# OPERATING & MAINTENANCE MANUAL
# WASCOMAT
# W75ES – W105ES – W125ES – W185ES
# EMERALD SERIES

471 1562-66/02
98.04

WARNING: ALL OPERATING AND MAINTENANCE PROCEDURES SHOWN ON THE NEXT PAGE OF THIS MANUAL MUST BE FOLLOWED DAILY FOR PROPER OPERATION OF YOUR WASCOMAT MACHINE.

PLEASE ENTER THE FOLLOWING INFORMATION AS IT APPEARS ON THE WASHER DATA PLATE LOCATED AT TOP LEFT OF THE REAR PANEL. SERIAL NUMBER IS ALSO LOCATED ON A STICKER ON THE INSIDE OF THE DOOR.

| | |
|---|---|
| **MACHINE TYPE OR MODEL** | |
| **MACHINE SERIAL NUMBER(S)** | |
| **ELECTRICAL CHARACTERISTICS: _____ VOLTS, _____ PHASE, _____ HZ.** | |

MAKE CERTAIN TO KEEP THIS MANUAL IN A SECURE PLACE FOR FUTURE REFERENCE.

## NOTICE TO: OWNERS, OPERATORS AND DEALERS OF WASCOMAT MACHINES

IMPROPER INSTALLATION AND INADEQUATE MAINTENANCE, POOR HOUSEKEEPING AND WILLFUL NEGLECT OR BYPASSING OF SAFETY DEVICES MAY RESULT IN SERIOUS ACCIDENTS OR INJURY. TO ASSURE THE SAFETY OF CUSTOMERS AND/OR OPERATORS OF YOUR MACHINE, THE FOLLOWING MAINTENANCE CHECKS MUST BE PERFORMED ON A DAILY BASIS.

1. Prior to operation of the machine, check to make certain that all operating instructions and warning signs are affixed to the machine and legible. (See the following page of this manual for description and location of the signs.) Missing or illegible ones must be replaced immediately. Be sure you have spare signs and labels available at all times. These can be obtained from your dealer or Wascomat.

2. Check the door safety interlock, as follows:

   (a) OPEN THE DOOR of the machine and attempt to start in the normal manner:

   For coin-operated models, select a wash program, insert the proper coins and press the START button.

   For manually operated models, select a wash program and press the START button.

   **THE MACHINE(S) MUST NOT START !**

   (b) CLOSE THE DOOR and press the START button. Now attempt to open the door by turning the door handle. The door should remain locked!

   If the machine can start with the door open, or can continue to operate with the door unlocked, the door lock is no longer operating properly. The machine must be placed out of order and the lock immediately replaced. (See the door lock section of the manual.)

3. DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO BYPASS OR REWIRE ANY OF THE MACHINE SAFETY DEVICES AS THIS CAN RESULT IN SERIOUS ACCIDENTS.

4. **Be sure to keep the machine(s) in proper working order**: Follow **all** maintenance and safety procedures. Further information regarding machine safety, service and parts can be obtained from your dealer or from Wascomat through its Teletech Service Hotline - (516) 371-0700.

All requests for assistance must include the model, serial number and electrical characteristics as they appear on the machine identification plate at the top rear of the washer. Insert this information in the space provided on the previous page of this manual. You can also find the serial number on a sticker on the inside of the door.

5. **WARNING**: DO NOT OPERATE MACHINE(S) WITH SAFETY DEVICES BYPASSED, REWIRED OR INOPERATIVE! DO NOT OPEN MACHINE DOOR UNTIL DRUM HAS STOPPED ROTATING!

# SAFETY AND WARNINGS SIGNS

## Replace If Missing Or Illegible

**One or more of these signs must be affixed on each machine as indicated, when not included as part of the front instruction panel.**

## LOCATED ON THE OPERATING INSTRUCTION SIGN OF THE MACHINE:

**WARNINGS**

- Never open door or put hands in the washer if drum is turning.
- Never tamper with door lock. Check daily for proper operation.
- Do not allow children to use or play with washer.

**IN EMERGENCY, PRESS START BUTTON AGAIN TO STOP WATER**

**LOCATED AT THE REAR OF THE MACHINE:**

# INSTALLATION AND MAINTENANCE WARNINGS

1. **This machine MUST be securely bolted according to the installation instruction to reduce the risk of fire and to prevent serious injury, or damage to the machine.**
   ***Pour reduire les risques d'incendie, fixer cet appareil sur un plancher beton sans revetement.***
2. **If installed on a floor of combustible material, the floor area below this machine must be covered by a metal sheet extending to the outer edges of the machine.**
3. **This machine MUST be connected to a dedicated electrical circuit to which no other lightning unit or general purpose receptacle is connected. Use copper conductor only.**
   ***Utiliser seulement des conducteurs en cuivre.***
4. **This machine MUST be serviced and operated in compliance with manufacturer's instructions. CHECK DOOR LOCKS EVERY DAY FOR PROPER OPERATION TO PREVENT INJURY OR DAMAGE. IF THE DOOR LOCK FAILS TO OPERATE PROPERLY, PLACE THE MACHINE OUT OF ORDER UNTIL THE PROBLEM IS CORRECTED.**
5. **Disconnect power prior to servicing of machine.**
   ***Deconnecter cet appareil del'alimentation avant de proceder a l'entretien.***
6. **To remove top panel, first remove screws at the rear. When remounting the top, reinstall them. To remove the top panel on models on which it is secured by one or two keylocks, use the keys originally shipped in the drum package. Be certain to relock after remounting the top panel.**

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DISTRIBUTED BY WASCOMAT INWOOD, NEW YORK, USA

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## LOCATED ON THE DOOR:

If you need to order more safety or warning signs, call Wascomat's parts department at 516-371-2000, or call your local dealer.

**WARNING !**

DO NOT ATTEMPT TO OPEN DOOR
UNTIL PROGRAM HAS FINISHED AND
DRUM HAS STOPPED ROTATING.

471 7651-17

# Wascomat W75ES • W105ES • W125ES • W185ES
# EMERALD SERIES

## Contents



The manufacturer reserves the right to make changes to design and material specifications without notification.

## Safety instructions

- **All installation operations are to be carried out by qualified personnel. Licensed personnel are necessary for all electric power wiring.**
- **This machine is designed for water washing only.**
- **This machine must not be used by children.**
- **This machine must not be sprayed with water, otherwise short circuiting may occur.**
- **Fabric softeners with volatile or inflammable fluids are not to be used in the machine.**
- **The interlock of the door must be checked daily for proper operation and must not be bypassed.**
- **All service personnel must be fully familiar with the operating manual before attempting any repair or maintenance of the machine.**
- **Any leakage in the system, due to faulty gaskets etc., must be repaired immediately.**

# General

Fig. 1

Wascomat EMERALD SERIES washer/extractors have been developed to meet the needs of state-of-the-art professional laundromats. EMERALD models are unique because you can program different prices for the seven wash cycles, giving the customer a real choice and allowing you to maximize revenue by charging what each cycle is worth. In addition, you can charge a higher price if the customer selects the Extra Extract option. Using an external clock and wiring harness, these models may be programmed to lower prices by any percentage between any hours of any days, for the ultimate in pricing flexibility!

The seven cycles offer different water temperatures, wash times, extraction times, and normal or gentle drum rotation. EMERALD SERIES washers achieve maximum environmental efficiency because only the minimum amount of water is used for each cycle, which vary in duration.

When ordering spare parts or contacting Wascomat or your dealer for service, always give the machine serial number, model, voltage and other electrical characteristics appearing on the data plate at the top left of the rear panel of the machine. The serial number is also printed on a sticker inside the door.

KEEP THIS MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE!

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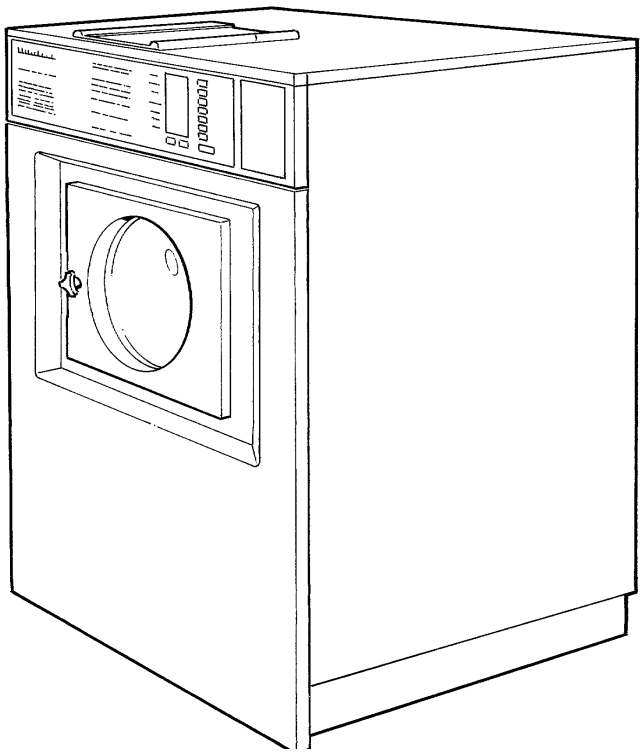

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# Technical data

## Technical data Wascomat W75ES EMERALD SERIES

| | | | |
|---|---|---|---|
| Dry load capacity | up to | | 18 lbs |
| Overall dimensions | Width | 660 mm | 26 in |
| | Depth (at the top) | 593 mm | 23 3/8 in |
| | Height | 1050 mm | 41 5/16 in |
| | Net weight | 107 kg | 235 lbs |
| Inner drum | Diameter | 520 mm | 20 1/2 in |
| | Depth | 356 mm | 14 in |
| | Volume | 75 litre | 2.7 cu.ft |
| Speed of rotation | Wash | | 54 r.p.m. |
| | Extraction | | 543 r.p.m. |
| G-factor | During wash | | 0.8 |
| | During extraction | | 90 |
| Floor loading | Dyn force | 1.2±2.6 kN | 290±620 lbs. force |
| Motor speed | During wash | | 344 r.p.m. |
| | During extraction | | 3514 r.p.m. |
| Voltage requirements | Choice: | | |
| | 120 V 1-phase 60 Hz | | |
| | or | | |
| | 208-240 V 3-Phase 60 Hz | | |
| Rated output power | Motor, wash, 3-phase | | 110 W |
| | | | 0.15 HP |
| | Motor, extract., 3-phase | | 550 W |
| | | | 0.75 HP |
| | Motor, wash, 1-phase | | 110 W |
| | | | 0.15 HP |
| | Motor, extract., 1-phase | | 370 W |
| | | | 0.5 HP |
| Overcurrent protection | Three-phase | | 15 A |
| | Single-phase | | 20 A |

## Water connections

| | | |
|---|---|---|
| Recommended water pressure | 2-6 kp/cm$^2$ | 25-85 psi |
| Hose connection, water | 20 DN | 3/4 in |
| Hose connection, drain | 74 mm | 3 in |

