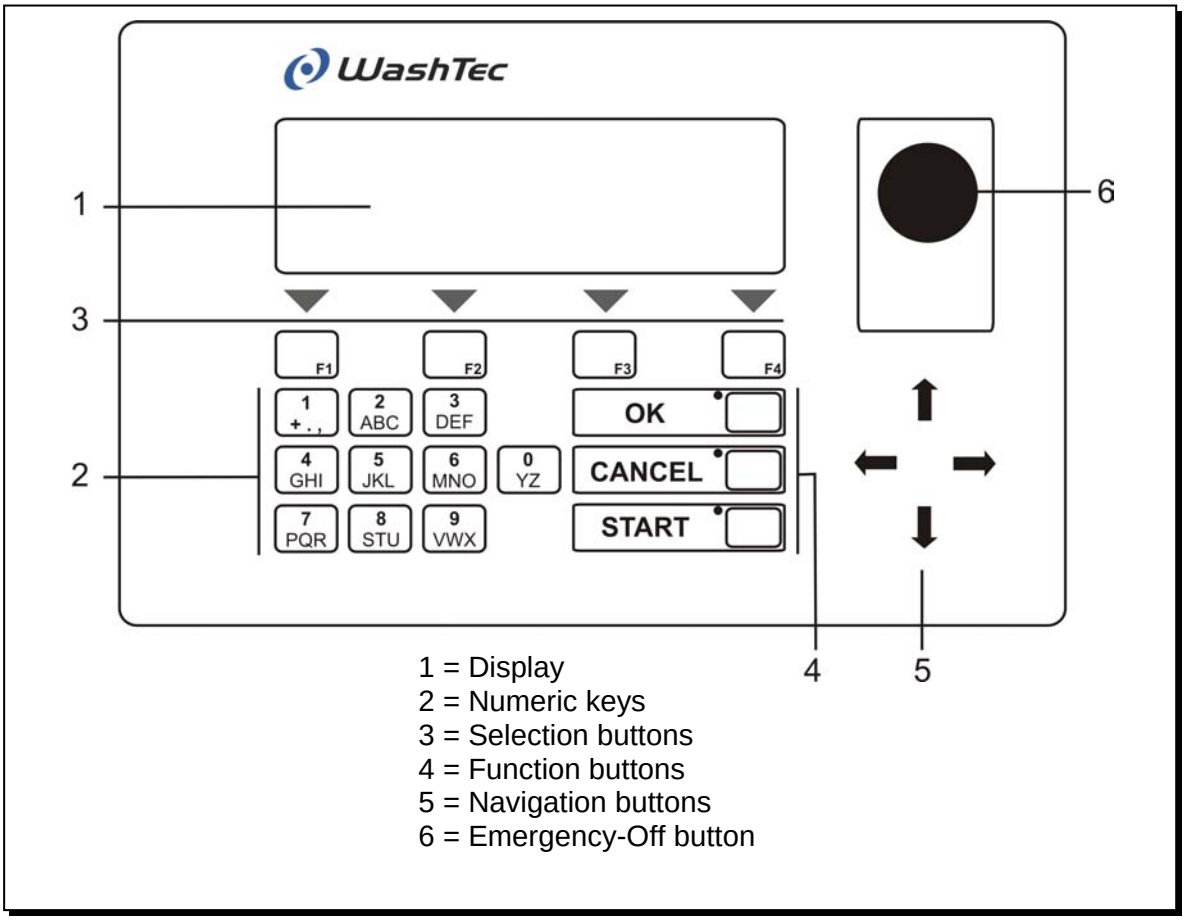


Fig. 9-3: Operating terminal CP0 - front view

The contrast of the display may be adjusted at the operating terminal anytime.

☞ Press simultaneously the buttons 4 and 6 and additionally one of the buttons <<⬆>> or <<⬇>>.

☞ Keep the buttons pressed until the desired contrast is set.

Numeric keys

Numeric keys are used to select programs and to enter data in the service programs.

Selection buttons

The lowest line of the display shows up to four symbols:

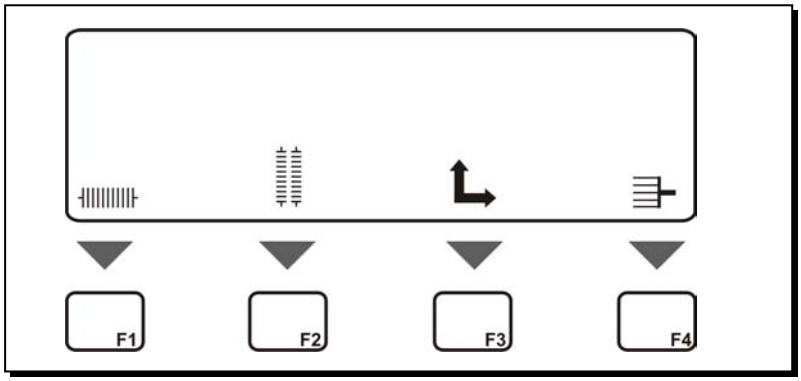


Fig. 9-4: Display of symbols

Use the buttons <<⬅>> and <<➡>> to display further symbols. All available symbols are shown on the left side.

The symbols for manual operation (control buttons) are used for manual operation of individual machine elements such as roof brush, side brushes or the whole gantry (more information in chapter 9.5).

The symbols F1 – F3 are used to start special functions which have been previously assigned by WashTec Service.

The symbol P is used to start the service program.

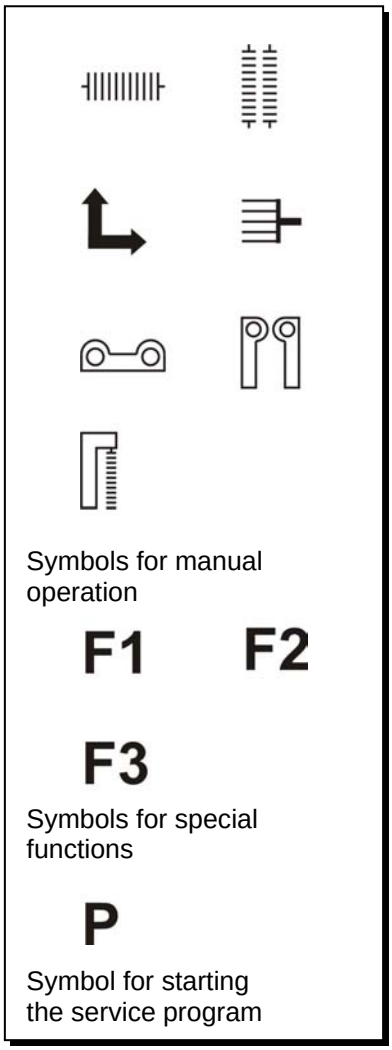


Fig. 9-5: Symbols

Use the selection buttons F1 to F4 to select the according symbol.

A selected symbol is marked with a black background.

Function buttons

The button <<OK>> is used to acknowledge inputs.

The button <<Cancel>> is used to cancel inputs.

The button <<Start>> is used to start wash programs.

Navigation buttons

The navigation buttons are used to select the symbols, the direction of motion of the machine elements during manual operation and to navigate within service program menus.

9.3. Starting up the operating terminal

The operating terminal is started automatically when the roll-over car wash system is switched on at the main switch.

Depending on the operation mode, the display may show one of the messages below:

Drive in vehicle

or

Select program *or* **Please insert card**

9.4. Starting wash programs

Wash programs may be started by entering a program number or a program code (code operation mode).

In Code operation mode the customer receives at purchase a ticket with an access code. The wash procedure is started by entering the access code at the operating terminal.

NOTICE

Please note that in code operation mode the program selection has to be switched-off (see menu 0361 in chapter 9.6). Otherwise the operating terminal takes the data entry as a program number.

The further steps depend on the operation mode and the position of the vehicle.

Operation mode 1

The driver drives into the wash building, positions the vehicle, leaves the vehicle, starts the wash program and waits outside of the building.

Procedure

☞ Select the desired wash program on the key-pad or enter the code.

☞ Acknowledge the input with the button <<OK>> or press the button <<Cancel>> if you would like to change the input.

⇒ The wash program starts. The display shows:

Program x running

Operation mode 2

The driver drives in front of the wash building, selects a wash program, drives the vehicle into the building, leaves the vehicle, starts the wash program and waits outside of the building.

Procedure

☞ Select the desired wash program on the key-pad or enter the code.

☞ Acknowledge the input with the button <<OK>> or press the button << Cancel >> if you would like to change the input.

☞ Drive the vehicle into the building.

☞ Start the wash program with button <<Start>>.

⇒ The wash program starts. The display shows:

Program x running

Operation mode 3

The driver drives in front of the wash building, selects a wash program, drives the vehicle into the building, remains seated and the wash program starts automatically (Automatic start on).

Procedure

☞ Select the desired wash program on the key-pad or enter the code.

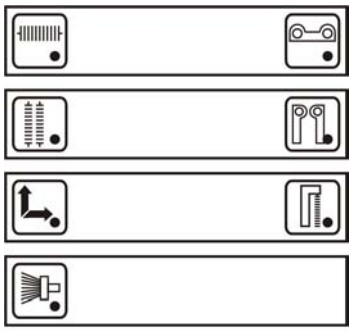
☞ Acknowledge the input with the button <<OK>> or press the button << Cancel >> if you would like to change the input.

☞ Drive the vehicle into the building.

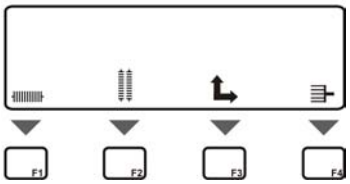
⇒ The wash program starts. The display shows:

Program x running

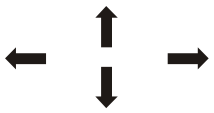
9.5. Manual operation with the control buttons



Control buttons CP1



Control buttons CP0



Navigation buttons

The control buttons can be used for manual operation of individual machine elements, such as the roof brush, side brushes, etc. or of the complete wash gantry.

At the operating terminal CP 1 you can access the machine elements directly by pressing the according button.

At the operating terminal CP0 you probably have to shift the desired machine element symbol into the display by using the navigation buttons. Afterwards you may select the symbol with one of the buttons F1 – F4.

The function which will be initiated by a control button depends on the operating state of the system:

Wash mode = a wash program is executed
Control mode = no wash program active

Wash mode

By pressing a control button the according machine element will be moved. The movement remains active as long as the button is pressed.

NOTICE

At the operating terminal CP0 only machine elements will be displayed which are currently active.

Control mode

During control mode, i.e. no wash program running, a machine element is only selected with a control button. This machine element can be moved into the desired direction by using the navigation buttons.

☞ Select the desired machine element by using the control buttons.

⇒ At CP1:
The LED in the lower right corner is illuminated
At CP0:
The symbol is marked with a black background

☞ Select the desired direction of movement by using the navigation buttons.

⇒ The element will be moved as long as the navigation button remains pressed or until the home position is reached.

The selected element will be deactivated if no navigation button is pressed within three seconds after selection.

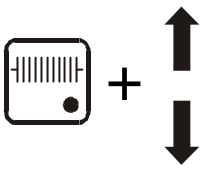
NOTICE

Manual operation can be deactivated to avoid misuse (see chapter 9.6 „Service programs – menu 0360“).

The next two pages show the different functions which may be actuated with the control and navigation buttons. Thereby the symbols of the operating terminal CP1 have been used. The symbols of the operating terminal CP0 are similar.

Control button <<Roof brush>>

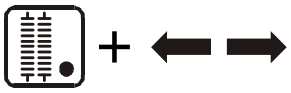
Wash mode: Roof brush up. The roof brush moves back downwards after releasing the button.



Control mode: Roof brush up or down. The roof brush remains in its actual position after releasing the button.

Control button <<Side brushes>>

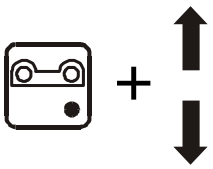
Wash mode: Side brushes apart. The side brushes moves back inwards after releasing the button.



Control mode: Side brushes apart or together. The side brushes remain in their actual position after releasing the button.

Control button <<Roof nozzle>>

Wash mode: Roof nozzle up. The roof nozzle moves back downwards after releasing the button.



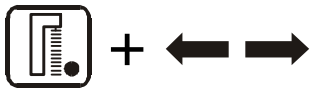
Control mode: Roof nozzle up or down. The roof nozzle remains in its actual position after releasing the button.

Control button <<Wheel wash brushes>>

Wash mode: The wheel wash brushes are switched off and remain switched off until the end of the wash program.

Control button <<Wash gantry>>

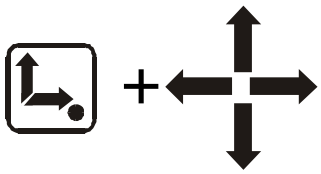
Wash mode: Without function.



Control mode: Wash gantry forward or backward. The wash gantry remains in its position after releasing the button.

Control button <<Home position>>

Wash mode: Without function.



Control mode: Roof brush and roof nozzle move upwards, side brushes move apart. The wash gantry moves in its home position.

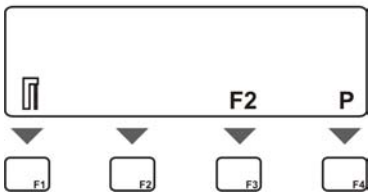
For safety reasons, one of the four navigation buttons or the button <<OK>> has to be pressed in addition to the button <<Home position>>.

9.6. Service programs

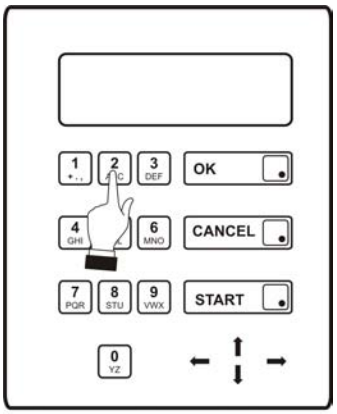
Service programs allow the manager or owner of the wash tunnel to modify designated settings of the system.

Service programs are started by using the special function button <<P>>.

At the operating terminal CP 1 you can start the service program directly by pressing the button <<P>>.