## Technical data W105ES EMERALD SERIES

| | | | |
|---|---|---|---|
| Dry load capacity | up to | | 25 lbs |
| Overall dimensions | Width | 660 mm | 26 in |
| | Depth (at the top) | 710 mm | 27 15/16 in |
| | Height | 1135 mm | 44 11/16 in |
| | Net weight | 161 kg | 323 lbs |
| Inner drum | Diameter | 520 mm | 20 1/2 in |
| | Depth | 473 mm | 18 5/8 in |
| | Volume | 100 litre | 3.6 cu.ft |
| Speed of rotation | Wash | | 54 r.p.m. |
| | Extraction | | 543 r.p.m. |
| G-factor | During wash | | 0.8 |
| | During extraction | | 90 |
| Floor loading | Dyn force | 1.7 ±3.4 kN | 408±816 lbs. force |
| Motor speed | During wash | | 360 r.p.m. |
| | During extraction | | 3450 r.p.m. |
| Rated output power | Motor, wash 3-phase | | 150 W |
| | | | 0.2 HP |
| | Motor, extract. 3-phase | | 900 W |
| | | | 1.2 HP |
| | Motor, wash 1-phase | | 140 W |
| | | | 0.18 HP |
| | Motor, extract. 1-phase | | 550 W |
| | | | 0.75 HP |
| Voltage requirements | Choice: | | |
| | 120 V 1-phase 60 Hz | | |
| | or | | |
| | 208-240 V 3-Phase 60 Hz | | |
| Overcurrent protection | Three-phase | | 15 A |
| | Single-phase | | 20 A |
| **Water connections** | | | |
| Recommended water pressure | 2-6 kp/cm$^2$ | 25-85 psi | |
| Hose connection, water | 20 DN | 3/4" in | |
| Hose connection, drain | 74 mm | 3" in | |
| strypbricka | | | |

## Technical data Wascomat W125 ES EMERALD SERIES

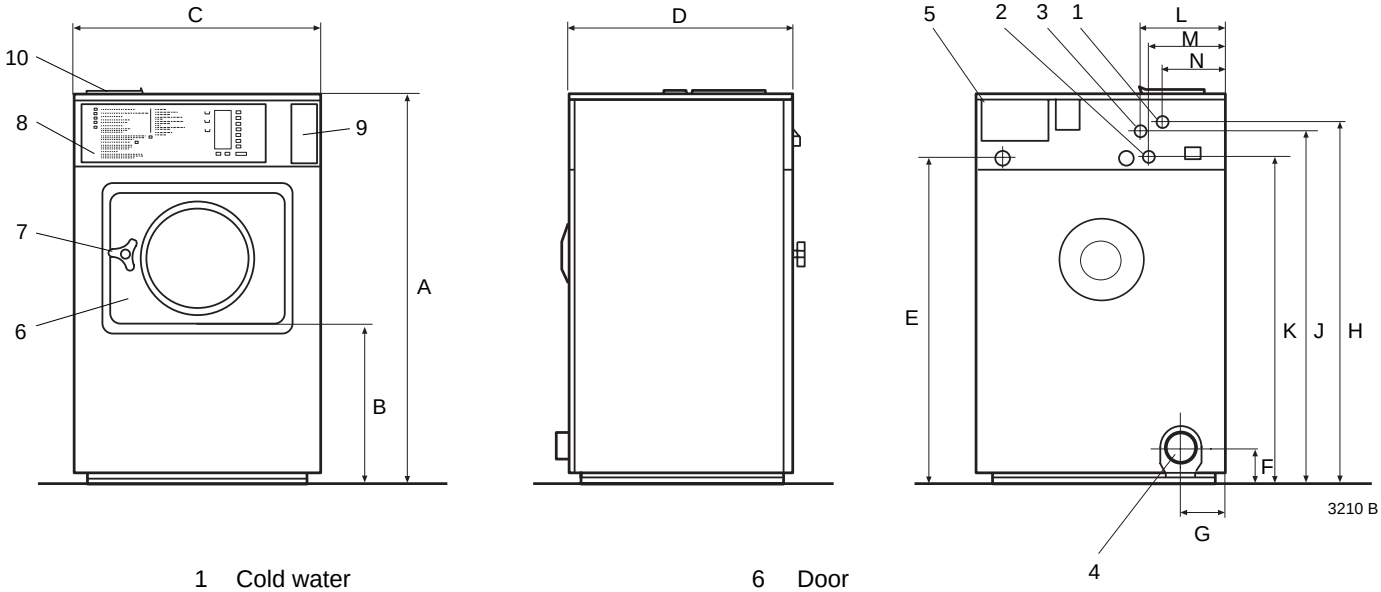
| | | | |
|---|---|---|---|
| Dry load capacity | up to | | 35 lbs |
| Overall dimensions | Width | 745 mm | 29 5/16 in |
| | Depth (at the top) | 915 mm | 36 in |
| | Height | 1196 mm | 47 1/16 in |
| | Net weight | 210 kg | 463 lbs |
| Inner drum | Diameter | 620 mm | 24 1/2 in |
| | Depth | 520 mm | 20 1/2 in |
| | Volume | 157 litre | 5.65 cu.ft |
| Speed of rotation | Wash | | 52 r.p.m. |
| | Extraction | | 500 r.p.m. |
| G-factor | During wash | | 0.9 |
| | During extraction | | 87 |
| Floor loading | Dyn force | 2.4±4.8 kN | 576±1152 lbs. force |
| Motor speed | During wash | | 360 r.p.m |
| | During extraction | | 3450 r.p.m |
| Rated output power | Motor, wash 3-phase | | 300 W |
| | | | 0.4 HP |
| | Motor, extract. 3-phase | | 1300 W |
| | | | 1.8 HP |
| | Motor, wash 1-phase | | 280 W |
| | | | 0.4 HP |
| | Motor, extract. 1-phase | | 1300 W |
| | | | 1,8 HP |
| Voltage requirements | Choice: | | |
| | 208-240 V 1-phase 60 Hz | | |
| | or | | |
| | 208-240 V 3-Phase 60 Hz | | |
| Overcurrent protection | Three-phase | | 15 A |
| | Single-phase | | 20 A |
| **Water connections** | | | |
| Recommended water pressure | 2-6 kp/cm$^2$ | | 25-85 psi |
| Hose connection, water | 20 DN | | 3/4" in |
| Hose connection, drain | 74 mm | | 3" in |

## Technical data Wascomat W185 ES EMERALD SERIES

| | | | |
|---|---|---|---|
| Dry load capacity | up to | | 50 lbs |
| Overall dimensions | Width | 827 mm | 32 9/16 in |
| | Depth (at the top) | 960 mm | 37 13/16 in |
| | Height | 1315 mm | 51 3/4 in |
| | Net weight | 264 kg | 582 lbs |
| Inner drum | Diameter | 700 mm | 27 9/16 in |
| | Depth | 600 mm | 23 5/8 in |
| | Volume | 230 litre | 8.1 cu.ft |
| Speed of rotation | Wash | | 45 r.p.m. |
| | Extraction | | 455 r.p.m. |
| G-factor | During wash | | 0.8 |
| | During extraction | | 81 |
| Floor loading | Dyn force | 3.1±5.2 kN | 744±1248 lbs. force |
| Motor speed | During wash | | 360 r.p.m |
| | During extraction | | 3480 r.p.m |
| Rated output power | Motor, wash 3-phase | | 400 W |
| | | | 0.55 HP |
| | Motor, extract. 3-phase | | 2000 W |
| | | | 2.7 HP |
| | Motor, wash 1-phase | | 400 W |
| | | | 0.55 HP |
| | Motor, extract. 1-phase | | 1800 W |
| | | | 2.4 HP |
| Voltage requirements | Choice: | | |
| | 208-240 V 1-phase 60 Hz | | |
| | or | | |
| | 208-240 V 3-Phase 60 Hz | | |
| Overcurrent protection | Three-phase | 15 A | |
| | Single-phase | 20 A | |
| **Water connections** | | | |
| Recommended water pressure | 2-6 kp/cm$^2$ | | 25-85 psi |
| Hose connection, water | 20 DN | | 3/4" in |
| Hose connection, drain | 74 mm | | 3" in |

# Technical data

## Outline and dimensions




1 Cold water
2 Hot water
3 Hot water (W185)
4 Drain outlet
5 Electrical + price reduction connections
6 Door
7 Slip-lock door handle
8 Emerald control panel
9 Coin-meter
10 Supplies compartments

| | W75ES | | W105ES | | W125ES | | W185ES | |
|---|---|---|---|---|---|---|---|---|
| | mm | inches | mm | inches | mm | inches | mm | inches |
| A | 1050 | 41 5/16 | 1135 | 44 11/16 | 1196 | 47 1/16 | 1315 | 51 3/4 |
| B | 437 | 17 3/16 | 522 | 20 9/16 | 465 | 18 5/16 | 540 | 21 1/4 |
| C | 660 | 26 | 660 | 26 | 745 | 29 5/16 | 827 | 32 9/16 |
| D | 593 | 23 3/8 | 710 | 27 15/16 | 915 | 36 | 960 | 37 13/16 |
| E | 895 | 35 1/4 | 980 | 38 9/16 | 1040 | 40 15/16 | 1160 | 45 11/16 |
| F | 100 | 3 15/16 | 185 | 7 5/16 | 100 | 3 15/16 | 100 | 3 15/16 |
| G | 125 | 4 15/16 | 125 | 4 15/16 | 270 | 10 5/8 | 260 | 10 1/4 |
| H | 980 | 38 9/16 | 1065 | 41 15/16 | 1135 | 44 11/16 | 1255 | 49 7/16 |
| J | – | – | – | – | – | – | 1215 | 47 13/16 |
| K | 890 | 35 | 975 | 38 3/8 | 1035 | 40 3/4 | 1155 | 45 1/2 |
| L | – | – | – | – | – | – | 295 | 11 5/8 |
| M | 205 | 8 1/16 | 205 | 8 1/16 | 205 | 8 1/16 | 205 | 8 1/16 |
| N | 160 | 6 5/16 | 160 | 6 5/16 | 160 | 6 5/16 | 160 | 6 5/16 |

# Installation

## Machine foundation

The machines are designed to be securely bolted to a concrete pad. A template showing the size of the pad and positioning of the bolts can be provided by Wascomat.

For installation on an existing concrete floor, the floor must be at least 8" thick and of good quality. If the floor does not meet these requirements, then a 6-8" high concrete pad should be made. A prefabricated steel base is available for mounting machines without pouring a pad.

Follow the instructions below when making a concrete foundation:

**Fig. 2**

1. Decide where to place the machine and consider maintenance requirements, i.e. determine a suitable distance from the rear of the pad to the wall, and the distance from the pad to the nearest side wall. The distance should be at least 16 and 12 inches, respectively. Leave 3/4" between washers.

**Fig. 3**

2. Break up the floor to a minimum depth of 3 inches, making sure that the sides of the hole slope away - the bottom of the hole should be 5 inches longer than the upper length.
3. Wet the hole well. Brush the bottom and sides with cement grout.
4. Prepare a casing and fill with 3,000 PSI min. concrete to form a pad. Make sure the foundation is level.

**Fig. 4**

5. Use the template to position the bolts correctly. Bolts are to extend 1 1/2" above the concrete.

   NOTE: A prefabricated steel frame, designed to be placed in the concrete instead of the individual mounting bolts, is available from Wascomat.

| | W75 | | W105 | | W125 | | W185 | |
|---|---|---|---|---|---|---|---|---|
| | mm | inches | mm | inches | mm | inches | mm | inches |
| A | 364 | 14 11/32 | 481 | 18 15/16 | 508 | 20 | 600 | 23 2/3 |
| B | 593 | 23 11/32 | 710 | 27 15/16 | 910 | 35 13/16 | 960 | 37 3/4 |
| C | 648 | 25 1/2 | 760 | 29 15/16 | 1031 | 40 9/16 | 1078 | 42 7/16 |
| D | 100 | 4 | 100 | 4 | 142 | 5 9/16 | 142 | 5 9/16 |
| E | 530 | 20 7/8 | 530 | 20 7/8 | 600 | 23 5/8 | 700 | 27 9/16 |
| G | 700 | 27 9/16 | 700 | 27 9/16 | 800 | 31 1/2 | 880 | 34 2/3 |
| H | 643 | 25 5/16 | 715,6 | 28 3/16 | 786 | 30 15/16 | 922 | 36 1/8 |
| I | - | - | - | - | 991 | 39 | 1090 | 42 7/8 |
| K | - | - | - | - | 281 | 11 | 236 | 9 7/16 |

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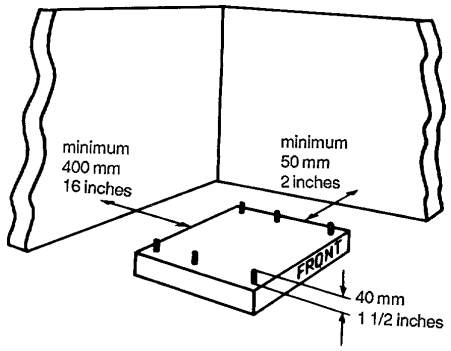


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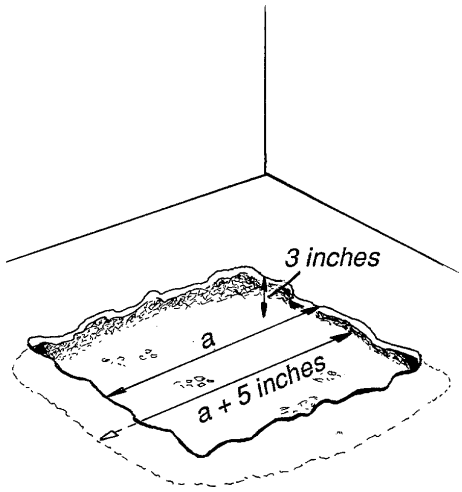


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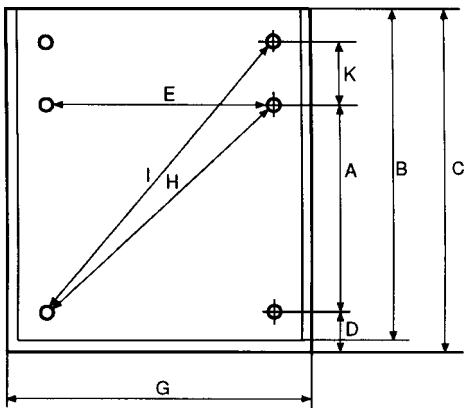


B = machine outline to edge of front panel
C, G = minimum foundation for one machine

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## NOTE

**If you form a lip on top of the concrete pad in front of the washers, be sure you leave enough room to remove the bolts which secure the bottom of the front panel and enough room to swing out and remove the panel!**

### Mechanical installation

Before mounting the machine:

Fig. 5

- Place wide steel shims or washers on the concrete foundation over the bolts.
- Lift the machine and lower it in position. Never use the door or the door handle to lift or lower the machine since this can damage the door and door interlock.

Fig. 6

- Check that the machine is level front-to-rear and side-to-side and standing firmly on the four (W75, W105) or six (W125, W185) supporting points of the base. Spacing washers must be used to take up the space if one or more of these points is not resting against the floor/foundation.

Fig. 7

- Place the flat washers delivered with the machine over the foundation bolts. Secure the machine in position by tightening the selflocking nuts. Se illustration.
- Check and tighten the nuts every week for the first month to compensate for any setting of the foundation.

## IMPORTANT

**The bases for the W75 and W105 machines have 6 bolt holes. For the W75 use the front and middle ones. For the W105 use the front and rear most ones. For the W125 and W185 make certain to use all 6 bolt holes.**

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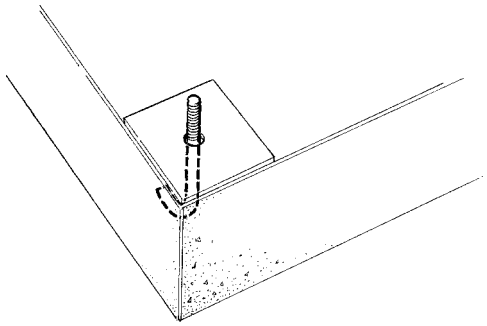

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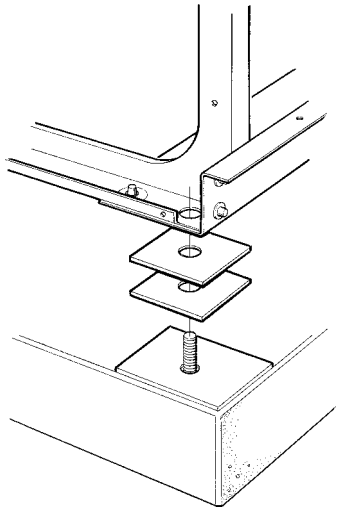

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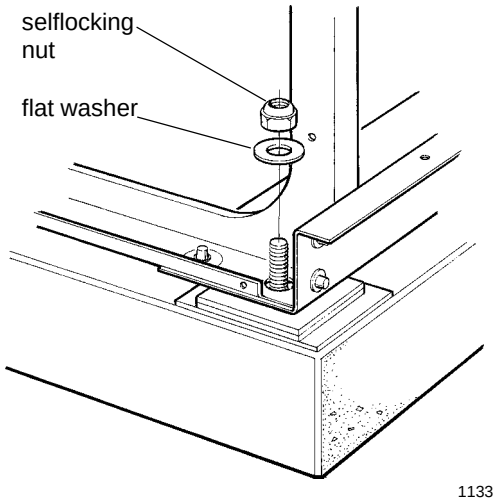


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## Electrical connections

**All electrical installations are to be carried out by licensed personnel.**

Fig. 8 Although the machines are fitted with a thermal overload in the motor windings, a separate three-phase common-trip circuit breaker must be installed for all three-phase machines. Use an inverse-time circuit breaker only.

For proper circuit breaker protection, check the data plate at the rear of the machine. Also consult local electrical code for special requirements.

Fig. 9 Connect L1, L2, L3 and ground wires according to the markings of the terminal block. The cable is to hang in a loose loop, supported by the clip of the terminal block.

After installation, do the following for 3-phase machines:

Check the incoming power for any high voltage or "stinger" leg by measuring voltage from each leg to ground. If a high leg (measuring more than 150 Volts) is present, connect that line to L2 on the terminal block, which goes to the motor circuit.

Fig. 10 Start the machine and check that the drum rotates in the proper direction during extraction, i.e. counter-clockwise when seen from the front. If the drum rotates in the wrong direction switch lines L1 and L3.

Fig. 11 Check that the transformer on the control unit is correctly tapped for the incoming voltage. The different voltage alternatives are printed on the transformer circuit board.

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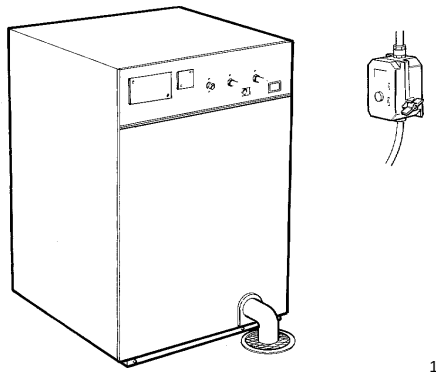

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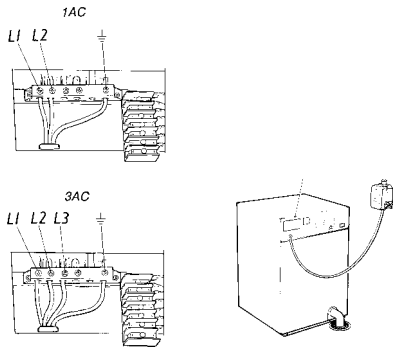


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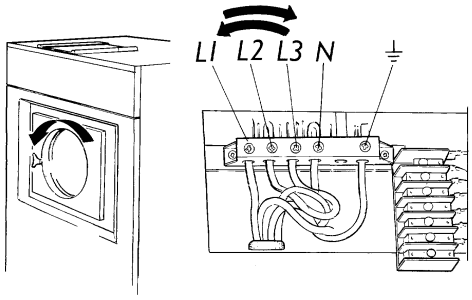


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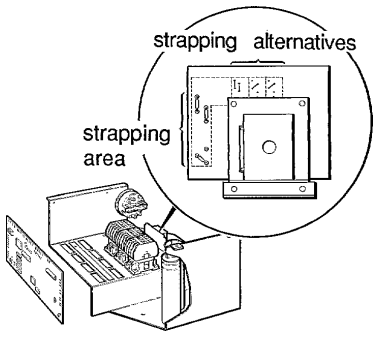


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## Water connections

**NOTE**

**All plumbing must conform to national and local plumbing codes.**

Fig. 12

Incoming water lines should not require non-return or back-suction valves, as the machine is already equipped with backflow prevention. Shut-off valves must be provided on all incoming water lines.

Fig. 13

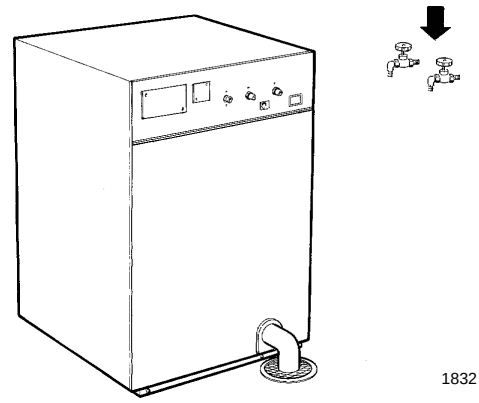
- Water inlets are labelled for hot and cold water connection.
- Before connecting the water hoses flush the water lines thoroughly and check that the filter at the machine inlet is fitted correctly. This is essential since dirt and grit in the water lines may clog the inlet valve filter screens and/or drain pilot valve, causing the machine to fill very slowly or the drain valve not to operate properly.

Fig. 14

- Connect the water supply to the machine with 3/4" reinforced rubber hosing not to exceed 6 ft in length. Hang the hosing in a large loop. Do not use rigid piping.

Never force a hose onto the threads or you may cause cross-threading and leaks. If this occurs, place the threaded portion of the hose over the valve threads and push forward firmly, to catch the next thread. Then tighten.

12

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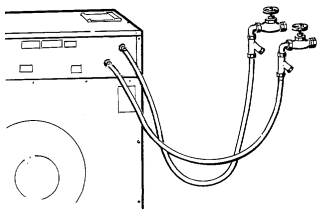
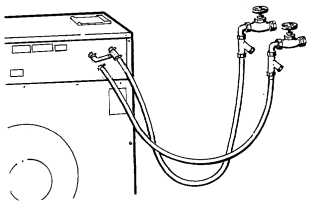
W 75, W105, W125



W 185

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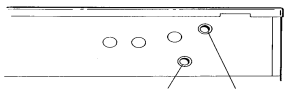
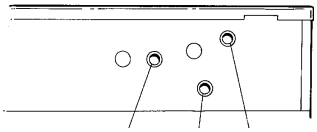
W 75, W105, W125



hot water cold water

1846

W 185



hot water cold water cold water
(to detergent supply box)

1844

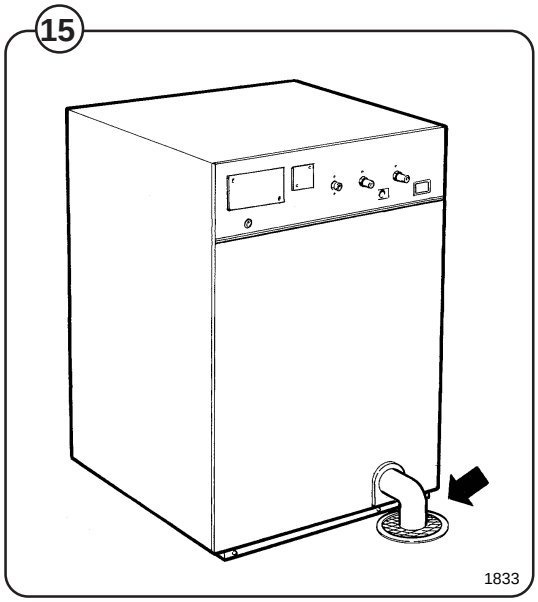
## Drain connection

Fig. 15

Connect a 3" (75 mm) flexible drain hose to the drain outlet of the machine.