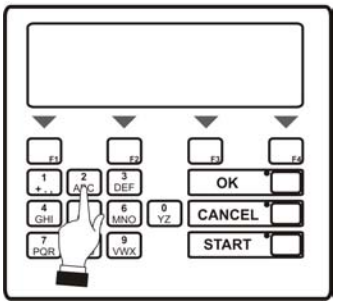


At the operating terminal CP0 you probably have to shift the symbol “P” into the display by using the navigation buttons. Afterwards you may start the service with one of the selection buttons, e.g. F4.



Operating terminal CP1

During the further description of the service programs the keypad of the operating terminal is shown occasionally. The illustration shows always the keypad of the operating terminal CP1. Inputs at the operating terminal CP0 should be done in a similar way.



Operating terminal CP0

Access and Termination To access and terminate service programs follow the sequence as shown below.

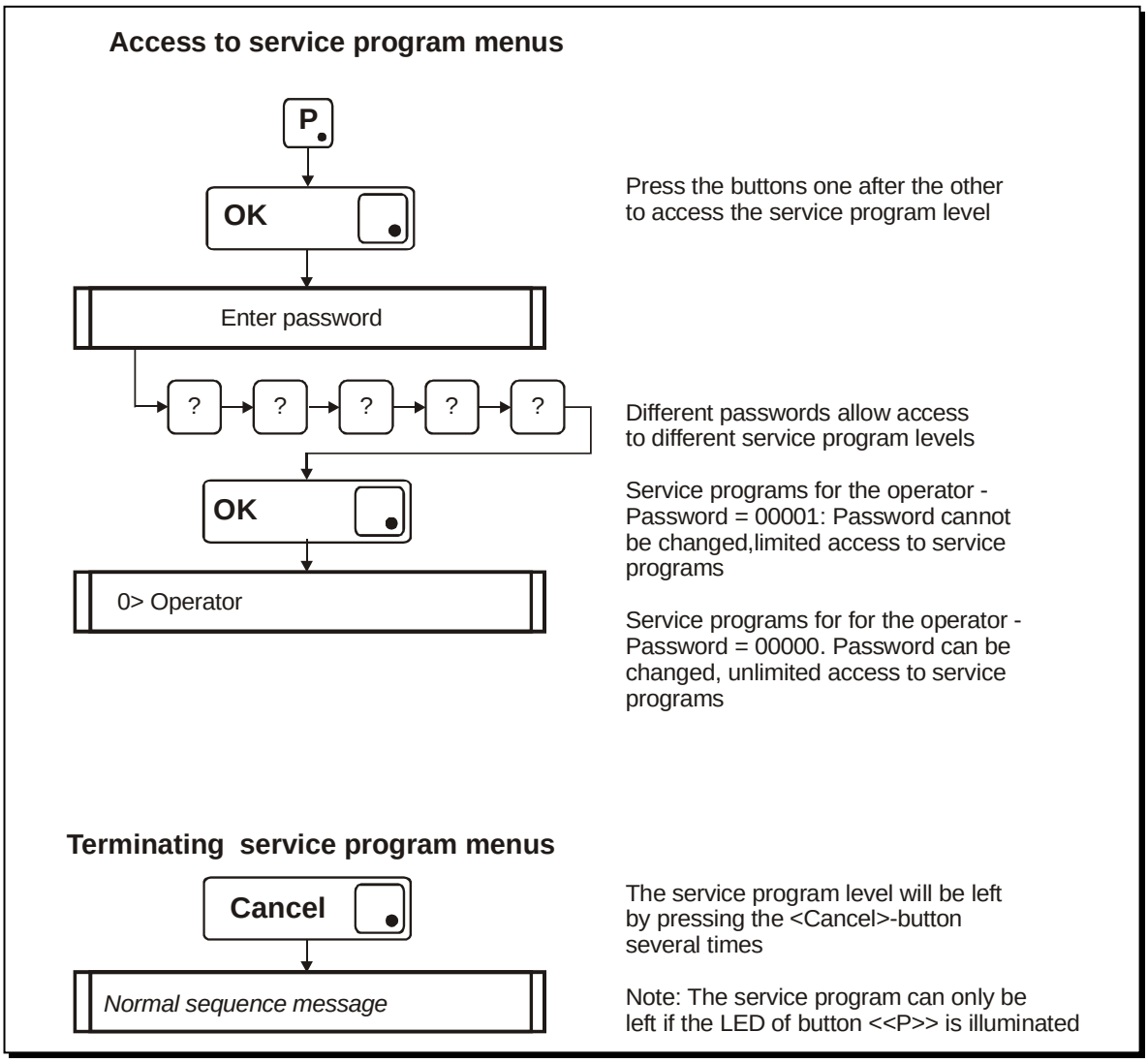


Fig. 9-6: Access to and termination of service programs

NOTICE

Service programs may not be accessed while wash programs are executed.

About using service programs

Service programs are structured in several levels. In each level different operations can be performed.

NOTICE

There is a button called <<Cancel>> on the front panel. The meaning of this button is Cancel or Abort.

Calling menu items

The menu items within a service program can be called by using the navigation buttons or by entering the menu item number directly.

The menu items can be found from page 9-21.

The illustration below shows the direct call of a menu item. On the next page you will learn how the menu item is called with the navigation buttons.

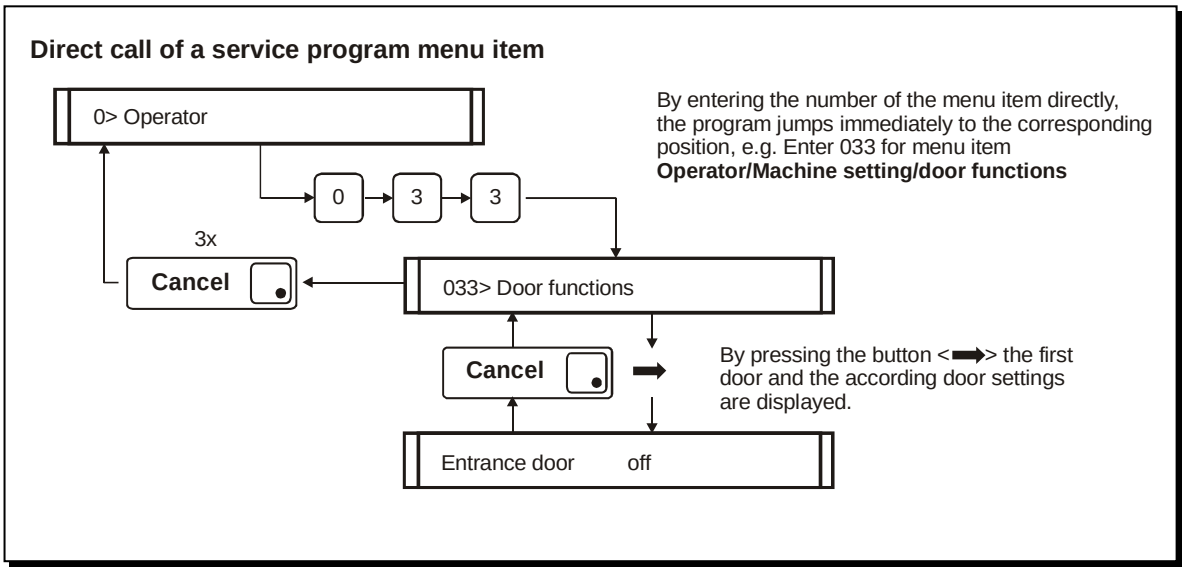


Fig. 9-7: Direct call

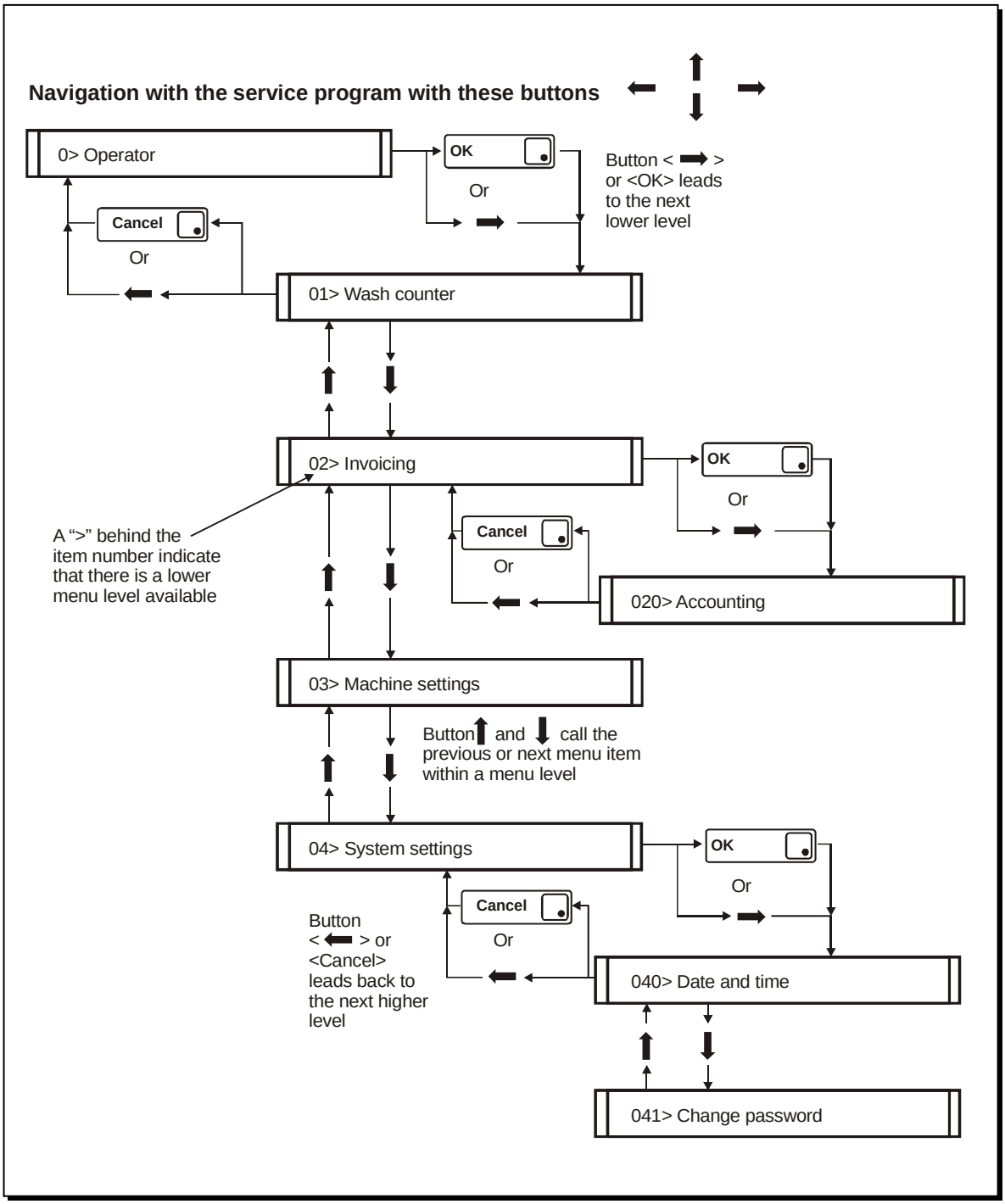


Fig. 9-8: Navigation with navigation buttons

Modification of values/ parameters

Values/parameters can be modified within a menu item.

The modification follows the sequence as shown below:

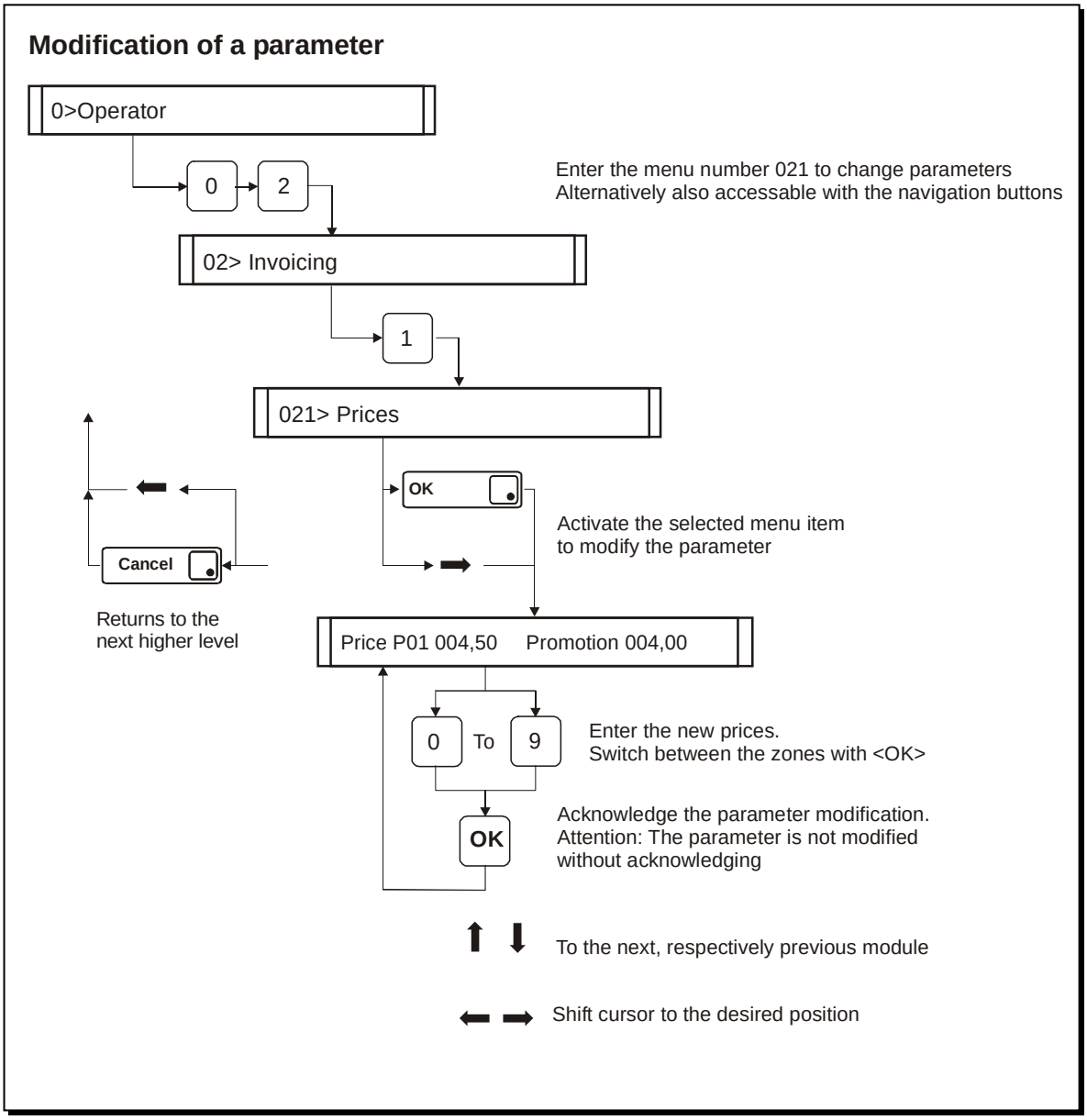


Fig. 9-9: Modification of parameters/values

Service program menus

The menu items of a service program are released by a password when accessing the service program. The following listing shows all menu items which may be called from the operator or the owner of the roll-over car wash system.

A menu item can be called directly by using the number code.

0> Operator	
01> Wash counter	032> Contact pressure
010> Total counter	033> Door functions
011> Lifetime	034> Positioning lights
0110> Cash (Manual entry)	035> Automatic start
0111> Non-cash	036> Manual control
0112> Servicing	037> Temperature setting
012> Day	038> Spray arch
0120> Cash (Manual entry)	039> Bleed rim cleaner
0121> Non-cash	
0122> Servicing	04> System settings
0124> Clear day counter	040> Date and time
	041> Change password
02> Invoicing	042> Set telephone numbers
020> Accounting	043> Station code
021> Prices	044> Opening hours
022> Promotion times (zone 2)	045> Selectable program names
023> Currency and tax	046> Program names
024> Check Multibox Code	047> Release
	048> Multibox Setup Code
03> Machine settings	
030> Modules On-Off	05> Create cards
031> Lift control roof nozzle	06> Winter water control
1> Évents	
10> Display list	

Menu 01> Wash counter

The menu „Wash counter“ displays different counters. The table below shows at a glance all menus and sub-menus available in this menu item.

01> Wash counter
010 Total counter Total: XXXXXX Shift: YYYYYY Failed: ZZZZZZ
011> Lifetime **0110 Cash (Manual entry)** Program 1 XXXXXX Promotion YYYYYY
0111 Non-cash Program 1 XXXXXX Promotion YYYYYY
0112 Servicing Program 1 XXXXXX Promotion YYYYYY
012> Day **0120 Cash (Manual entry)** Program 1 XXXXXX Promotion YYYYYY
0121 Non-cash Program 1 XXXXXX Promotion YYYYYY
0122 Servicing Program 1 XXXXXX Promotion YYYYYY
0124 Clear day counter

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu

010 Total counter

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 010 Total counter

☞ Press the button <<➡>> to display the total counter.

⇒ The display shows

Total: XXXXXX Shift: YYYYYY Failed: ZZZZZZ

Total = All wash cycles since commissioning
Shift = All wash cycles since the daily counter has been cleared
Failed = All wash cycles which have been aborted since commissioning

☞ Press the button <<Cancel>>.

⇒ The display shows:

010 Total counter

Menu 011 Lifetime

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu

0110 Cash (Manual entry)

The menu „Lifetime“ provides three sub-menus

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

- 0110 Cash (Manual entry)
- 0111 Non-cash
- 0112 Service

The menu „Cash“ shows the total amount of wash cycles which have been started at the operating terminal by entering a wash program. The menu “Non-cash” shows the total amount of wash cycles which have been started otherwise, e.g. with a wash card at a card reader. The menu „Service“ shows the total amount of wash cycles which have been started from WashTec Service in service mode.

☞ Press the button <<➡>> to display the counter of the selected menu.

⇒ The display shows:

Program Z XXXXXX Promotion YYYYYY

Z	=	Program number (Start with program1)
XXX	=	All wash cycles of program Z during regular periods
YYY	=	All wash cycles of program Z during promotion periods

☞ Select the counters of other programs by pressing the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows for example:

0110 Cash (Manual entry)

☞ Select another sub-menu by pressing the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

011 Lifetime

Menu 012 Day

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu

0110 Cash (Manual entry)

The menu „Day“ provides four sub-menus

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

- 0120 Cash (Manual entry)
- 0121 Non-cash
- 0122 Service
- 0124 Clear day counter

The menu „Cash“ shows the total amount of wash cycles which have been started at the operating terminal by entering a wash program during this day. The menu “Non-cash” shows the total amount of wash cycles which have been started otherwise during this day, e.g. with a wash card at a card reader. The menu „Service“ shows the total amount of wash cycles which have been started from WashTec Service in service mode during this day.

For the first three menus:

☞ Press the button <<➡>> to display the counter of the selected menu.

⇒ The display shows:

Program Z XXXXXX Promotion YYYYYY

Z = Program number (Start with program1)
XXX = All wash cycles of program Z at regular periods
YYY = All wash cycles of program Z at promotion periods

☞ Select the counters of other programs by pressing the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows for example:

0120 Cash (Manual entry)

☞ Select another sub-menu by pressing the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

012 Day

For the menu „Clear day counter“

The display shows:

0124 Clear day counter

☞ Press the button <<OK>> to clear the daily counter.

⇒ The display shows:

Day counters cleared

☞ Press twice the button <<Cancel>> to return to the start menu.

⇒ The display shows:

012 Day

Menu 02 Invoicing

The menu „Invoicing“ displays the daily accounting. Prices, promotions as well as currencies and taxes can be displayed and changed.

The table below shows at a glance all menus and sub-menus available in this menu item.

02> Invoicing
020> Accounting **0200> Day** Turnover: Cash 123456,00 EUR
021> Prices Price P01 XXXXXX Promotion YYYYYY
022> Promotion times (zone 2) 0 Mo Time1 00:00-00:00 Time2 00:00-00:00
023> Currency and tax Currency: EUR Tax: 16,00 %
024> Check Multibox Code Enter Code xxxxx

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

020 Accounting

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 020
Accounting

☞ Press twice the button <<➡>> to display the daily accounting.

⇒ The display shows the daily accounting:

Turnover cash: YYYYYY ZZ

YYY = Daily turnover
ZZ = Currency

☞ Press twice the button <<Cancel>>.

⇒ The display shows:

020 Accounting

Menu 021
Prices

☞ Press the button <<➡>>.

⇒ The display shows:

Price P Z XXX.XX Promotion YYY.YY

Z = Program number (Start with Prog. 01)
XXX = Price for Prog. Z at regular periods
YYY = Price for Prog. Z at promotion periods

You can define a regular and a promotion price for each wash program. Promotion prices are only valid at specified promotion periods (see menu 022 Promotion times).

☞ Select with the buttons <<⬇>> and <<⬆>> the price display for the desired program.

NOTICE

Prices cannot be changed with password 00001.

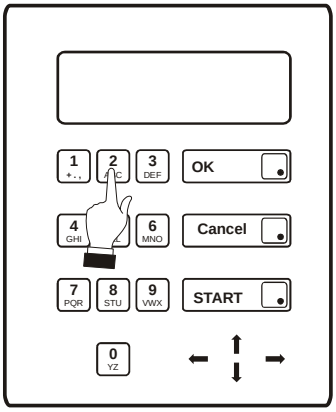
Display only

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

021 Prices

Change prices



☞ Press the button <<OK>>.

⇒ The cursor is placed below the first digit of the regular price.

<OK>

Price P Z XXX.XX Promotion YYY.YY

☞ Press the button <<➡>> until the cursor is placed below the desired digit.

☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted

⇒ The cursor is placed below the 1. digit of the promotion price.

<OK>

Price P Z XXX.XX Promotion YYY.YY

<Cancel> < Cancel > < Cancel >

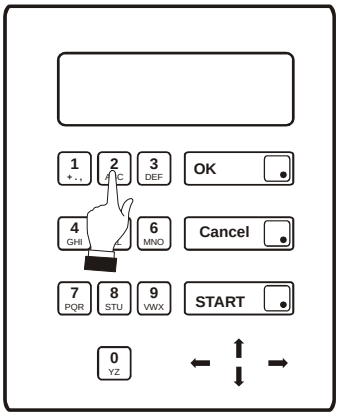
☞ Press twice the button <<Cancel>> when the promotion price should not be changed. Otherwise proceed as described on the next page.

☞ Use the buttons <<⬇>> and <<⬆>> to select another program. Press the button <<Cancel>> to return to the start menu.

Change promotion price

☞ Press the button <<➡>> until the cursor is placed below the desired digit.

Price P Z XXX.XX Promotion YYY.YY



☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the 1. digit of the price.

Price P Z XXX.XX Promotion YYY.YY

☞ Press the button <<Cancel>>.

Price P Z XXX.XX Promotion YYY.YY

<Cancel> < Cancel >

☞ Select another program by pressing the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

021 Prices

Example

In this example the price for program 5 will be increased from 11,00 to 12,50 Euro at regular periods and will be decreased from 10,00 to 9,50 at promotion periods.

☞ Press the button <<OK>>.

⇒ The cursor is placed below the 1. digit of the regular price.

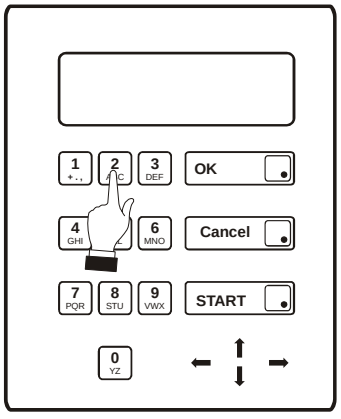
<OK>

Price P05 011.00 Promotion 010.00

☞ Press twice the button <<➡>>.

⇒ The cursor is placed below the 3. digit of the regular price.

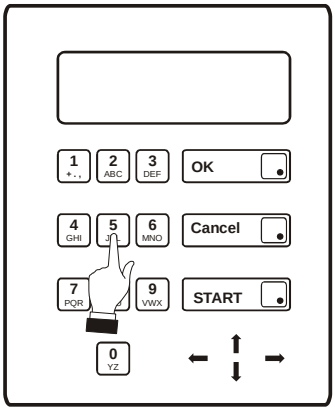
Price P05 011.00 Promotion 010.00



☞ Enter the number 2 on the key pad.

⇒ The cursor is placed below the 4. digit of the regular price.

Price P05 012.00 Promotion 010.00



☞ Enter the number 5 on the key pad.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the 1. digit of the price.

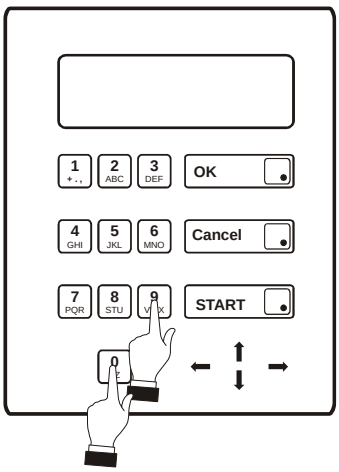
<OK>

Price P05 012.50 Promotion 010.00

☞ Press the button <<➡>>.

⇒ The cursor is placed below the 2. digit of the promotion price.

Price P05 012.50 Promotion 010.00



☞ Enter the number 0 on the key pad.

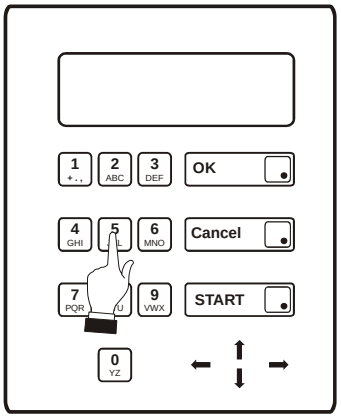
⇒ The cursor is placed below the 3. digit of the promotion price.

Price P05 012.50 Promotion 000.00

☞ Enter the number 9 on the key pad.

⇒ The cursor is placed below the 4. digit of the promotion price.

Price P05 012.50 Promotion 009.00



☞ Enter the number 5 on the key pad.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the first digit of the price.

Price P05 012.50 Promotion 009.00

☞ Press the button <<Cancel>>.

Price P05 012.50 Promotion 009.50

<Cancel> <Cancel>

☞ Select another program by pressing the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

021 Prices

Menu 022
Promotion times

☞ Press the button <<➡>>.

⇒ The display shows the current promotion period for the displayed day of the week.

Z Time1 00:00-00:00 Time2 00:00-00:00

Z = Day of the week (Start with 0 Mo)

You can define two promotion periods for each day. During these periods the previously defined promotion prices are valid.

Setting 00:00-00:00 = No promotion period

☞ Select with the buttons <<⬇>> and <<⬆>> the desired day of the week.

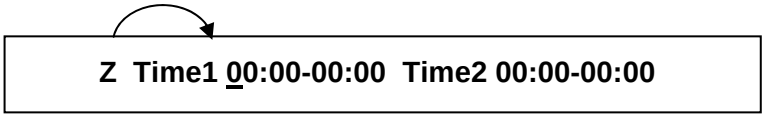
☞ Press the button <<Cancel>> to return to the start menu.

Change promotion periods

☞ Press the button <<OK>>.

⇒ The cursor is placed below the 1. digit of Time1.

<OK>



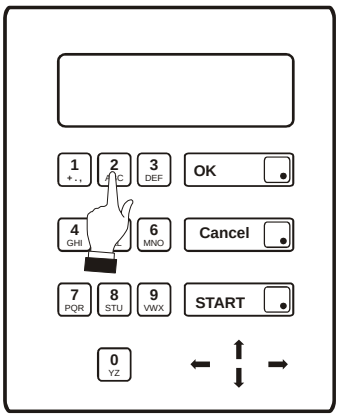
☞ Press the button <<➡>> until the cursor is placed below the desired digit.

☞ Enter the new value.

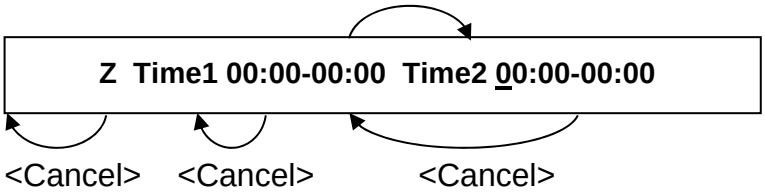
☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the first digit of promotion time 2.