The drain hose may be connected to a 2" to 3" T- connection coming out of your main drain line, which is typically four inches diameter, or the washer may dump into a trough which slopes to a drain, or directly into a floor drain as shown in the illustration. Check local codes for required installation procedure.

The drain hose must not have sharp bends and must slope from the machine to assure proper drainage. If the machine(s) drain into an open trough the trough should have a slope of 1/8"-1/4" per foot towards the main drain.




## NOTE

**To simplify installation, Wascomat has made available the following hose kits:**

**For W75, W105 and W125 Part. No. 002008**
**For W185 Part. No. 002009**

**These kits contain inlet hoses, drain hose, hose clamps and washers.**

Before the machine is operated, the door safety interlock must be checked for proper operation as follows:

Fig. 16
- When washer loading door is open, the machine must not start. Verify this by attempting to start washer with door open.

Fig. 17
- When washer is in operation, the loading door is locked and cannot be opened. Verify this by attempting to open the loading door when the machine is operating. If necessary, consult this manual for proper operation of the door lock and door safety interlock or call a qualified serviceman.

## IMPORTANT

**Door safety interlock must be checked <u>daily</u> in accordance with above procedure.**

**WARNING:**

**Before servicing Wascomat equipment, disconnect electrical power.**

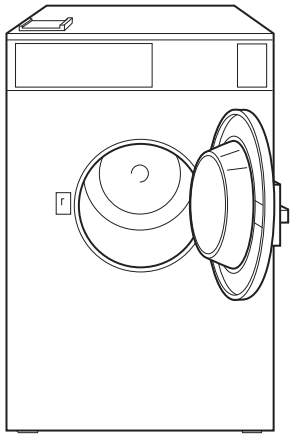
## IMPORTANT

**Le verrouillage de sûreté de la porte doit être vérifié <u>tous les jours</u> selon la procédure ci-dessus.**

**AVERTISSEMENT:**

**Couper l'alimentation électrique avant tous travaux de entretien sur un appareil Wascomat.**

16



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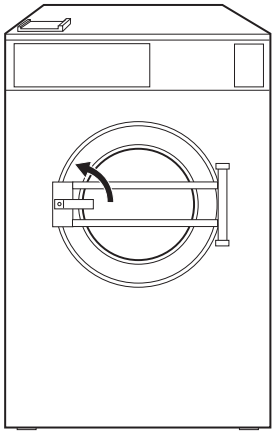

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## Function control check-out list

In the cylinder you will find the warranty registration card, a copy of the warranty policy and other pertinent material. The warranty card must be completed and sent to Wascomat immediately or your warranty coverage will start from the day we shipped the washer from our warehouse. All other items should be placed in a safe place for future reference.

The machine should be cleaned when the installation is completed, and checked out as detailed below without loading the machine with clothes:

1. Check the incoming power for proper voltage, phase and cycles.
2. Open water taps to the machine.
3. Turn on electric power.
4. Check the door lock as detailed in this manual.

Fig. 18

5. Select the Warm cycle and then press the START button.
6. Run through a complete Warm cycle, checking for proper water temperature, drain operation and extract direction. To rapid advance the timer, press and hold down the START button until the indicator arrows reach the desired part of the cycle.

Fig. 19

7. Now select and run the Cold cycle. There is no hot water in the Cold cycle so if hot water enters the hoses are improperly connected. Reverse the hot and cold water hoses.

Fig. 20

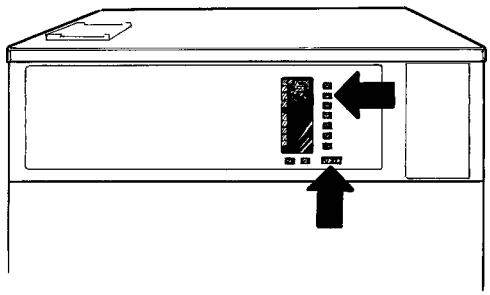
Fig. 21

8. The drum must extract in a counter-clockwise direction as seen from the front! If it does not, reverse incoming electric lines L1 and L3 on 3-phase machines.

> **NOTE**
>
> **All machines are factory tested prior to shipment. Occasionally, some residual water may be found when the machine is installed.**

The wiring diagram will be located under the top panel at the side of the component tray.

18



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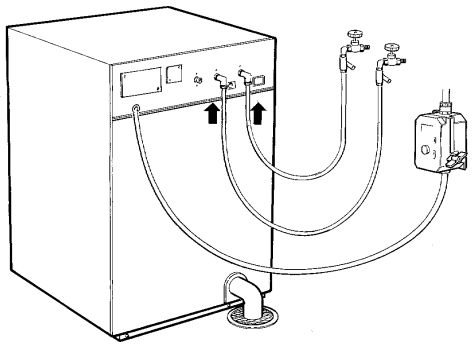

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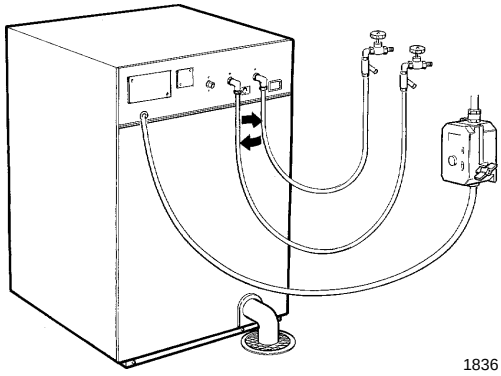

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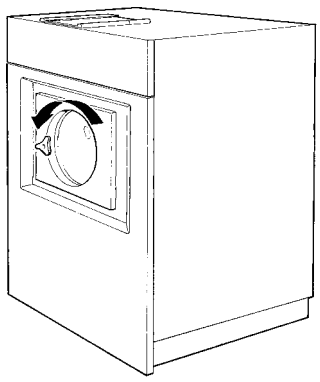

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## Safety rules

- **This machine is designed for water washing only.**
- **All installation operations are to be carried out by qualified personnel. Licensed personnel are necessary for all electric power wiring.**
- **The interlock of the door must be checked daily for proper operation and must not be bypassed.**
- **All seepage in the system, due to faulty gaskets etc., must be repaired immediately.**
- **All service personnel must be fully familiar with the operating manual before attempting any repair or maintenance of the machine.**
- **This machine must not be sprayed with water, otherwise short circuiting may occur.**
- **This machine must not be used by children.**
- **Fabric softeners with volatile or inflammable fluids are not to be used in the machine.**

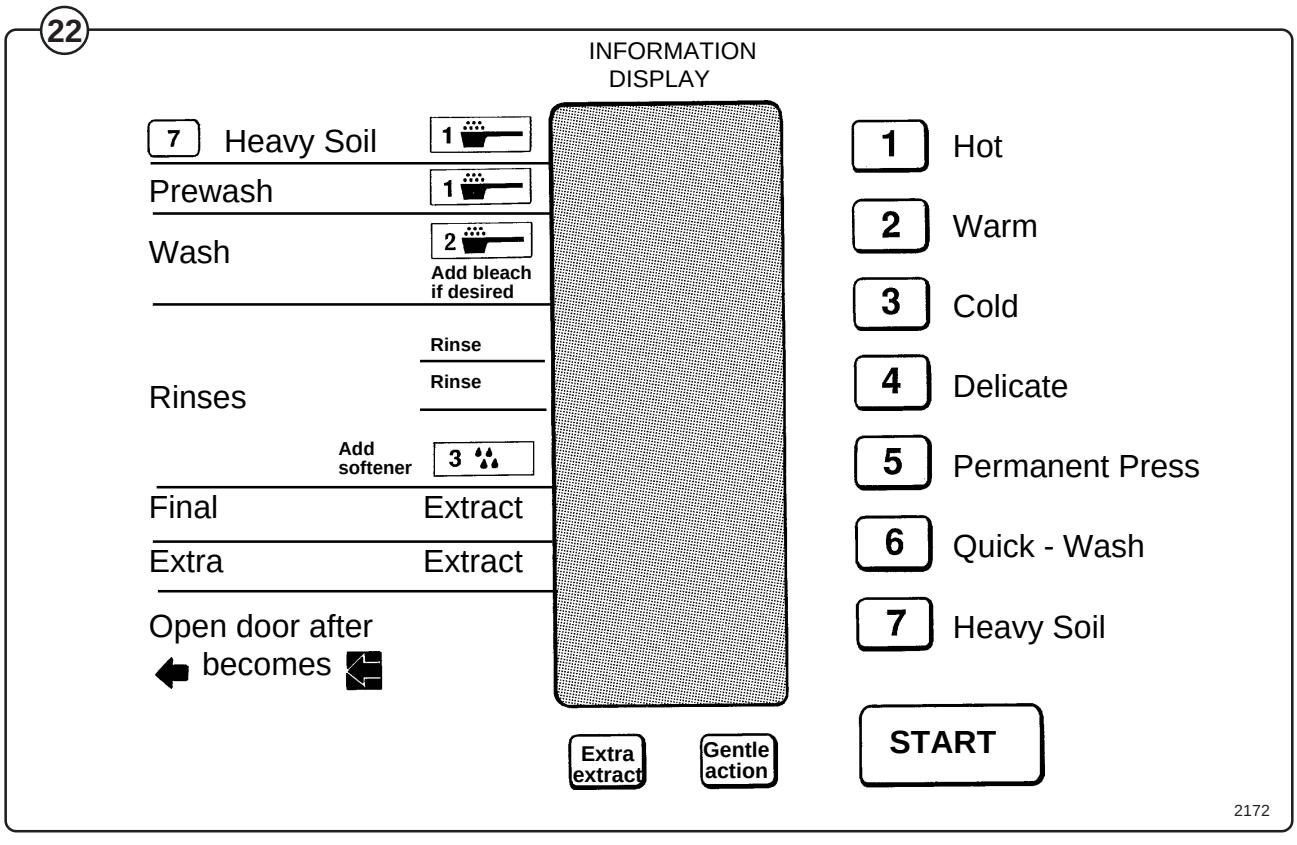
## Consignes de sécurité

- **La machine est conçue pour le lavage à l'eau exclusivement.**
- **Tous les travaux d'installation doivent être effectués par une personne qualifiée. Tous les câblages électriques doivent être réalisés par un électricien diplômé.**
- **Le verrouillage du hublot doit être vérifié chaque jour et ne peut être neutralisé.**
- **Toute fuite du système, due à des joints défectueux etc., doit être réparée sans délai.**
- **Tous les membres du personnel d'entretien doivent être parfaitement familiarisés avec le manuel d'entretien avant d'entreprendre une réparation ou un entretien de la machine.**
- **Ne jamais asperger d'eau la machine sous peine de risquer un court-circuit.**
- **La machine ne peut être utilisée par des enfants.**
- **Ne pas utiliser dans la machine des adoucissants textiles contenant des liquides volatils ou inflammables.**

Fig. 22

The keypad has seven wash program buttons, two option buttons and a start button. An Information Display with illuminated symbols shows the selected wash cycle, cycle options, steps in the wash cycle which have been completed (indicated by squares around arrows), steps which remain (indicated by arrows), remaining wash time, and the number of quarters required to start the washer.