<OK>

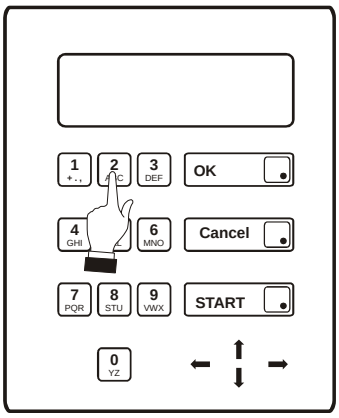


<Cancel> <Cancel> <Cancel>

☞ Press twice the button <<Cancel>> when the second promotion period should not be changed. Otherwise proceed as described on the next page.

☞ Select with the buttons <<⬇>> and <<⬆>> another day. Press the button <<Cancel>> to return to the start menu.

Change promotion period 2



☞ Press the button <<➡>> until the cursor is placed below the desired digit.

Z Time1 00:00-00:00 Time2 0<u>0</u>:00-00:00

☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the 1. digit of the time 1.

Z Time1 <u>0</u>0:00-00:00 Time2 00:00-00:00

☞ Press the button <<Cancel>>.

Z Time1 00:00-00:00 Time2 0<u>0</u>:00-00:00

<Cancel> <Cancel>

☞ Select with the <<⬇>> and <<⬆>> another day or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

022 Promotion times

Example

In this example a promotion period will be set which is valid on Wednesday from 7 – 8:30 am and from 5 – 7 pm (17:00-19:00).

☞ Select Wednesday with the buttons <<⬇>> and <<⬆>>.

☞ Press the button <<OK>>.

⇒ The cursor is placed below the 1 digit of promotion time 1.

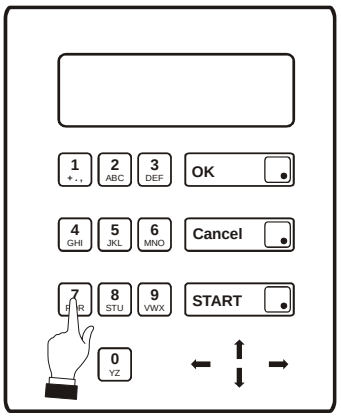
<OK>

2 We Time1 00:00-00:00 Time2 00:00-00:00

☞ Press the button <<➡>> once.

⇒ The cursor is placed below the 2. digit of promotion time 1.

2 We Time1 00:00-00:00 Time2 00:00-00:00

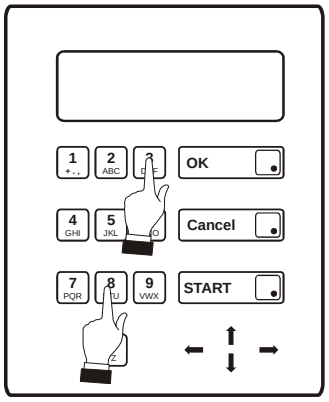


☞ Enter the number 7 on the key pad.

☞ Press the button <<➡>> three times.

⇒ The cursor is placed below the 6. digit of promotion time 1.

2 We Time1 07:00-00:00 Time2 00:00-00:00



☞ Enter the number 8 on the key pad.

⇒ The cursor is placed below the 7. digit of promotion time 1.

2 We Time1 07:00-08:<u>0</u>0 Time2 00:00-00:00

☞ Enter the number 3 on the key pad.

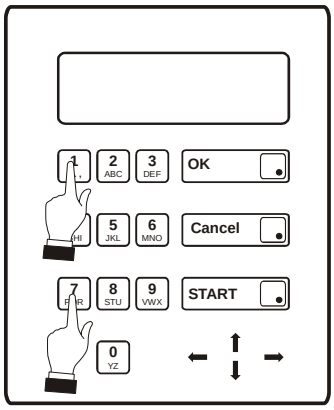
☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed below the 1. digit of promotion time 2.

<OK>

2 We Time1 07:00-08:30 Time2 <u>0</u>0:00-00:00



☞ Enter the number 1 on the key pad.

⇒ The cursor is placed below the 2. digit of promotion time 2.

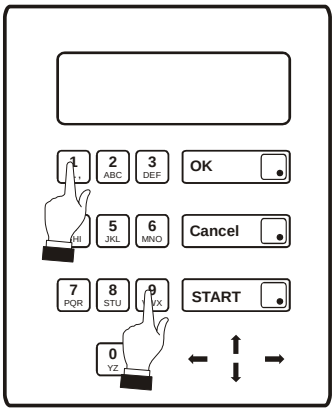
2 Mi Time1 07:00-08:30 Time2 1<u>0</u>:00-00:00

☞ Enter the number 7 on the key pad.

☞ Press twice the button <<➡>>.

⇒ The cursor is placed below the 5. digit of promotion time 2.

2 We Time1 07:00-08:30 Time2 17:00-<u>0</u>0:00



☞ Enter the number 1 on the key pad.

⇒ The cursor is placed below the 6. digit of promotion time 2.

2 We Time1 07:00-08:30 Time2 17:00-10:00

☞ Enter the number 9 on the key pad.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the 1. digit of the time 1.

2 We Time1 07:00-08:30 Time2 17:00-10:00

☞ Press the button <<Cancel>>.

2 We Time1 07:00-08:30 Time2 17:00-19:00

<Cancel> <Cancel>

☞ Select with the buttons <<⬇>> and <<⬆>> another day. Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

022 Promotion times

Menu 023 Currency and tax

☞ Press the button <<➡>>.

⇒ The display shows the actual currency and sales tax. The cursor is placed below the first digit of the currency:

Currency: EUR Tax: 16,00 %

You can display and change the currency and tax to local values.

Display only

☞ Press the button <<Cancel>> to return to the start menu without any changes.

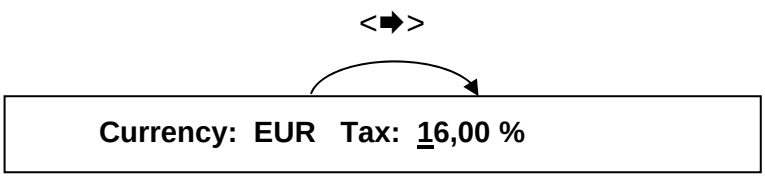
Change

☞ Enter the new currency.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Press the button <<➡>> until the cursor is placed below the desired digit.



☞ Press the button <<Cancel>> when the tax should not be changed. Otherwise proceed as described below.

Currency: EUR Tax: 16,00 %

<Cancel>

☞ Press the button <<➡>> until the cursor is placed below the desired digit.

Currency: EUR Tax: 16,00 %

☞ Enter the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

⇒ The cursor is placed again below the first digit of the currency.

Currency: EUR Tax: 16,00 %

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

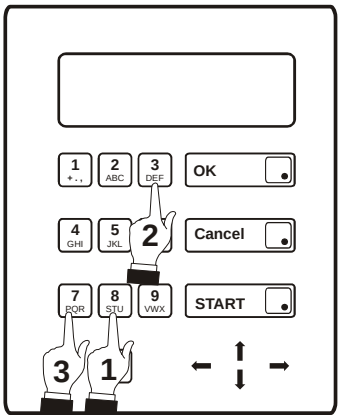
023 Currency and tax

Example

In this example the currency shall be changed to swiss franks (Sfr) and the sales tax shall remain unchanged.

The cursor is placed below the first digit of the currency.

Currency: EUR Tax: 16,00 %



☞ Press the number 8 once =S.

☞ Press the button <<➡>> once.

⇒ The cursor is placed below the next digit of the currency.

☞ Press the number 3 three times = F.

☞ Press the button <<➡>> once.

⇒ The cursor is placed below the next digit of the currency.

☞ Press the number 7 three times = R.

☞ Press the button <<OK>> once.

⇒ The data entry is accepted.

⇒ The cursor is placed below the first digit of the currency.

Currency: SFR Tax: 16,00 %

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

023 Currency and tax

Menu 024 Check Multibox Code

☞ Press the button <<➡>>.

⇒ The display shows:

Enter Code: xxxxxx

You can verify if a code has been used or if the code is still available for a wash cycle.

☞ Enter the code.

☞ Press the button <<OK>>.

⇒ If the code has been used for a wash cycle the display shows:

Program and date of the wash cycle

⇒ If the code has not been used for a wash cycle the display shows:

Code not found

☞ Press the button <<Cancel>> to return to the start menu.

Menu 03 Machine Settings

The menu „Machine settings“ is used to switch devices of the wash system on or off or to control them manually.

The table below shows on a glance all menus and sub-menus available in this menu item.

03> Machine settings
030> Modules On-Off Mod 000: DB1 = active
031> Lift control roof nozzle Lift control roof nozzle: on
032> Contact pressure Roof brush : 100 %
033> Door functions Entrance door off Exit door off Separator door off
034> Positioning lights Positioning lights on
035> Automatic start Automatic start off
036> Manual control 0360 Manual control buttons off 0361 Program selection at operating terminal off
037> Temperature setting 0370 Freeze protection on at xx°C 0371 Heater on at xx°C
038> Spray arch Shampoo off Active foam off Wax off Drying aid off Foam wax off
039> Bleed rim cleaner Rim cleaner on

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

030> Module On-Off

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

NOTICE

The menu cannot be activated during operation of the wash system.

Menu 030
Module On-Off

☞ Press the button <<➡>> to display the modules.

⇒ The first module is shown:

Mod 001: X = active

X = Abbreviation of the module, e.g. DB1 for roof brush 1

You can now change the condition of a module, i.e. activate or deactivate a module. A module which is deactivated will not be actuated during a wash cycle.

NOTICE

Use this function to switch off a defect module. You can then operate the wash system with reduced functionality.

CAUTION

Modules which are not in their home position may cause damages to vehicles or to the wash system.

Make sure that all modules are in their home position before you deactivate a module.

The wash system cannot be started if a module is not in its home position.

☞ Select a module by using the buttons <<⬇>> and <<⬆>>.

☞ Press the button <<OK>> to change the condition of the module, e.g. from active to inactive.

⇒ The display shows for example:

Mod 001: DB1 = inactive

☞ Select further modules by using the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

030 Modules On-Off

Menu 031
Lift control roof nozzle

☞ Press the button <<➡>> to display the condition of the roof nozzle.

⇒ The display shows:

Lift control roof nozzle: on

You can now change the condition of the roof nozzle, i.e. switch roof nozzle on or off.

NOTICE

Use this menu to switch off the lift control after a malfunction of the roof nozzle. You can then operate the wash system with reduced functionality. The roof nozzle remains in the upper home position. The blower of the roof nozzle remains active.

☞ Press the button <<OK>> to change the condition of the module, e.g. from active to inactive.

⇒ The display shows:

Lift control roof nozzle: off

☞ Press the button <<Cancel>> to accept the change.

⇒ The display shows:

031 Lift control roof nozzle

⚠ CAUTION

A roof nozzle which is not in the upper home position may cause damages to vehicles or to the wash system.

Make sure that the roof nozzle is always in the upper home position before you deactivate the lift drive.

The wash system cannot be started if the roof nozzle is not in its home position.

Menu 032
Contact pressure

☞ Press the button <<➡>> to display the contact pressure.

⇒ The display shows:

Roof brush: 100%

In case of wear the contact pressure of the roof brush and the side brushes can be adjusted.

⚠ CAUTION

Incorrect adjustment of the brush pressure may cause insufficient washing results or may damage the vehicle.

The brush pressure is optimally adjusted by WashTec Service on commissioning.

☞ Select the brush by using the buttons <<⬇>> and <<⬆>>.

☞ Change the contact pressure by using the buttons <<➡>> (+ 10%) and <<⬅ >> (-10%).

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the new contact pressure:

Roof brush: 110%

☞ Select further brushes by using the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

032 Contact pressure

Menu 033
Door functions

☞ Press the button <<➡>>.

⇒ The display shows:

Entrance door	**off**

In this menu you can change the operation mode of the doors. The following operation modes are available:

- Off
- Close before washing
- Close before drying
- Winter door mode

A detailed description about the different operation modes can be found in chapter 10 “Additional equipment“.

NOTICE

Entrance and exit door have to be set to the same function if the wash building has only one door.

Select a door by using the buttons <<⬇>> and <<⬆>>.

☞ Press the button <<OK>> to change the operation mode of the selected door.

⇒ The display shows subsequently the different operation modes, e.g.:

Entrance door	**close before drying**

☞ Select further doors by using the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

033 Door functions

Menu 034
Positioning lights

☞ Press the button <<➡>>.

⇒ The display shows:

Positioning lights: on

You can now change the condition of the positioning lights, i.e. switch the positioning light on or off.

☞ Press the button <<OK>> to change the condition, e.g. from on to off.

⇒ The display shows:

Positioning lights: off

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

034 Positioning lights

Menu 035
Automatic start

☞ Press the button <<➡>>.

⇒ The display shows:

Automatic start: off

You can now change the operation mode.

„Automatic start: on“ the wash starts automatically with a time delay when the wash program has been selected (by entering the program on the key pad or by inserting a wash card into the card reader) **and** the vehicle has been positioned in the wash hall.

⚠ DANGER

Pay attention to the safety instructions in chapter 5.3.

„Automatic start on“ is generally activated when the driver remains in the vehicle during the wash.

Different procedures are possible with „Automatic start: off“ (see chapter 5.3 „Washing procedure“).

☞ Press the button <<OK>> to change the operation mode, e.g. from off to on.

⇒ The display shows for example:

Automatic start: on

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

035 Automatic start

Menu 036
Manual control

In the menu „Manual control“ you can deactivate the manual control buttons (only control mode) and you can set the program selection, i.e. starting a wash program by entering a program number at the operating terminal or by entering a code or using the card reader.

The table below shows at a glance all menus available in this menu item.

036>	**Manual control**
	0360 Manual control buttons Manual control buttons: off
	0361 Program selection at operating terminal Program selection at operating terminal: off

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

0360 Manual control buttons

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 0360
Manual control buttons

☞ Press the button <<➡>>.

⇒ The display shows:

Manual control buttons: on

You can switch the manual control buttons on or off. If the manual control buttons are switched off you cannot move any devices in control mode, i.e. no wash program is running. The control buttons remain active during washing operation.