If a fault occurs then error numbers on the Information Display will refer you to the fault code list under Fault Finding in this manual.



## Preparation

Sort the wash according to the choices shown on the control panel. Check washing tips on garment labels.

Make sure all pockets are empty and zips closed.

Load the washer and lock the door.

## Wash program start

Fig. 23

- Push a wash cycle button.

  An arrow to the right of the control panel will light up to show selection. Left arrows will light to show the steps in the program.

Fig. 24

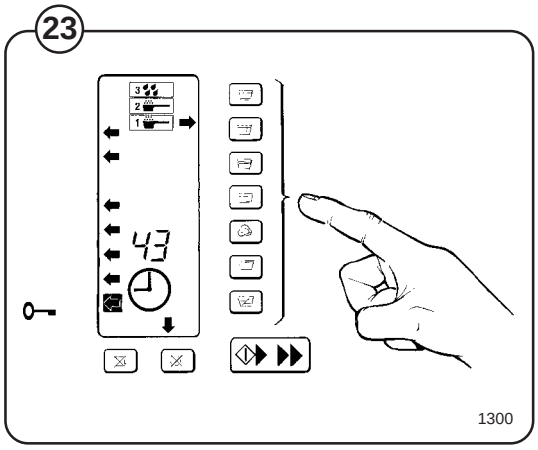
- Select Extra Extract and/or Gentle Wash if desired. Arrows will point to them.

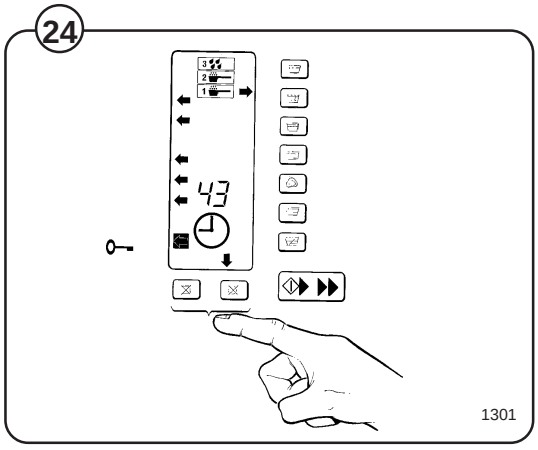
Fig. 25

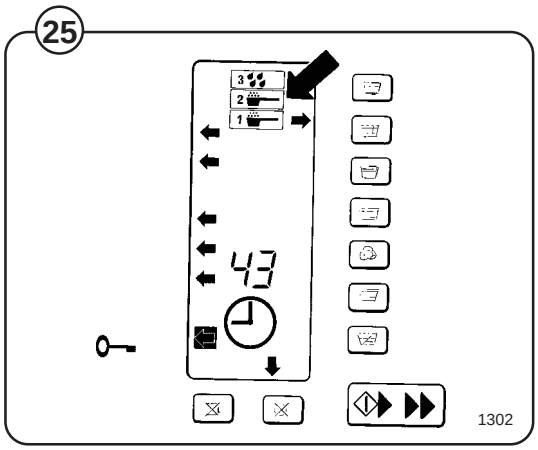
- Three symbols in the Information Display show in which compartments to put detergent and softener.
  - Prewash detergent in compartment 1.
  - Mainwash detergent (and later bleach) in compartment 2.
  - Final rinse softener in compartment 3.

Fig. 26

- You do not need more than 1/4 cup detergent in a W75ES or W105ES, 1/3 cup in a W125ES, or 1/2 cup in a W185ES.



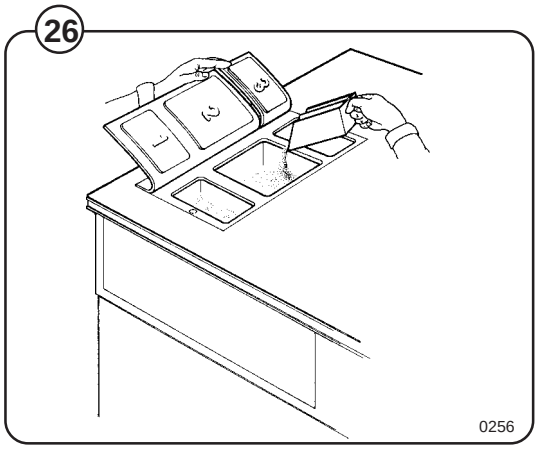
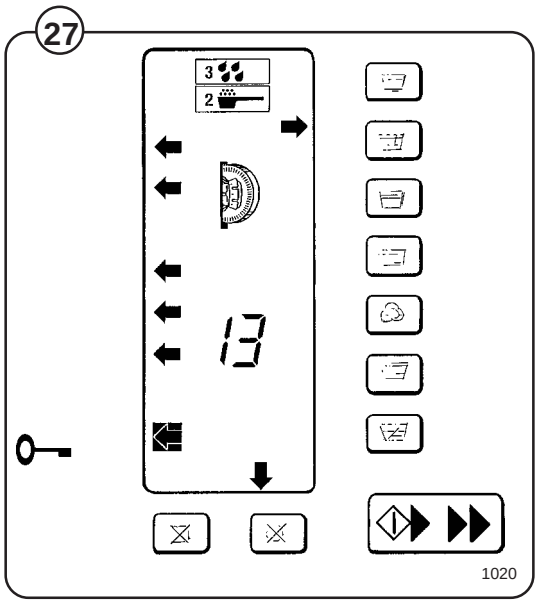
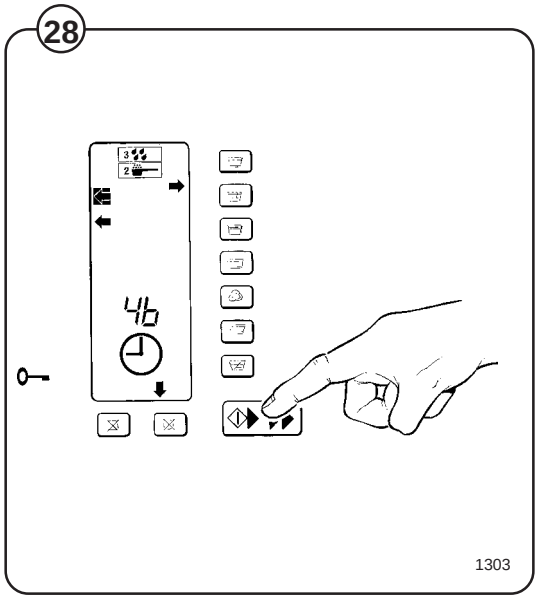



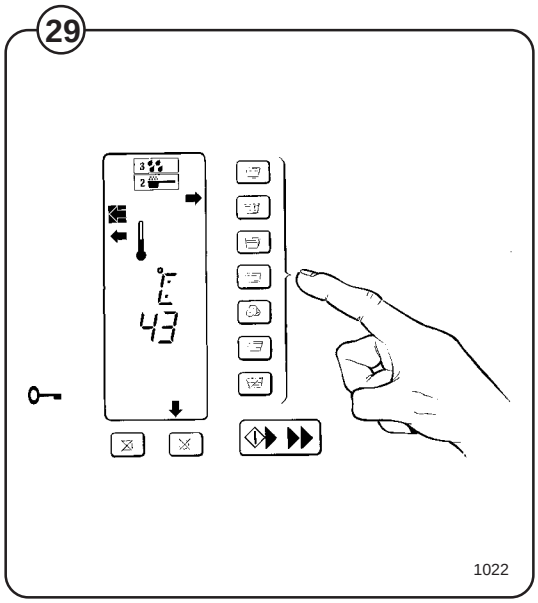
Fig. 27 Insert required number of quarters as shown on the display. This will count down the quarters as they are inserted. Press the START button when the display shows 00.

Fig. 28 A clock symbol will now appear and the remaining wash time in minutes will count down. (The time for each cycle will not be displayed until the cycle has been run once completely from beginning to end, so the microprocessor knows how long it should take). The microprocessor retains in memory how long it took to run each cycle the last five times and displays the average time. Since water pressure may fluctuate affecting fill times, the displayed average cycle time is not always exact and may vary from machine to machine. If you find cycle times taking longer and longer, use that information as a warning that your water inlet screens may be clogged, extending fill times, or some other problem may exist.

Fig. 29 Figure 31 illustrates a temperature display function only available on washers with built-in heating.



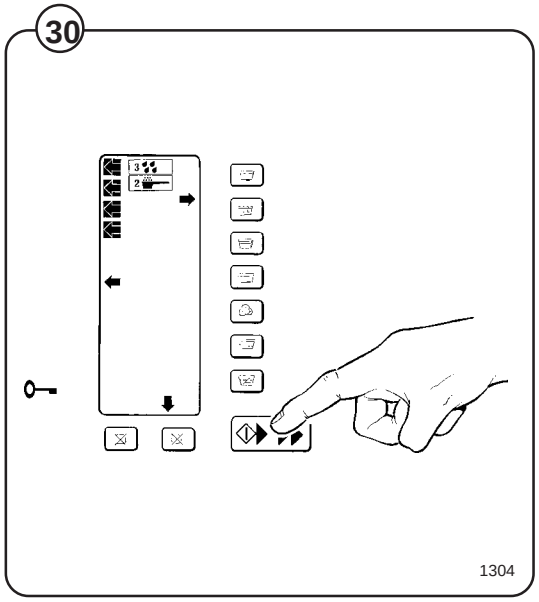



## Rapid Advance

Within 5 minutes after starting (only while the colon : is flashing), steps of the wash cycle can be skipped by using Rapid Advance.

Fig. 30

- Press and hold down the START button until the arrows rapid advance. Stop pressing where you want the cycle to continue.
- If during the first five minutes of a cycle a customer realizes they put a wrong item of clothing in the washer (for example a brightly colored shirt mixed up with white sheets), you can rapid advance through the entire cycle, open the door and remove the item, then lock the door and press START again to continue the cycle from where you began rapid advance. No money is lost and no extra time is gained. The remaining time will not be displayed.

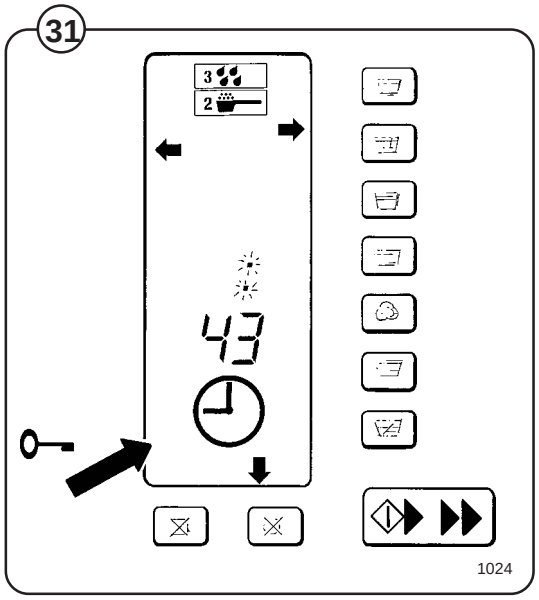



## Changing Wash Programs While Washing

Fig. 31

If within 5 minutes after starting a cycle (only while the colon : is flashing) a customer realizes the wrong cycle has been selected, they can push the START button once briefly to put the washer on pause. They may then press a different wash cycle button and press START again to continue from the same step in the new cycle.