NOTICE

Use this menu to avoid misuse at systems which are operated in self service mode (e.g. wash systems with card reader).

☞ Press the button <<OK>> to change the condition, e.g. from on to off.

⇒ The display shows for example:

Manual control buttons: off

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

0360 Manual control buttons

Menu 0361
Program selection at operating terminal

☞ Press the button <<➡>>.

⇒ The display shows:

Program selection at operating terminal: on

This function is only useful if the operating unit is equipped with a card reader or a code system. With “Program selection at operating terminal: on“ wash programs can only be started from the card reader or by entering a code at the operating terminal.

NOTICE

Program selection cannot be changed with password 00001.

☞ Press the button <<OK>> to change the condition, e.g. from on to off.

⇒ The display shows for example:

Program selection at operating terminal: off

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

0361 Program selection at operating terminal

Menu 037
Temperature setting

In the menu „Temperature setting“ you can set the temperatures for activating the freeze protection and for switching on the heater in the media cabinet.

The table below shows on a glance all menus available in this menu item.

037> Temperature setting
0370 Freeze protection Freeze protection on at xx°C
0371 Heater Heater on at xx°C

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

0370 Freeze protection

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 0370
Freeze protection

☞ Press the button <<➡>>.

⇒ The display shows:

Freeze protection on at xx°C

⇒ The cursor is placed below the first digit of the temperature.

☞ Entert the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Select with the <<⬇>> and <<⬆>> another program or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

037> Temperature setting

Menu 0371
Heater

☞ Press the button <<➡>>.

⇒ The display shows:

Heater on at xx°C

⇒ The cursor is placed below the first digit of the temperature.

☞ Entert the new value.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Select with the <<⬇>> and <<⬆>> another program or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

037> Temperature setting

Menu 038
Spray arch

☞ Press the button <<➡>>.

⇒ The display shows:

Shampoo off

In this menu you can switch on individual spray arches. The complete spray arch inclusive pumps and dosing pumps will be switched on. Switching the spray arches on or off has no impact on the settings or the wash program.

☞ Select the spray arch which should be switched on by using the buttons <<⬇>> and <<⬆>>.

☞ Press the button <<OK>> to switch on the spray arch.

⇒ The display shows for example:

Shampoo on

⇒ The selected spray arch will now be switched on.

☞ Press the button <<OK>> to switch off the spray arch.

☞ Select further spray arches by using the buttons <<⬇>> and <<⬆>> or press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

038 Spray arch

Menu 039
Bleed rim cleaner

☞ Press the button <<➡>>.

⇒ The display shows:

Bleed rim cleaner: off

This function is only used to bleed the rim cleaner pump (see chapter 6.4). In condition „Bleed rim cleaner: on“ the pump will be clocked, i.e. with each stroke cleaning agent is drawn out of the container. Leave the pump switched on until the cleaning agent sprays out of the nozzle. Switching the rim cleaner on or off has no impact on the settings or the wash program.

☞ Press the button <<OK>> to change the condition, i.e. from off to on.

⇒ The display shows for example:

Bleed rim cleaner: on

⇒ The rim cleaner pump draws cleaning agent out of the container.

☞ Press the button <<OK>> to switch off the rim cleaner pump when the cleaning agent sprays out of the nozzle.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

039 Bleed rim cleaner

Menu 04 System settings

This menu is used for system settings and to assign program names to wash programs.

NOTICE

The menu „system settings“ cannot be accessed with the password 00001.

The table below shows at a glance all menus and sub-menus available in this menu item.

04> System settings
040> Date and time Day: 0 Date: 01.01.2002 Time: 14:05:00
041> Change password Password:
042> Set telephone numbers SMS-Main office: 000000000000000 Mobile Phone: 000000000000000 SMS-Main office: + 49 171 07 60 256 WashTec-Server Mobile Phone + XX XXX XXXXXX Forward Server to mobile phone Nr.
043> Station code Station code: 000
044> Opening hours Opened: 00:00 – 24:00 Mo
045> Selectable program names Selectable program names off
046> Program names Program 01:
047> Release Please enter PIN:
048> Multibox Setup Code Enter code:

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows the first sub-menu:

040> Date and time

☞ Select the desired sub-menu by pressing the buttons <<⬇>> and <<⬆>>.

Menu 040 Date and time

☞ Press the button <<➡>>.

⇒ The display shows the current setting for date and time. The cursor is placed below the day code:

Day: 0 Date: XX.XX.XXXX Time: YY.YY.YY

You can now display and change date and time. The day code will be generated from the date. Mo = 0, Tue = 1, etc. to Su = 6

Display only

☞ Press the button <<Cancel>> to return to the start menu without any changes.

Change

☞ Press the button <<OK>> and the cursor is placed below the 1. digit of the date.

<OK>

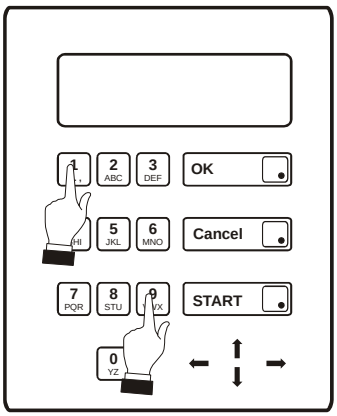
Day: 0 Date: XX.XX.XXXX Time: YY.YY.YY

☞ Enter the new date.

NOTICE

The date can only be reset with a clearance from WashTec (see menu 047).

☞ Press the button <<➡>> until the cursor is placed below the first digit of the time or press the button <<OK>> to accept the new date and than the button <<Cancel>> to return to the start menu.



<OK>

Day: 1 Date: 16.12.2003 Time: YY.YY.YY

<Cancel> <Cancel>

☞ Enter the new time.

☞ Press the button <<OK>> to accept the data entry.

⇒ The new time is accepted.
⇒ The cursor is placed below the daily code.

Day: 1 Date: 16.12.2003 Time: 14.02.03

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

040 Date and time

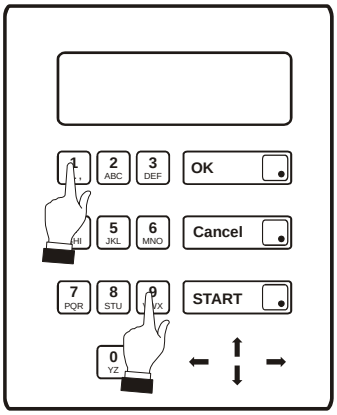
Menu 041
Change password

☞ Press the button <<➡>>.

⇒ The display shows the current password, e.g.:

New password: 00000

You can now change the password.



☞ Enter the new password.

☞ Press the button <<OK>>.

⇒ The new password is accepted. The display shows briefly the message:

New password accepted

…and afterwards the new password, e.g.

New password: 11111

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

041 Change password

Menu 042
Set telefone numbers

☞ Press the button <<➡>>.

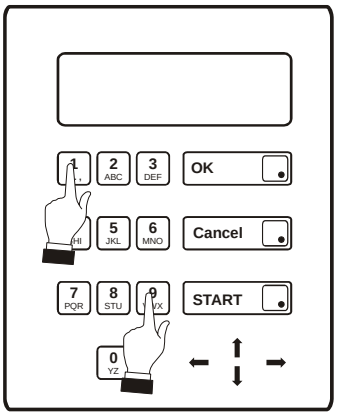
⇒ The display shows the phone number of the SMS-main office. The cursor is placed below the first digit of the phone number:

SMS-main office: **+491710760256**

The SMS-main office number as shown above is preset in the factory. Error messages will be forwarded directly to the WashTec Service Centre.

By entering a SMS-central phone number and a mobile phone number you can transmit error messages as SMS to a mobile phone. By entering your own mobile phone number you will always be informed about malfunctions, no matter where you are.

The SMS- central phone number can be obtained from the provider of the telephone card which is installed in the modem of the system (in the controller cabinet).



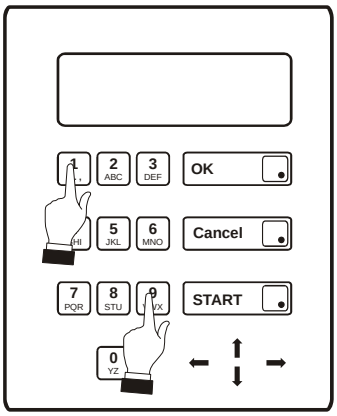
☞ Enter the SMS- central phone number.

☞ Press the button <<OK>>.

☞ Press the button <<⬇>>

⇒ The display shows:

Mobile Phone _



☞ Enter the phone number of the mobile phone.

☞ Press the button <<OK>>.

☞ Press the button <<Cancel>> to accept the phone number and to return to the start menu.

⇒ The display shows:

042 Set telefone numbers

Menu 043
Station code

☞ Press the button <<➡>>.

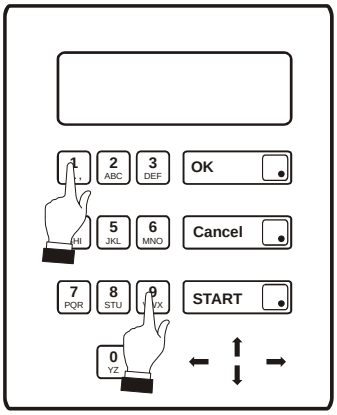
⇒ The display shows the current station code. The cursor is placed below the first digit of the station code:

Station code: 000

This function is only useful if the operating unit is equipped with a card reader. The station code is transferred onto the wash card when the card is generated. This procedure assures that wash cards can only be used on systems where they have been generated.

NOTICE

After the station code has been changed wash cards which have been generated with the old station code will no longer be accepted.



☞ Enter the new station code.

☞ Press the button <<OK>>.

⇒ The new station code will be accepted.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

043 Station code

Menu 044
Opening hours

☞ Press the button <<➡>>.

⇒ The display shows:

Opened: 00:00 – 24:00 Mo

You can determine the daily opening hours of the wash system and define the days at which the wash system should be completely closed. The left time indicates when the system is opened, the right time indicates when the system is closed. The day of the week is displayed rightmost.

Daily opening hours

☞ Enter the desired opening hours for the selected day.

☞ Press the button <<OK>>.

⇒ The data entry will be accepted.

☞ Press the button <<⬇>> to select the next day.

☞ Enter for all further days the desired opening hours as described above.

By entering „00:00 – 00:00“ the system is closed the whole day.

Close system at selected days

☞ Press the button <<⬇>> until the displays shows:

[01] closed at [day.month]: 00.00

You may select up to 28 days at which the system is completely closed.

☞ Press the button <<OK>>.

⇒ The cursor is placed below the first digit of the day

☞ Enter day and month, e.g. 16.05 for May 16th.

☞ Press the button <<OK>>.

⇒ The data entry is accepted.

☞ Press the button <<⬇>> to select the next day.

☞ Enter all further days at which the system should be closed as described above.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

044 Opening hours

Menu 045
Selectable program names

☞ Press the button <<➡>>.

⇒ The display shows:

Selectable program names: off

You can assign individual program names to the wash programs (see menu 046). These program names will be shown in the display when the “selectable program names” are switched on.

☞ Press the button <<OK>> to change the condition, e.g. from off to on.

⇒ The display shows for example:

Selectable program names: on

☞ Press the button <<Cancel>> to accept the change and to return to the start menu.

⇒ The display shows:

045 Selectable program names

Menu 046
Program names

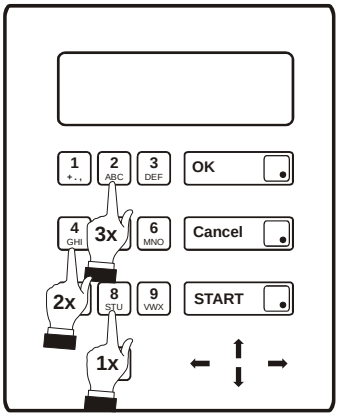
☞ Press the button <<➡>>.

⇒ The display shows the first program name. The cursor is placed below the 1. digit of the program name.:

Program 01: _

You can now assign program names to the individual programs.

☞ Select with the buttons <<⬇>> and <<⬆>> the program to which you want to assign a name.



☞ Enter the desired program name, e.g. „Foam“.

Press the button <<1>> to obtain special characters, numbers and blanks.

☞ Press the button <<OK>> to accept the program name.

⇒ The display shows for example:

Program 01: Foam

☞ Select further programs by using the buttons <<⬇>> and <<⬆>>. Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

046 Program names

Menu 047
Release

This menu is only intended for WashTec Service.

NOTICE

A modification of the data in this menu may cause malfunctions of the system.

Menu 048
Multibox Setup Code

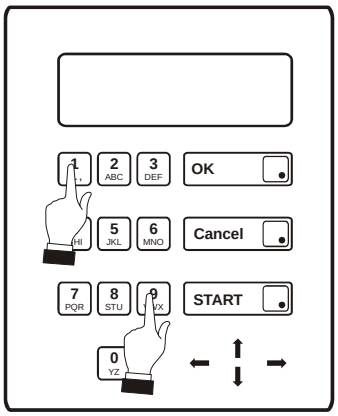
☞ Press the button <<➡>>.

⇒ The display shows:

Enter code: _

This function is necessary when the system is equipped with a Multibox.

The code is supplied by the Multibox. Wash system and Multibox are synchronized after entering the code.



☞ Enter the code.

☞ Press the button <<OK>>.

⇒ Wash system and Multibox are now synchronized.

☞ Press the button <<Cancel>> to return to the start menu.

⇒ The display shows:

048 Multibox Setup Code

Menu 05
Create cards

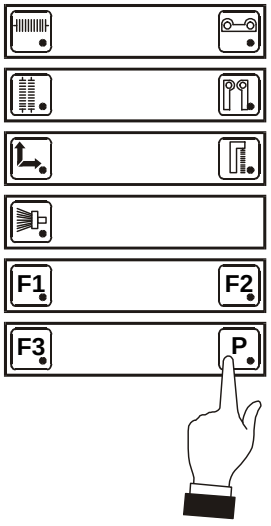
This menu is only helpful when the operating terminal is equipped with a card reader. The menu “Create cards” provides the following functions:

- Creating single cards
- Creating multi cards
- Creating cash cards
- Reading card data

☞ Press the button <<➡>> to enter the next menu level.

⇒ The display shows:

** Single card**
050 Create cards active



☞ Press the button <<P>>.

⇒ The LED is switched off and the operating unit is now ready for creating and reading cards.

☞ Select the desired sub-menu by using the buttons <<➡>> and <<⬅>>.

☞ Press the button <<OK>> to acknowledge the selection.

⇒ The display shows the selected sub-menu.

Data entry for single cards

** Single card **
050 Create cards active
Special offer no

☞ Select with the buttons <<➡>> or <<⬅>> whether the card should be used as a special offer card.

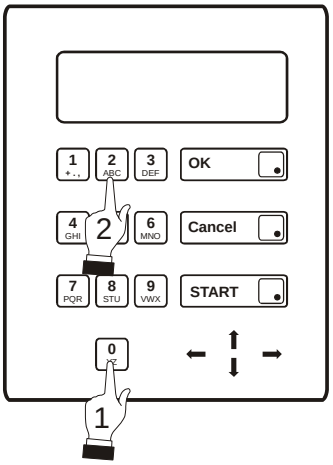
NOTICE

Special offer cards will only be accepted at promotion times as set in menu 022.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Single card **
050 Create cards active
Wash program 01



☞ Enter the desired program, e.g. 02 for program 2.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Single card **
050 Create cards active
Valid until: xx.yy.zzzz

☞ Enter the validity date.

☞ Press the button <<OK>> to accept the data entry.

⇒ The data entry is completed.

Data entry for multi cards

** Multi card **
050 Create cards active
Special offer no

☞ Select with the buttons <<➡>> or <<⬅>> whether the card should be used as a special offer card.

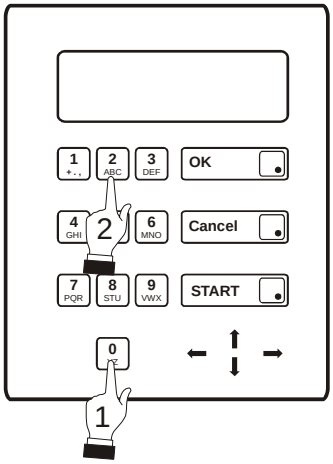
NOTICE

Special offer cards will only be accepted at promotion times as set in menu 022.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Multi card **
050 Create cards active
Wash program 01



☞ Enter the desired program, e.g. 02 for program 2.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Multi card **
050 Create cards active
Credit: 00

☞ Enter the number of wash cycles which should be executed with this card.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Multi card **
050 Create cards active
Valid: xx.yy.zzzz

☞ Enter the validity date.

☞ Press the button <<OK>> to accept the data entry.

⇒ The data entry is completed.

Data entry for cash cards

** Cash card **
050 Create cards active
Credit: 0000.00

☞ Enter the desired credit.

☞ Press the button <<OK>> to accept the data entry.

⇒ The display shows the next request:

** Cash card **
050 Create cards active
valid: xx.yy.zzzz

☞ Enter the validity date.

☞ Press the button <<OK>> to accept the data entry.

⇒ The data entry is completed.

Creating cards

After the data entry has been completed the display shows in the first line:

** Please insert card **

☞ Insert the card into the card reader.

⇒ The card is drawn into the card reader and the selected data will be transmitted together with the station code onto the card.

⇒ During data transmission the display shows in the first line:

** 1. writing card **

Up to three data transmissions will be executed. The card will be returned after the third attempt has failed and the display shows:

** Card writing error **

☞ Repeat the procedure with another card.

The card will be rejected after successful data transmission. The display shows:

** Please insert card **

You can now create further cards of the same type by inserting these cards into the card reader and by repeating the procedure as described above.

☞ Press the button <<Cancel>> when no further cards should be created with the same data.

☞ Press the button <<OK>> to create further cards of the same type with other data (e.g. another program).

⇒ The display shows:

** XXX-Card **
050 Create cards active
Request for action

☞ Proceed with the steps as described above.

☞ Select another card type by using the buttons <<➡>> and <<⬅>>.

☞ Press the button <<OK>> to acknowledge the selection.

⇒ The display shows the selected card type.

Quit card creation

☞ Press the button <<P>>.

⇒ The LED in the lower right corner is illuminated.

☞ Press the button <<Cancel>>.

⇒ The display shows:

05> Create card

Read cards

** Reading card **
050 Create cards active

☞ Press the button <<OK>> to read the information stored on the card.

The display shows in the first line:

** Please insert card **

☞ Insert the card into the card reader.

⇒ The card is drawn into the card reader and the information stored on the card is subsequently displayed.

The card is rejected after all information has been displayed. The display shows:

** Please insert card **

You can now read further cards.

Menu 06 Winter water control

The menu „Winter water control“ may be used to select either fresh or process water during the 2. wash stage for brush wetting.

Winter water control on: Fresh water
Winter water control off: Process water

☞ Press the button <<➡>>.

⇒ The display shows:

Winter water control off

You may now change the condition, i.e. switch winter water control on or off.

☞ Press the button <<OK>> to change the condition, e.g. from off to on.

⇒ The display shows:

Winter water control on

☞ Press the button <<Cancel>> to return to the start menu. The changes will be accepted.

⇒ The display shows:

06> Winter water control

Menu 10 Display list

Errors and special events in the wash system are stored in an event list (max. 128 events). The menu „Display list“ may be used to read off these events..

☞ Press the button <<➡>> to enter the next menu level.

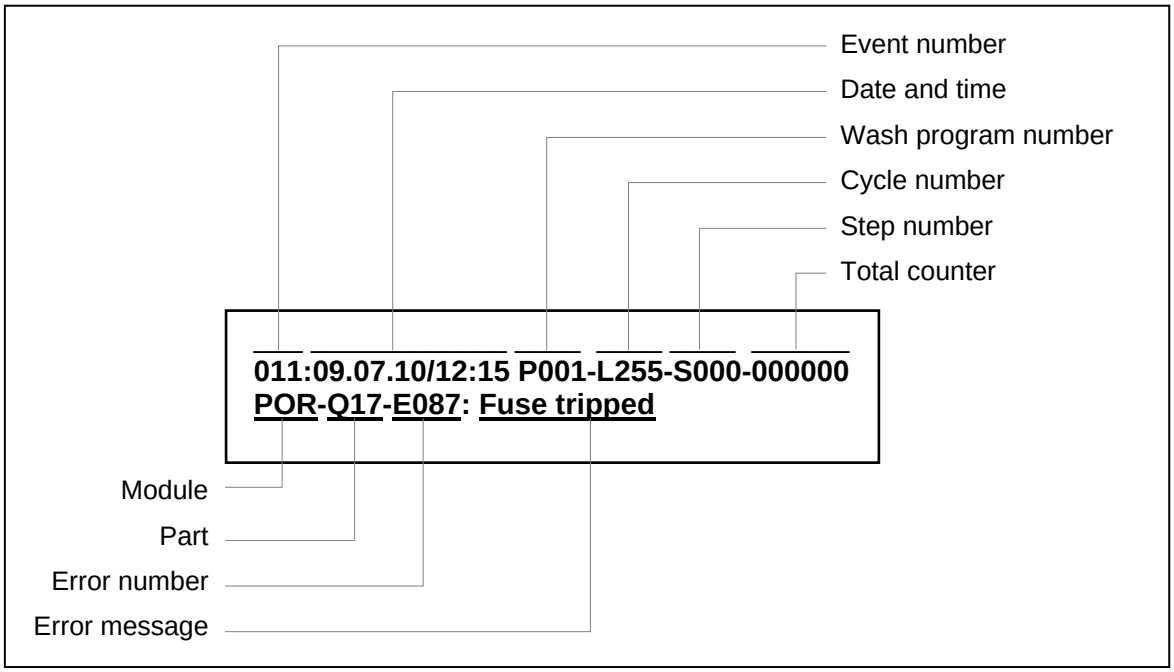
⇒ The display shows:

001:09.07.10/12:15 P001-L255-S000-000000 **POR-Q17-E087: Fuse tripped**

☞ Select the event by pressing the buttons <<⬇>> and <<⬆>>.

☞ Press the button <<Cancel>> to return to the start menu.

Explanation



Meaning

P001 = Wash program at which error occurred.

000 = Program 1, 001 = Program 2, ...
255 = No program was running

L255 = Cycle at which error occurred.

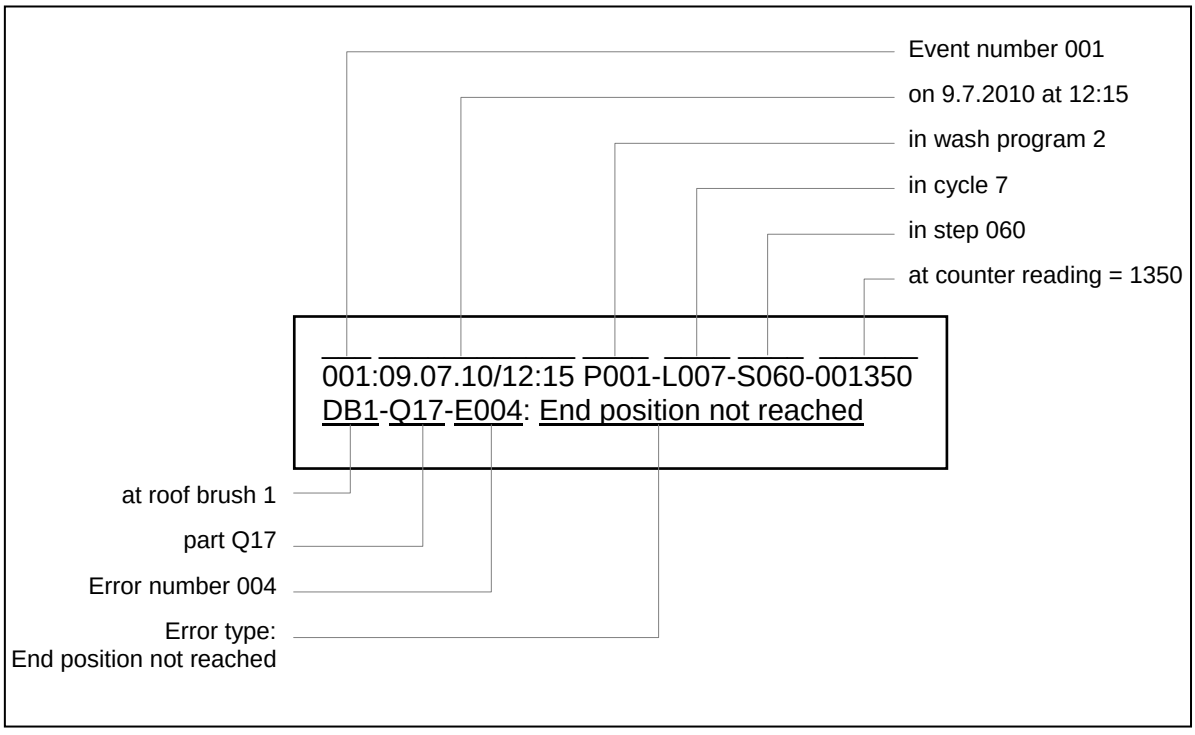
001 = Portal cycle 1, ... 014 = Portal cycle 14
254 = Portal moved in home position, 255 = No cycle (Portal idle)

S000 = Step at which error occurred.

Error message shows alternately type and cause of error (see chapter 8).

Event number: 001 = last event, 128 = oldest event

Example



9.7. Multifunctional unit

9.7.1. Overview

The optional multifunctional unit will be installed together with the operating terminal CP1. The optional multifunctional is used to start wash programs with wash cards, with coins and tokens or with barcode tickets. The multifunctional unit is installed together with the operating terminal CP1 in a metal housing which may be mounted to the wall or on a post.

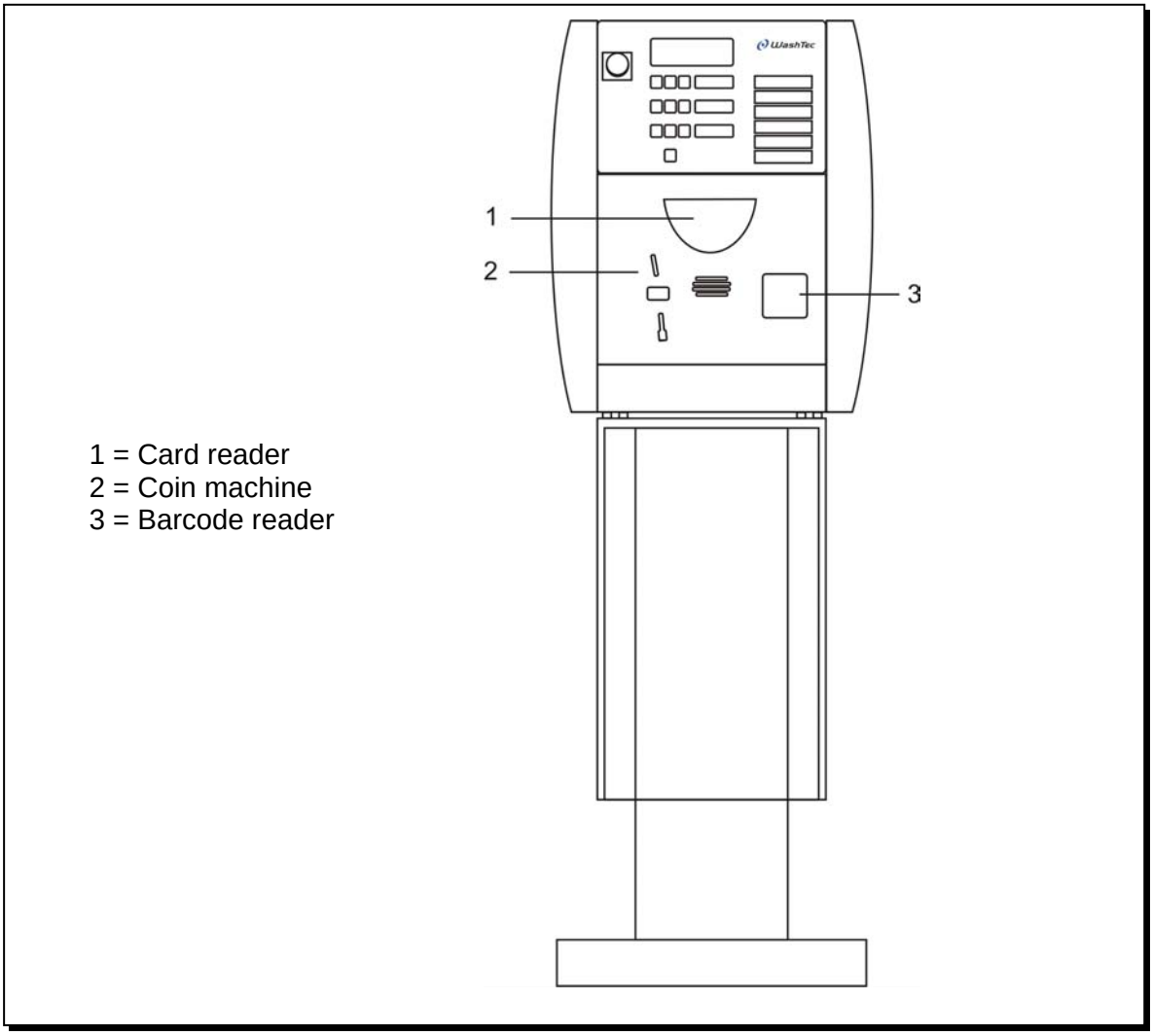


Fig. 9-10: Multifunctional unit

9.7.2. Structure

The multifunctional unit is installed together with the operating terminal CP1 in one cabinet. The card slot (1) for the wash cards, the coin machine (2) and the barcode reader (3) are located on the front side.