If the customer selects a different cycle or Extra Extract option that costs more money, the washer will not start again unless additional coins are inserted as shown on the Information Display. There is no way for a customer to pay for a less expensive program and switch to a more expensive program without paying for it, or to gain additional free wash time.




Note: Rapid Advance is only possible during the first five minutes of a cycle, while the colon : is flashing. However, if the START button is pressed after five minutes has elapsed it will put the wash cycle on pause, which means washing stops, the clock stops counting down remaining wash time, and an arrow flashes on the Information Display at which ever step the wash cycle was in when pause began. Press START again to resume washing. Be alert to any accidental pauses, which are unlikely but possible.

# Coin-operated machines

The prices of the various wash cycles must be programmed into the microprocessor. On EMERALD SERIES washers you can program different prices for the seven cycles!

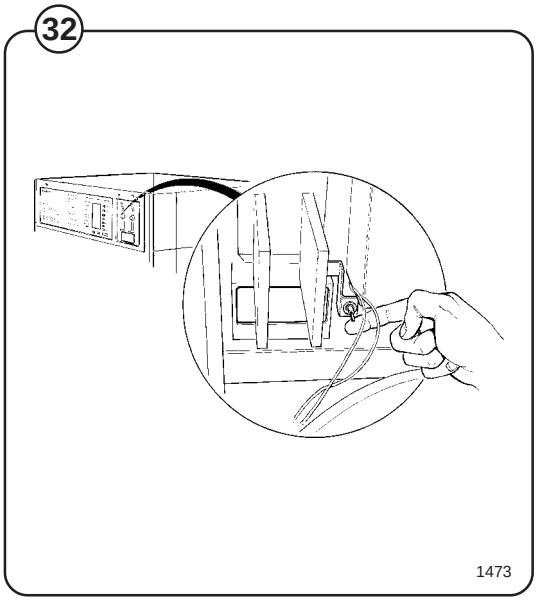
You can also program the prices to drop by any percentage between any hours of any days, automatically!

## Price programming

- Remove the coin box.
- Press one wash cycle button so an arrow points to it.
- Toggle and hold the price programming switch located at the back of the coin box in the PP (price programming) position.

Fig. 32

This transforms the various buttons into a numerical keypad. Numbers 1 - 7 are on the wash cycle buttons, the Extra Extract button is 8, and the Gentle Wash button is 9. The START button is 0.



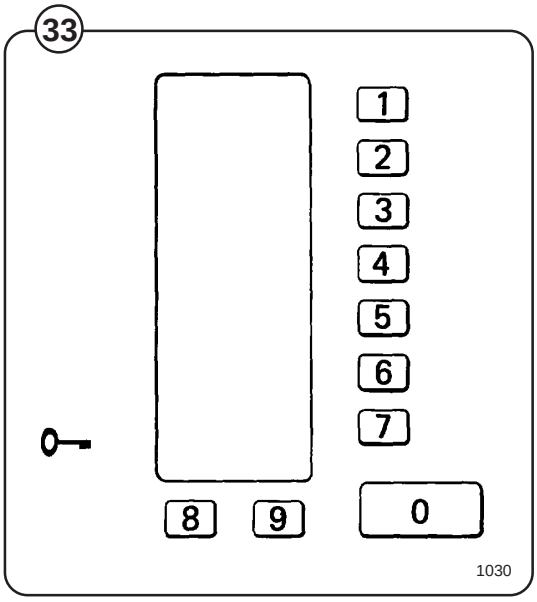
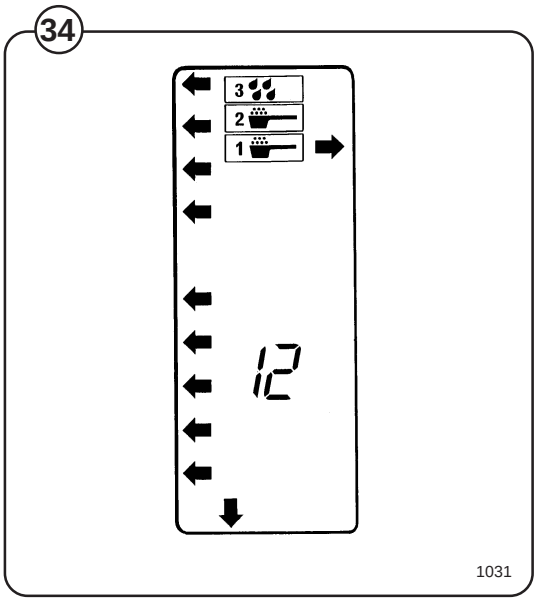



Fig. 34

- Program the price by using the keypad to enter the number of quarters needed to start the selected wash cycle. For example, press "1" and "2" to enter 12 quarters for a $3.00 vend price.
- Release the price programming switch. Price programming of one wash cycle is now complete. Repeat for the other six cycles, using any prices in quarters you want.

If you want to raise prices if Extra Extract is also selected, first program prices for each of the seven wash cycles. Then program a different price for each wash cycle plus Extra Extract. For example, program a price for the Hot cycle. Then press the Hot button *and* the Extra Extract button so arrows point to both. Now program a new price for the combination of Hot plus Extra Extract. Typically you would program a price for the combination that is one quarter higher, but that's totally up to you. If you later change pricing of a cycle don't forget to change pricing of the combination with Extra Extract.

Use of the Gentle Wash button cannot affect pricing.

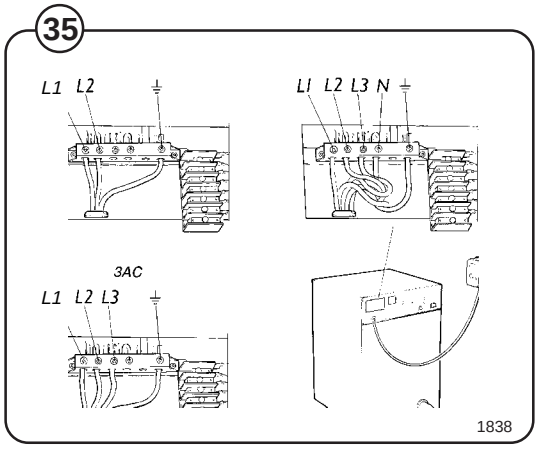



## Programming Tip:

Too many different prices may confuse customers. We suggest using three or four different prices for the seven wash cycles. Typically Heavy Soil will be the most expensive, Hot and Warm the second most expensive, Quick-Wash, Delicate, and Permanent Press the third most expensive, and Cold least of all. But as always, pricing is totally up to *you*. Wascomat EMERALD SERIES washers give you complete price flexibility so you can maximize revenue and beat the competition.

## Wiring for automatic price reduction

Fig. 35 Emerald washers have a price reduction terminal block located next to the main power terminal block. Your installer must run a pair of wires from each washer terminal block to Wascomat's automatic price reduction relay box (Part No. 098887), which can control 16 washers. Each relay box can be expanded to handle up to 32 washers by adding snap-in contacts (Part No. 510192). The relay box is plugged into a programmable appliance timer clock (such as Radio Shack model 63-892) which you program with the days and hours you want automatic price reduction to be on or off. Refer to technical instruction No. 1040 for detailed installation instructions.



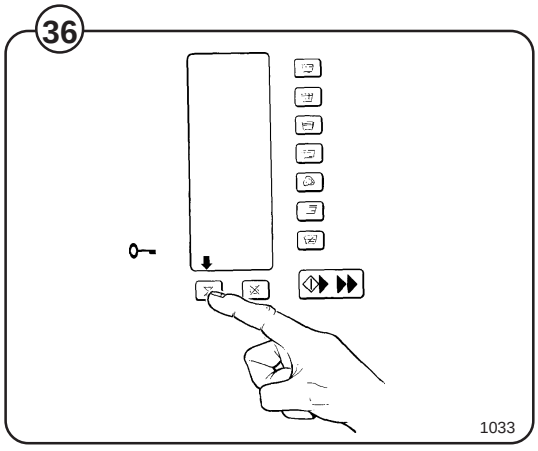

## Programming automatic price reduction

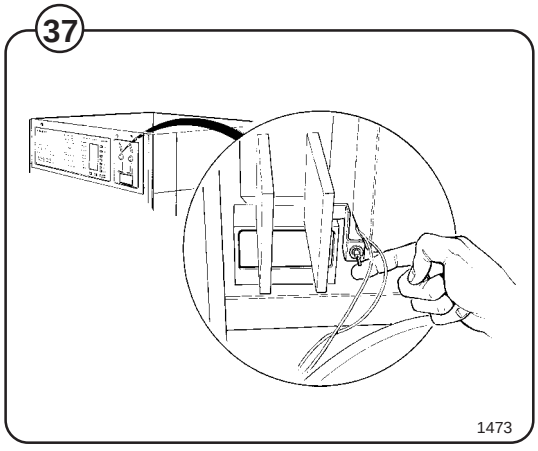
Price reduction is programmed into each *individual* washer as a percentage reduction of the normal prices. For example, if a cycle is normally eight quarters and you program a 25% price reduction, the reduced price will be 6 quarters. An external clock is programmed with the days and hours you want the price reduction to activate and deactivate. (This clock has nothing to do with the clock symbol on the Information Display, which counts down remaining wash time).

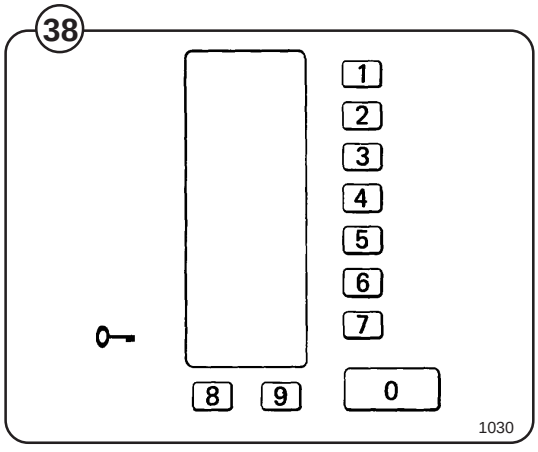
Fig. 36
- Press the Extra Extract button until *only* the arrow that points to it is lit.

Fig. 37
- Toggle and hold the price programming switch at the back of the money box compartment.

Fig. 38 This transforms the buttons into a numerical keypad. Numbers 1-7 are on the wash cycle buttons, the Extra Extract button is 8 and the Gentle Wash button is 9. The START button is 0.



- Enter the desired percentage reduction using two numbers (for example, enter 2 and 5 for 25% reduction). If you make a mistake just press the START button (0) to clear the data. Prices will round up to the nearest quarter when price reduction is active.
- Release the price programming switch. Programming is now complete. Check to see that your regular prices appear on the display after you select a cycle. If not, just toggle the programming switch once to reset the system.

Since price reductions are programmed into each individual washer you can program different percentage price reductions for different size washers, or you could connect your various size washers to separate clocks and program the clocks to reduce prices on different days or at different times. With Wascomat Emerald Series washers there is virtually no limit on your ability to create innovative price promotions to build your business, maximize profits, and eliminate any correlation between water consumption and revenue!

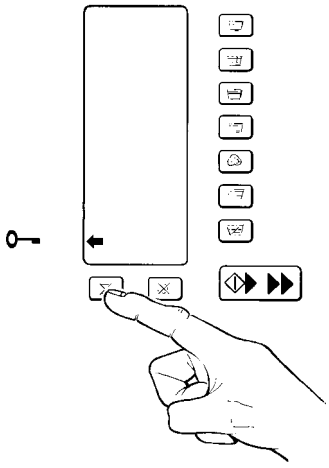
## Coin counter

The microprocessor features a built-in coin counter which uses a four-digit number (0000 - 9999) to indicate how many coins have been fed into the meter. The coin counter can only be reset to zero with a special microchip from Wascomat, so if someone else does your connections, you can check the reciepts.

A coin count reading is made as follows:

- Press one of the cycle selection buttons repeatedly until the *only* arrow lit is the bottom left arrow (open door arrow).
- Toggle and hold the price programming switch. **Fig. 39**
- The two lower digits (for example "18") of the four-digit coin count number (for example 6,518) will now appear in the Information Display. Release the programming switch. **Fig. 40**
- Toggle and hold the price programming switch while *also* pressing any one of the wash cycle buttons. The two higher digits (for example, "65") of the coin count number will now appear. A total of 6,518 quarters have been inserted into this washer. If your log book shows the count was 6,200 last time you collected, then 6,518 minus 6,200 equals 318 quarters, which should be in the money box! **Fig. 41**

**39**



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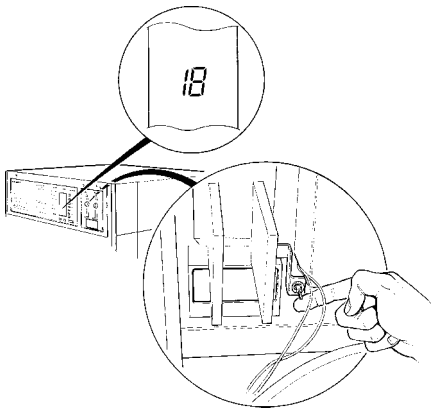


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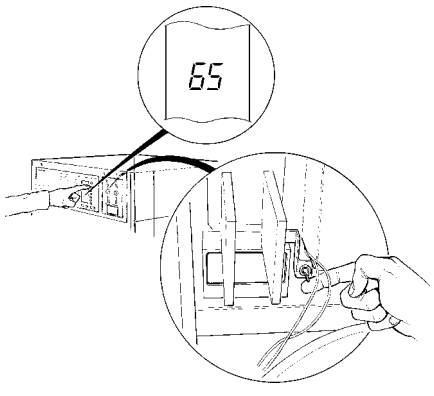


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# Wash Cycles

Fig. 42

In the figure below is an overview of the seven wash cycles.

On the following pages you will find a more detailed description of the cycles.

42

| | HOT | | WARM | | COLD | | PERM PRESS | |
|---|---|---|---|---|---|---|---|---|
| | Time (Min.) | Temp. | Time (Min.) | Temp. | Time (Min.) | Temp. | Time (Min.) | Temp. |
| Prewash | 3 | Warm | 3 | Warm | 3 | Cold | 3 | Warm |
| Detergent 1 | | | | | | | | |
| Drain | 0.8 | | 0.8 | | 0.8 | | 0.8 | |
| Mainwash | 6 | Hot | 6 | Warm | 6 | Cold | 6 | Warm |
| Detergent 2 | | | | | | | | |
| Drain | 0.8 | | 0.8 | | 0.8 | | 0.8 | |
| Extraction | 0.5 | | 0.5 | | 0.5 | | 0.5 | |
| Rinse 1 | 1 | Warm | 1 | Cold | 1 | Cold | 1 | Cold |
| Drain | 0.8 | | 0.8 | | 0.8 | | 0.8 | |
| Extraction | 0.5 | | 0.5 | | 0.5 | | 0.5 | |
| Rinse 2 | 1 | Cold | 1 | Cold | 1 | Cold | 1 | Cold |
| Drain | 0.8 | | 0.8 | | 0.8 | | 0.8 | |
| Extraction | 0.5 | | 0.5 | | 0.5 | | 0.5 | |
| Rinse 3 | 2 | Cold | 2 | Cold | 2 | Cold | 2 | Cold |
| Detergent 3 | | | | | | | | |
| Drain | 1 | | 1 | | 1 | | 1 | |
| Extraction | 4 | | 4 | | 4 | | 1 | |
| Shake-out | 0.5 | | 0.5 | | 0.5 | | 0.5 | |
| Total time (water fill time not included) | 23 | | 23 | | 23 | | 20 | |

1202

# Wash Cycles

42

| | DELICATE | | QUICK-WASH | | HEAVY SOIL | |
|---|---|---|---|---|---|---|
| | Time (Min.) | Temp. | Time (Min.) | Temp. | Time (Min.) | Temp. |
| Prewash | | | | | 2 | Cold |
| Drain | | | | | 0.8 | |
| Prewash | | | | | 3 | Warm |
| Detergent 1 | | | | | | |
| Drain | | | | | 0.8 | |
| Mainwash | 4 | Warm | 5 | Warm | 8 | Hot |
| Detergent 2 | | | | | | |
| Drain | 0.8 | | 0.8 | | 0.8 | |
| Extraction | 0.5 | | 0.5 | | 0.5 | |
| Rinse 1 | 1 | Cold | 1 | Cold | 1 | Warm |
| Drain | 0.8 | | 0.8 | | 0.8 | |
| Extraction | | | | | 0.5 | |
| Rinse 2 | 1 | Cold | 1 | Cold | 1 | Cold |
| Drain | 0.8 | | 0.8 | | 0.8 | |
| Extraction | | | | | 0.5 | |
| Rinse 3 | 2 | Cold | 2 | Cold | 2 | Cold |
| Detergent 3 | | | | | | |
| Drain | 1 | | 1 | | 1 | |
| Extraction | 1 | | 3 | | 4 | |
| Shake-out | 0.5 | | 0.5 | | 0.5 | |
| Total time (water fill time not included) | 13.3 | | 16.3 | | 27.6 | |

1202

## Hot

Fig. 43

After the machine has started and the door automatically locked, the drain valve will close and the hot and cold water valves will open to fill the machine with mixed hot and cold water to the level determined by the level control. At the same time detergent from compartment 1 is mixed with the incoming water.

When this level is reached, both water valves will close. During filling and then through the wash program the drum has a reversing rotation.

At the end of the prewash, the drain valve will open, whereafter hot water will fill to the level determined by the level control. At the same time detergent from compartment 2 is mixed with the incoming hot water.

The water level controlled machine will now wash the fabrics for 6 minutes. The machine is then emptied.

Hot and cold water are filled to the medium level for the first rinse which lasts one minute, followed by spin extraction for 30 seconds. After the extraction comes the second rinse in cold water, ending with extraction, whereafter the third rinse is started. Fabric softener is automatically admitted during the third rinse. The fabrics are rinsed in cold water for two minutes followed by a extraction of four minutes duration. Finally there is a shake out for half a minute.

43

| | HOT | |
|---|---|---|
| | Time (Min.) | Temp. |
| Prewash | 3 | Warm |
| Detergent 1 | | |
| Drain | 0.8 | |
| Mainwash | 6 | Hot |
| Detergent 2 | | |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 1 | 1 | Warm |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 2 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 3 | 2 | Cold |
| Detergent 3 | | |
| Drain | 1 | |
| Extraction | 4 | |
| Shake-out | 0.5 | |
| Total time (water fill time not included) | 23 | |

1203

## Warm

Fig. 44

On starting the machine, the door will automatically be locked, and the pre-wash carried out as previously described, whereafter the main wash is started.

As the main wash is started, the drain valve closes, detergent is admitted and mixed hot and cold water is filled to the level determined by the level control.

On reaching this level, the water valves are closed.

The water level controlled machine will now wash the fabrics for six minutes. The machine is then emptied.

Cold water is filled for the first rinse which lasts one minute, followed by extraction for 30 seconds.

After this extraction comes the second rinse in cold water ending with extraction, whereafter the third rinse is started. Fabric softener is automatically admitted during the third rinse. The fabrics are rinsed with cold water for two minutes followed by a extraction of four minutes duration. Finally there is a shake out for half a minute.

44

| | WARM | |
|---|---|---|
| | Time (Min.) | Temp. |
| Prewash | 3 | Warm |
| Detergent 1 | | |
| Drain | 0.8 | |
| Mainwash | 6 | Warm |
| Detergent 2 | | |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 1 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 2 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 3 | 2 | Cold |
| Detergent 3 | | |
| Drain | 1 | |
| Extraction | 4 | |
| Shake-out | 0.5 | |
| Total time (water fill time not included) | 23 | |

1204

## Cold

Fig. 45

On starting the machine, the door will automatically be locked, the drain valve closed, the cold water valve opened and the pre-wash carried out as previously described, whereafter the main wash is started.

As the main wash is started, the drain valve closes, detergent is admitted and cold water is filled to the level determined by the level control.

On reaching this level, cold water is closed.

The water level controlled machine will now wash the fabrics for six minutes. The machine is then emptied.

Cold water is filled for the first rinse which lasts one minute, followed by extraction for 30 seconds.

After this extraction comes the second rinse in cold water concluded with extraction, whereafter the third rinse is started.

Fabric softener is automatically admitted during the third rinse. The fabrics are rinsed with cold water for two minutes followed by a extraction of four minutes duration. Finally there is a shake out for half a minute.

45

| | COLD | |
|---|---|---|
| | Time (Min.) | Temp. |
| Prewash | 3 | Cold |
| Detergent 1 | | |
| Drain | 0.8 | |
| Mainwash | 6 | Cold |
| Detergent 2 | | |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 1 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 2 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 3 | 2 | Cold |
| Detergent 3 | | |
| Drain | 1 | |
| Extraction | 4 | |
| Shake-out | 0.5 | |
| Total time (water fill time not included) | 23 | |

1205

## Permanent Press

Fig. 46

On starting the machine, the door will automatically be locked, the drain valve closed, the hot and cold water valves opened and the pre-wash will be carried out as previously described, whereafter the main wash is started.

As the main wash is started, the drain valve closes, detergent is admitted and mixed hot and cold water is filled to the level determined by the level control.

On reaching this level, the water valves are closed and the wash motor starts its reversing rotation.

The water level controlled machine will now wash the fabrics for six minutes. The machine is then emptied.

Cold water is filled for the first rinse which lasts one minute, followed by extraction for 30 seconds.

Fabric softener is automatically admitted during the third rinse. The fabrics are rinsed with cold water for two minutes followed by a extraction of one minute duration. Finally there is a shake out for half a minute.

46

| | **PERM PRESS** | |
|---|---|---|
| | Time (Min.) | Temp. |
| Prewash | 3 | Warm |
| Detergent 1 | | |
| Drain | 0.8 | |
| Mainwash | 6 | Warm |
| Detergent 2 | | |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 1 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 2 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 3 | 2 | Cold |
| Detergent 3 | | |
| Drain | 1 | |
| Extraction | 1 | |
| Shake-out | 0.5 | |
| Total time (water fill time not included) | 20 | |

1206

## Delicate

Fig. 47

On starting the machine, the door will automatically be locked.

As the main wash is started, the drain valve closes, detergent is admitted and mixed hot and cold water is filled to the level determined by the level control.

On reaching this level, the water valves are closed.