A lock for releasing multifunctional unit is located on the right side.

The complete unit can be swiveled forward. Wash cards which have not been returned as well as coins and tokens are collected in a tray and can be removed.

For protection against vandalism the protective cover can be turned upwards and locked.

The complete unit can be mounted to the wall or on a post.

9.7.3. Commissioning

The multifunctional unit is started automatically when the system is switched on at the main switch.

9.7.4. Wash operation with card

The card reader can be operated with 3 different types of card:

Single card

This reusable card can be used for a single wash with the program of choice.

Multi card

The multi card can be used for several washes with the same program.

Cash card

The cash card can be used to make any selection from the range of wash programs on offer. After each wash, the remaining credit is transferred onto the card.

Single and multi cards can be reformatted as special offer cards - for example if a wash is offered for a more economical price on work days between 9 and 12.

These cards are only accepted at the set special offer times. With cash cards, only the special offer rate is charged off the card during special offer times.

⚠ CAUTION

Cards may be damaged at strong heat.

Inform your customer that cards should never be exposed to direct solar radiation.

9.7.5. Start wash programs with cards

The car wash procedure depends on the operating mode setting (see chapter 9.4. Start of wash programs).

☞ Insert the card in the direction of the arrow into the card slot when the display shows the message:

Please insert card

The next steps vary according to the type of card:

Single card

⇒ The card is drawn in.
⇒ The wash program starts.

Multi card

⇒ The wash program is deducted from the card.
⇒ The card is returned.
⇒ The wash program starts.

The card is drawn in after the last wash.

Cash card

⇒ The unused balance on the card is displayed:

Balance XXX or balance too low

The balance XXX will be displayed either in local currency or in Euro depending on the currency setting.

Afterwards the display shows:

Select program

☞ Select a suitable program on the ten-number keypad.

☞ The display shows:

P X YYY.YY EUR

X = selected program
YYY.YY = price of the program

☞ Confirm your entry by pressing the <OK> key.

If the balance is too low: purchase a new card or select a different program.

⇒ The wash program is deducted from your card.
⇒ The card is returned.
⇒ The wash program starts.

Incorrect entry or different program required?

☞ Press the button <<Cancel>> to delete the entry

⇒ The card is returned.

You can also easily overwrite the entry, e.g. 05 for program 5.

When the wash cycle has finished, the following message appears on the display:

Drive out car

9.7.6. Wash operation with slot machine

The slot machine may be operated with coins or tokens.

Coin operation

In coin operation mode you have to insert as many coins as the wash program costs, e.g. € 6,- for wash program 1 .

NOTICE

Place a price list besides the operating unit to inform your customers about prices.

In the Euro zone 50 Cent, 1 € and 2 € coins are accepted. Please contact WashTec for other currencies.

NOTICE

The slot machine does not return any money (even no change).

Therefore select even prices, e.g. 6 € instead of 5,90 €. The button below the slot is only used to return jammed coins or foreign parts.

Token operation

By standard, the slot machine accepts **two** different tokens.

To each token a wash program will be assigned by WashTec, e.g. token 1 = Basic wash and token 2 = Comfort wash.

The further procedure after inserting a coin or token depends on the operating mode (see chapter 9.4).

9.7.7. Wash operation with barcode reader

The barcode reader reads the barcode which is printed on the ticket.

☞ Insert the ticket with the barcode upwards into the barcode reader.

Fig. 9-11: Barcode reader

The further procedure depends on the operating mode (see chapter 9.4).

NOTICE

Please note: The barcode reader is only active when the program selection at the operating terminal has been deactivated (s. menu 0361 in chapter 9.6).

9.7.8. Cleaning the card reader

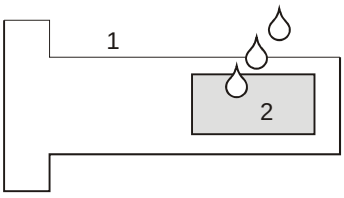
By using soiled wash cards the plain rollers of the card reader may be soiled. You can recognize a soiling when the wash cards are not smoothly drawn in. In this case you have to clean the plain rollers.

Use therefore the WashTec cleaning set consisting off a cleaning card and a cleaning liquid.

For cleaning proceed with the steps described below:

☞ Apply a few drops of the cleaning liquid to the microfibre cloth (2).

☞ Insert the cleaning card into the card slot of the card reader.



1 = Cleaning card
2 = Microfibre cloth

⇒ The card reader attempts to read the card. Because it is not a wash card the card is rejected. The display of the operating terminal displays a message that the card is not readable.

☞ Repeat the procedure 3-4 times.

☞ Remove the cleaning card afterwards.

10. Special equipment

This chapter is intended to help you familiarise yourself with the structure and function of various special equipment with which your roll-over car wash system may be fitted.

Check which special equipment is used in your wash system and turn to the relevant sections to continue. Please take special note of the maintenance instructions.

Fresh-water supply system…..…….. 10-2
Under-body wash - turnable……..... 10-4
Under-body wash - sectionwise 10-7
Vehicle moving device..... 10-8
Rolling shutter door control system… 10-9

10.1. Fresh-water supply systems

Fresh-water supply systems ensure that your roll-over car wash system is always supplied with an adequate volume of water and the necessary water pressure.

Structure

Fresh-water supply systems consist of a fresh-water tank with level regulation and pumps with various delivery capacities. Roll-over car wash systems with 70 bars high pressure are additionally equipped with a 70 bars high pressure pump. Fresh-water supply systems are installed outside the roll-over car wash system.

Water tank:

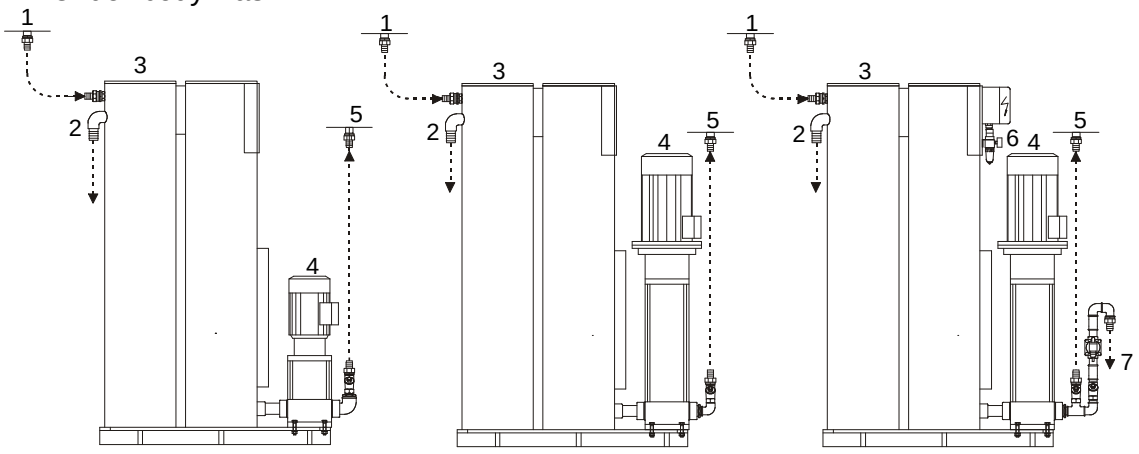
250 l Tank

Delivery capacity:

1,5 kW-pump	8 m^3/h at 4 bar
5,5 kW- pump	8 m^3/h at 16 bar
11 kW- pump	4,5 m^3/h at 70 bar

1 = Water inlet
4 = Pump
6 = Pneumatic unit
Under-body wash

2 = Overflow 3 = Water tank
5 = water connection to roll-over car wash system
7 = water connection to under-body wash



1,1 kW pump: fresh-water without high pressure

5,5 kW pump: 16 bar high pressure without external under-body wash

5,5 kW pump: 16 bar high pressure with external under-body wash

Fig. 10-1: Fresh-water supply systems

Operation

Work through the following steps when the water tank has been emptied:

☞ Open the bleeder valve on the pump.

☞ Fill the water tank with water.

☞ Close the bleeder valve again.

⇒ The system is now ready for operation again.

Maintenance

Weekly

☞ Check that the level regulation functions correctly.

Monthly

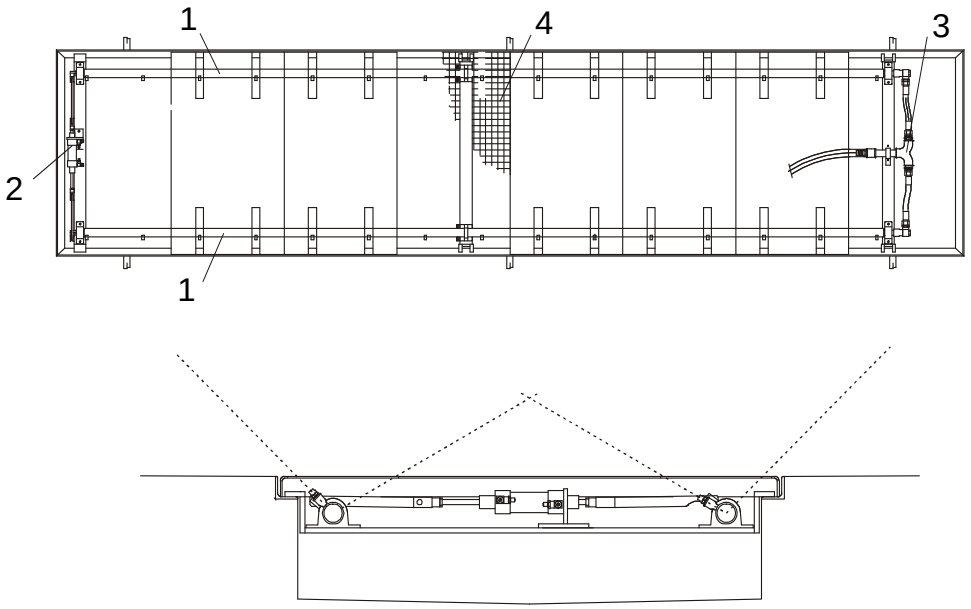
☞ Check the dirt traps in the supply hoses and clean the filter if necessary.

Every six months

We recommend an inspection and maintenance by WashTec Service at six-monthly intervals.

10.2. Under-body wash - turnable

The under-body wash device cleans the underside of the vehicle and inside the wheel arches. It is realized as under-floor version (integrated in the floor).



1 = Spray pipes with nozzles (pivoted)
2 = Cylinder
3 = Water supply
4 = Cover

Fig. 10.2: Under-body wash device - turnable

Structure

The under-body wash device consists of a basic frame, two spray pipes with nozzles, a cylinder for rotating the spray pipes, the water supply and a separate pneumatic device. The pneumatic device is located at the water tank of the fresh-water supply system. All elements are covered by removable cover panels.

Function

The high pressure pump supplies the under-body wash device with water. The spray pipes are pivoted and are moved back and forth by the cylinder during the wash cycle (position 1 and 2).

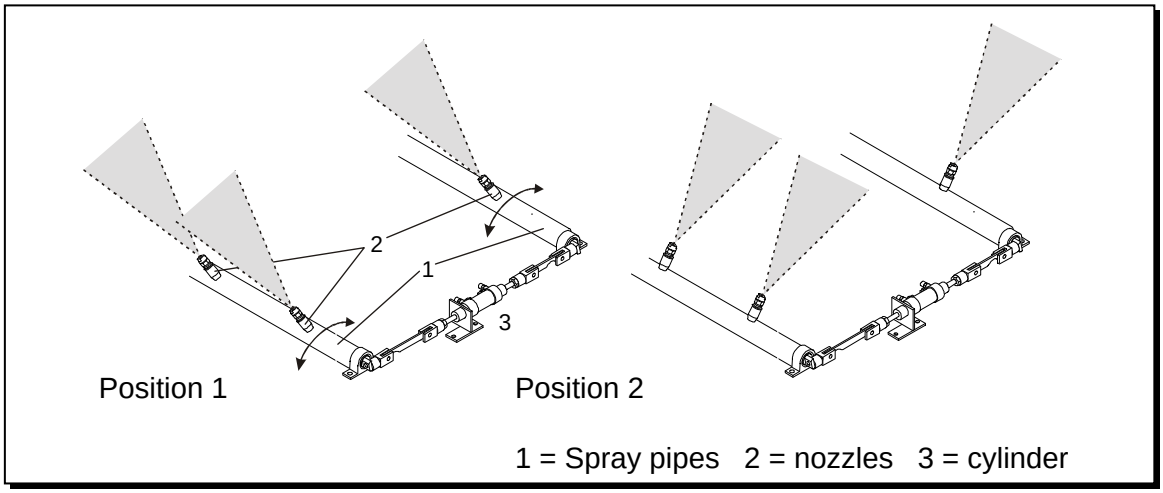


Fig. 10.3: Turning of the spray pipes

Maintenance

Weekly

☞ Remove the cover panels and rinse all the mud and dirt out of the base frame with a strong water jet.

☞ Check the nozzle heads on the spray nozzles. Clear clogged or soiled openings with a needle.

☞ Empty the condensation container at the maintenance unit (see Chapter 6 "Settings and checking").

Monthly

☞ Check the system of hoses for loose connections and leaks. Tighten loose connections. If you find any leaks, please inform WashTec Service.

☞ Lubricate the swivel heads (1) of the swivel device

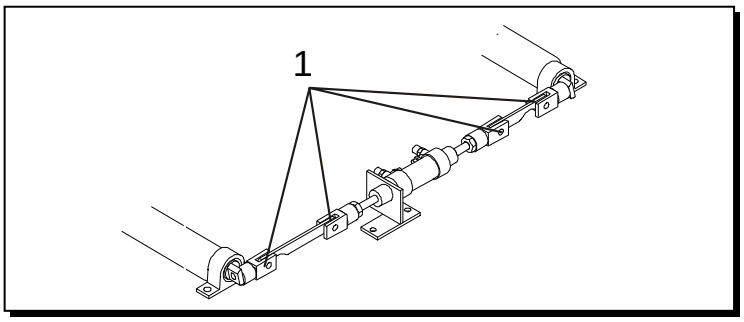


Fig. 10.4: Lubrication points

Every six months

We recommend an inspection and maintenance by WashTec Service at six-monthly intervals.

10.3. Under-body wash – sectionwise

The under-body wash device cleans the underside of the vehicle and inside the wheel arches.

Structure

It consists of the control system and a base frame with flat-jet nozzles, which is fixed to the floor of the car wash building. All components are covered, except for the nozzle pipe with removable plates.

Function

The high-pressure pump in the water supply system supplies the under-body wash device with either fresh or recycled water. The flat jet nozzles are activated in sequence.

Maintenance

Weekly

☞ Remove the cover panels and rinse all the mud and dirt out of the base frame with a strong water jet.

☞ Check the nozzle heads on the spray nozzles. Clear clogged or soiled openings with a needle.

NOTICE

When you have dismantled the nozzles for cleaning, ensure when you re-mount the flat jet nozzles that they are positioned correctly: at 45 degrees to the direction of travel.

Monthly

☞ Check the system of hoses for loose connections and leaks. Tighten loose connections. If you find any leaks, please inform WashTec Service.

Every six months

We recommend a twice-yearly inspection and maintenance by WashTec Service.

10.4. Vehicle moving device

The vehicle moving device is installed in short car wash buildings (hall length less than 8.3 metres) to move the vehicle during the wash program.

Structure

The vehicle moving device consists of a double ramp that travels on rails. Gratings are mounted in its frame so that the dirty water can run off easily and cleaning is simplified. There are wedges on the ramps to assist with driving the car up the ramp, which move with the system.

NOTICE

The vehicle moving device reduces the effective washing height by 6 cm.

Function

The vehicle is parked in the usual way on the vehicle moving device. The vehicle moving device is moved during the wash cycle by a hydraulic cylinder.

Maintenance

Every six months

We recommend a twice-yearly inspection and maintenance by WashTec Service.

10.5. Rolling shutter door control

Structure

Rolling shutter doors which are already fitted in the building can be controlled conveniently with the rolling shutter door controls.

The rolling shutter doors are controlled by the controller of the wash system. The settings can be done in the service program (see chapter 9.1.5 menu 033 door functions). In drive-through halls each door can be individually set, e.g. entrance door =close before drying and exit door = winter operation mode. In halls with one door (entrance door = exit door) both doors must be set to the same operation mode.

Operation modes

The rolling shutter door controller can be operated in 4 operation modes:

Off

The rolling shutter doors are not actuated. The doors can only be operated with the buttons provided by the door supplier.

Close before drying

⇒ Entrance and exit door close before the drying procedure starts.

⇒ Entrance and exit door open after the drying procedure is finished or with end of the wash program.

Close before washing

⇒ Entrance and exit door close before start of the wash program.

⇒ Entrance and exit door open with end of the wash program.

Winter operation mode

Entrance and exit door are closed in winter operation mode.

Two procedures are possible:

Procedure 1

⇒ The entrance door opens with program start.
⇒ The entrance door is closed with start of a wash program by pressing the start button.
⇒ Entrance and exit door open with the end of the wash program (depending on the setting).
⇒ Entrance and exit door are closed when the vehicle has left the wash building (depending on the setting).

Procedure 2

⇒ The entrance door opens when the "Door open" button is pressed or when the induction loops detect a vehicle in front of the car wash building.
⇒ The entrance door is closed with start of a wash program by inserting the wash card.
⇒ Entrance and exit door open with the end of the wash program (depending on the setting).
⇒ Entrance and exit door are closed when the vehicle has left the wash building (depending on the setting).

NOTICE

In case of emergency the doors can be opened and closed as required with the pushbuttons provided by the supplier of the rolling shutter doors.

On single-button operation without an upper limit switch, the rolling shutter door may get out of synchronisation.

☞ **Press the button again once to restore the correct rhythm.**

The door cannot be opened with the "Door open" button during the drying or washing cycle.

All doors are opened in case of an emergency stop.

When the system is moved in its initial state all doors are moved into their home position.

CAUTION

Please observe the valid national regulations for automatically operated rolling shutter doors.

CAUTION

The doors must be inherently safe, i.e. the door must recognize an obstruction by itself and must stop if necessary.

WashTec does not take responsibility for damages caused by doors.

11. Technical specifications

11.1. Dimensions

Machine depth

For all systems (Dimensions in mm)	1670

Width/height

	Size	22	24	25	26	27	28	29
H1	Drive through height	2250	2400	2500	2600	2700	2800	2900
H2	Machine height	3050	3200	3300	3400	3500	3600	3700
H3	Building height	3100	3250	3350	3450	3550	3650	3750
B1	Max. vehicle width	2380						
B2	Machine width	3460						
B4	Building width (*)	3850						
L1	Building length(*)	Min. 6950						

(*) With special equipment

Weight

Size	22	24	25	26	27	28	29
Weight in kg	1700	1750	1775	1800	1825	1850	1890

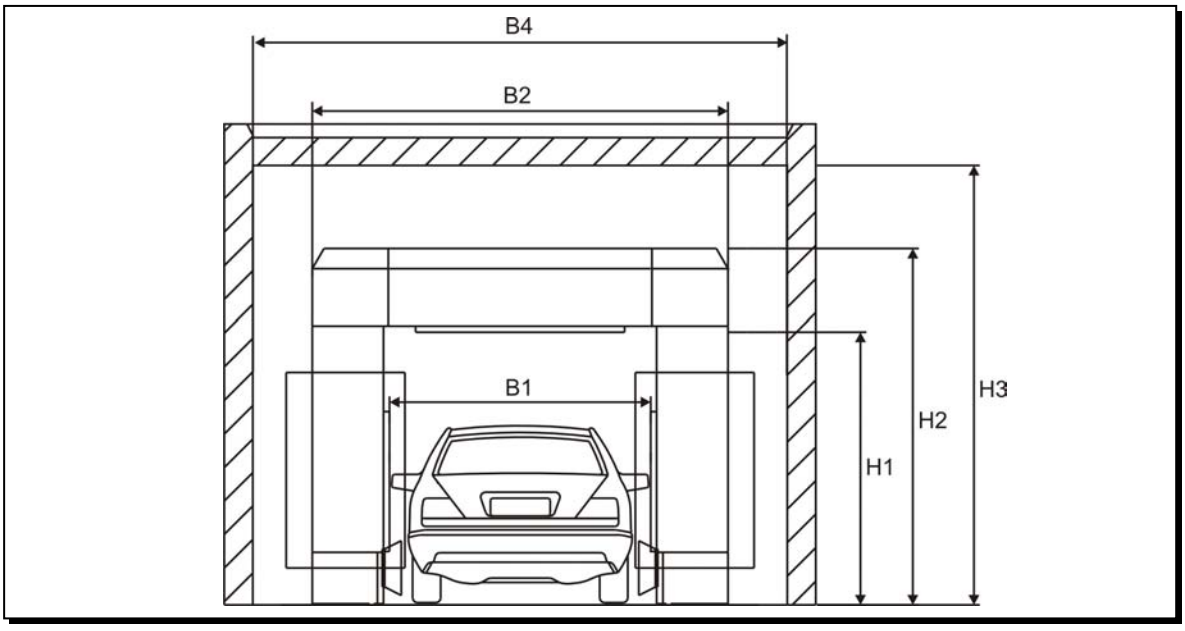


Fig. 11-1: Dimensions

11.2. Technical Data

Wash capacity

up to 12 vehicles/hour (*)

(*) The wash capacity depends on the selected wash program. The specified value is valid for the program 2x Washing + 2x Drying

Electrical data SoftCare Pro

Electrical connection	400 VAC		
Conductor cross-section in mm²	5X6	5X10	5X16
Fusing (slow at 400 VAC)	35 A	50 A	63 A
Power consumption	16 kW	16 kW	16 kW
Power reserve without boiler (maximum values in kW)	8.8	16,5	-
Power reserve with boiler (maximum values in kW)	4,4	11,7	16,5

Electrical protection class

Peripheral cabinet	IP65 according to DIN EN 60529
System	IPX5D according to DIN EN 60529

Mechanical connection data

Low-pressure water fitting	R 1“
Water pressure	Min. 4 bars, Max 16 bars Recommendation: approx. 4,5 bars
HP operating pressure	Max. 85 bars
Air fitting	R ¼“
Air pressure	6 - 8 bar (unoiled)

Environmental data

Operating temperature range	+2°C to + 40° C
Allowed shut-down temperature	Min. + 2°C (without freeze protection)
Required temperature for water and cleaning agents	+5°C to + 55° C

Illumination in wash bay

Recommended illumination in wash bay	Min. 120 Lux

The consumption data depends on the configuration of the system, the kind of water, the used chemical agents and the selected program. The following specifications can therefore only serve as a guideline and are valid for a vehicle length of approx. 4,5 meters.

Wash and Drying

Pump capacity	1,1 kW	
	Wash + LP wheel wash	Wash + LP wheel wash + drying
Power consumption (Wh/wash)	203	645
Recycled water (l/ wash)	81	81
Fresh water (l/ wash)	12	12
Compressed air (Nl/ wash)	4	4
Shampoo (ml/ wash)	10-20	10-20
Drying aid (ml/ wash)	10-20	10-20

* LP wheel wash = Low-pressure wheel wash without sills wash

Pre-wash

	Foam
Power consumption (Wh/wash)	11
Fresh water (l/ wash)	3
Compressed air (Nl/ wash)	175
Foam agent (ml/ wash)	10-20

High-pressure 16 bars
Under-body wash 16 bars

Pump capacity	5,5 kW		
	Side-HP	All-around HP	UBW
Power consumption (Wh/wash)	32-58	105-131	35
Recycled water (l/ wash)	20-38	65-83	55

High-pressure 40 bars

Pump capacity	15 kW	
	Side-HP	All-around HP
Power consumption (Wh/wash)	82	140
Recycled water (l/ wash)	20	30

High-pressure 70 bars

Pump capacity	11 kW	
	Side-HP	All-around HP
Power consumption (Wh/wash)	61-116	202-257
Recycled water (l/ wash)	20-38	70-88

Preservation

	Cold/ hot wax	Foam wax	
Power consumption (Wh/wash)	11-311	11	
Fresh water (l/ wash)	5	3,5	
Compressed air (Nl/ wash)	0	175	
Wax agent (ml/ wash)	10-20	10-20	

Sound pressure level

Sound pressure level	L_{pA} in dB(A) in a distance of 10m
Drive-through hall Standard wash	
... Door open	68,9
... Door always closed	46,7
Dead-end hall Standard wash	
... Door open	70,1
... Door always closed	46,7

12. Appendix

Contents

- Damage registration
- Checklist for maintenance and care work
- Operating instruction for assembly and maintenance
- Assembly instructions
- Declaration of incorporation
- Declaration of conformity

Vehicle incident report

Enter your name and address _____

_____

(1) GET THE DETAILS	Date and approx. time of incident		Date of incident report		
(2) WHO WAS INVOLVED? Name, address and drivers lic. no. of the customer					
Damaged vehicle	Make	Type	Year	Mileage	Car License
(3) HOW DID THE INCIDENT HAPPEN? DESCRIBE					
(4) WHAT VEHICLE DAMAGE OCCURED? You can use the car pictures. Indicate where damage occurred and describe					
Previous damage? If yes, what?					
Other damage? (i.e. buildings, etc.)					
Witnesses? If yes, enter name and address					

_____ _____

Signature of wash system operator Signature of customer

Checklist for maintenance work
- Weekly -

Part/assembly	Work	Check
Frame	☞ Clean the entire frame of the roll-over car wash system with commercially available detergents	☐
Flat belts	☞ Check the belts for signs of wear.	☐
Energy chains	☞ Check the energy chains including leads and cables of the roof brush and the wheel washer for signs of wear and breakage.	☐
System of hoses	☞ Check the system of hoses for loose connections and leaks. Tighten any loose connections.	☐
Low-pressure water distribution	☞ Check the nozzle heads on the spray nozzles and spray pipes. Clear clogged or soiled openings with a needle. Replace defect nozzles	☐
Clean the suction grids	☞ Clean the suction grids of the dryer blowers.	☐

Checklist for maintenance work
- Monthly -

Part/assembly	Work		Check
Clean the agent containers	☞	Rinse out the cleaning agent containers with water to remove any thickened chemicals.	☐
	☞	Fill each container with the correct cleaning agent.	☐
	☞	Bleed all air out of supply hoses.	☐
Check the brushes	☞	Check the side, roof and wheel washing brushes for wear.	☐
Track and guide rollers	☞	Clean all the track and guide rollers.	☐
	☞	Check all drive, track and guide rollers for wear. In the event of heavy wear, please inform WashTec Service	☐

Checklist for maintenance work
- Every six months -

Part/assembly	Work	Check
Safety ring switch	☞ Check the safety ring switch for smooth operation.	☐
	☞ Spray the guidance of the safety ring switch with the WashTec special- grease-spray.	☐
Slide bearings	☞ Spray all slide bearings with the WashTec special-grease-spray	☐
	Use the WashTec special-grease-spray with caution: do not spray into the wash brushes.	
Drives	☞ Ensure that all the drives are properly sealed. You can recognise leaks by traces of oil on the housing.	☐