The water level controlled machine will now wash the fabrics for four minutes. The machine is then emptied.

Cold water is filled for the first rinse which lasts one minute.

Than comes the second rinse in cold water whereafter the third rinse is started. Fabric softener is automatically admitted during the third rinse. The fabrics are rinsed with cold water for two minutes followed by a extraction of one minute duration. Finally there is a shake out for half a minute.

During washing and rinsing gentle action is used, which is 3 seconds drum rotation and 12 seconds pause, then reverse direction and repeat. The GENTLE WASH option button does not affect the Delicate cycle.

47

| | DELICATE | |
|---|---|---|
| | Time (Min.) | Temp. |
| Prewash<br>Drain | | |
| Prewash<br>Detergent 1<br>Drain | | |
| Mainwash<br>Detergent 2<br>Drain<br>Extraction | 4<br><br>0.8<br>0.5 | Warm |
| Rinse 1<br>Drain<br>Extraction | 1<br>0.8 | Cold |
| Rinse 2<br>Drain<br>Extraction | 1<br>0.8 | Cold |
| Rinse 3<br>Detergent 3<br>Drain<br>Extraction | 2<br><br>1<br>1 | Cold |
| Shake-out | 0.5 | |
| Total time<br>(water fill time not included) | 13.3 | |

## Quick-Wash

Fig. 48

On starting the machine, the door will automatically be locked, the drain valve closed.

As the main wash is started, the drain valve closes, detergent is admitted and warm water is filled to the level determined by the level control.

On reaching this level, hot water is closed.

The water level controlled machine will now wash the fabrics for five minutes. The machine is then emptied.

Cold water is filled for the first rinse which lasts one minute.

Then comes the second rinse in cold water, whereafter the third rinse is started.

Fabric softener is automatically admitted during the third rinse. The fabrics are rinsed with cold water for two minutes followed by a extraction of three minutes duration. Finally there is a shake out for half a minute.

48

| | **QUICK-WASH** | |
|---|---|---|
| | Time (Min.) | Temp. |
| Prewash<br>Drain | | |
| Prewash<br>Detergent 1<br>Drain | | |
| Mainwash<br>Detergent 2<br>Drain<br>Extraction | 5<br><br>0.8<br>0.5 | Warm |
| Rinse 1<br>Drain<br>Extraction | 1<br>0.8 | Cold |
| Rinse 2<br>Drain<br>Extraction | 1<br>0.8 | Cold |
| Rinse 3<br>Detergent 3<br>Drain<br>Extraction | 2<br><br>1<br>3 | Cold |
| Shake-out | 0.5 | |
| Total time<br>(water fill time not included) | 16.3 | |

## Heavy Soil

Fig. 49

On starting the machine, the door will automatically be locked, the drain valve closed, the hot and cold water valves opened and the two pre-washes will be carried out as previously described, whereafter the main wash is started.

As the main wash is started, the drain valve closes, detergent is admitted and hot is filled to the level determined by the level control.

On reaching this level, the water valve is closed and the wash motor starts its reversing rotation.

The water level controlled machine will now wash the fabrics for eight minutes. The machine is then emptied.

Hot and cold water are filled for the first rinse which lasts one minute, followed by extraction for 30 seconds.

Fabric softener is automatically admitted during the third rinse. The fabrics are rinsed with cold water for two minutes followed by a extraction of four minutes duration. Finally there is a shake out for half a minute.

49

| | HEAVY SOIL | |
|---|---|---|
| | Time (Min.) | Temp. |
| Prewash | 2 | Cold |
| Drain | 0.8 | |
| Prewash | 3 | Warm |
| Detergent 1 | | |
| Drain | 0.8 | |
| Mainwash | 8 | Hot |
| Detergent 2 | | |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 1 | 1 | Warm |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 2 | 1 | Cold |
| Drain | 0.8 | |
| Extraction | 0.5 | |
| Rinse 3 | 2 | Cold |
| Detergent 3 | | |
| Drain | 1 | |
| Extraction | 4 | |
| Shake-out | 0.5 | |
| Total time (water fill time not included) | 27.6 | |

**OPTION BUTTONS:**

EXTRA EXTRACT -- Selecting this option adds 4 minutes to the final extraction of any cycle. For example, the HOT cycle plus EXTRA EXTRACT gives the customer a total of 8 minutes extraction. You can easily program the washer to charge more money (usually one more quarter) if this option is selected! The effect of extra extraction depends on the type of laundry washed, load size, etc.

GENTLE WASH -- The normal wash action of a Wascomat washer is 12 seconds rotation, 3 seconds pause, reverse direction and repeat. Selecting the GENTLE WASH option converts the selected wash cycle to gentle action, which is 3 seconds drum rotation and 12 seconds pause, reverse direction and repeat. The DELICATE cycle always uses gentle action so it is not affected by this option. There is no extra charge to the customer for this option, so it is simply up to them to choose their preference. You may want to advertise and promote this option since market research indicates there are people who believe certain clothing items are too delicate to wash in a commercial washer. Now you have the answer!

# General

The door and the electronic timer with display and program-selection buttons are fitted at the front of the machine.

All control and indicating components, i.e. relays, level control, etc are assembled under the top cover, easily accessible at the top of the machine for simplified servicing.

## Main units

Fig. 50

1 Keypad with wash program selection buttons and display.

2 Door - with automatic locking device which remains locked throughout the different wash processes.

3 Inner cylinder - of stainless steel supported at the rear by two ballraces.

4 Outer drum - of stainless steel (18/8) securely attached to the frame.

5 Wash and extraction motor - for reversing wash action and high speed extraction.

6 Hot and cold water valves - program and level controlled solenoid valves for filling with water, and for flushdown of automatic detergent dispenser.

7 Drain valve - the timer controlled valve for draining the machine of water.

8 Siphon breaker - to prevent water in the machine from re-entering the water supply system.

9 Relays - for wash and extraction.

10 Detergent supply box – three compartments for automatic injection of powdered detergents and liquid fabric softener.

# Machine construction

## Outer shell

Fig. 50 The outer shell is made of heavy gauge surgical steel and is attached to a heavy duty, rigid head casting (back gable).

The whole assembly is mounted on a heavy gauge fabricated steel base, galvanized for long life and corrosion resistance.

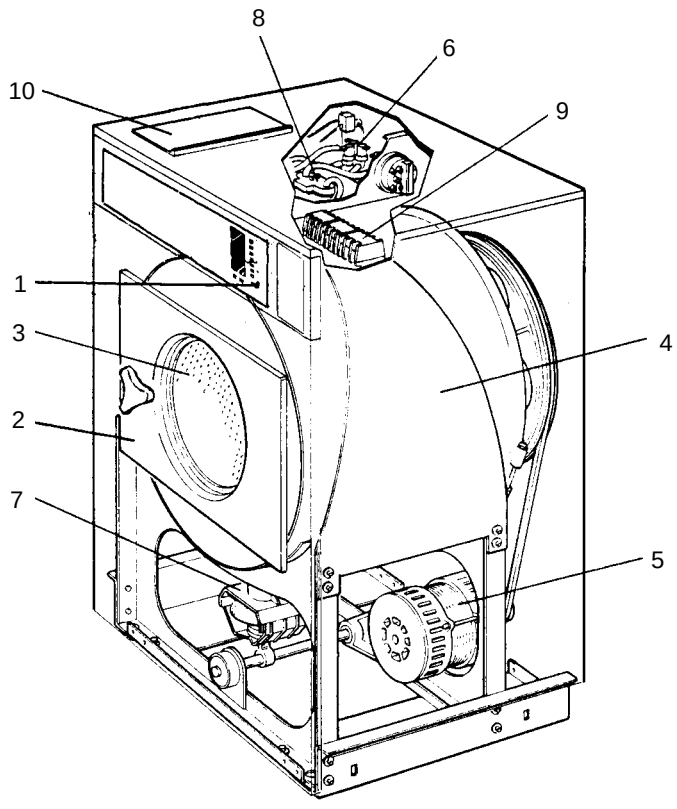
## Inner cylinder

The inner cylinder is made of perforated surgical stainless steel. It is equipped with three lifting ribs and has highly-polished side sheets and back with maximum embossed perforated area to assure high flow of water and supplies through fabrics.

Scientifically correct ratio of cylinder diameter and depth assures maximum washing action.

The shaft is electrically welded to the reinforced back of the cylinder. A specially designed stainless steel sleeve bushing protects the seals from wear.

50




1864

## Panels

The machines are equipped with a top panel made of stainless steel. The front panel is available in different colours or in stainless steel. The coloured panels are made of phosphatized steel plate with electrostatically applied baked enamel paint finish for rust and chip resistance. For servicing purposes, the panels can easily be removed.

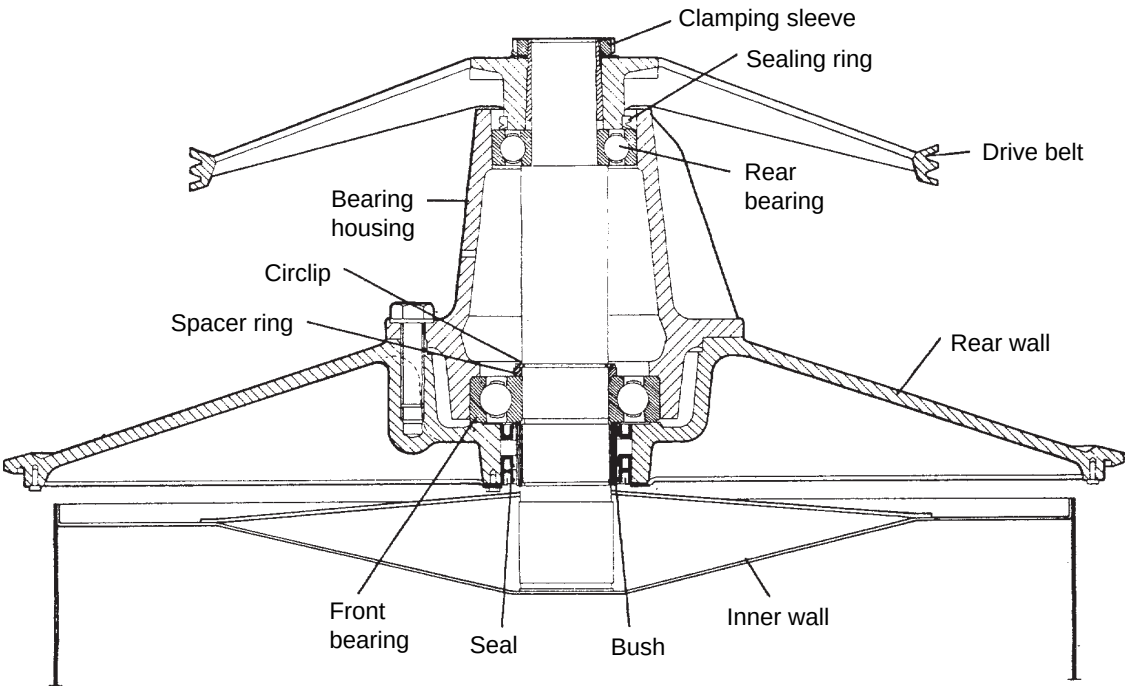
## Back gable and bearing

Fig. 51 The back gable and the bearing trunnion housing are constructed of a webbed heavy casting for extra rigidity. The bearings are protected against imfiltration of water by three neoprene seals. An intermediate safety outlet provides an escape for any possible condensation.

The seals are mounted on a stainless steel, noncorrosive, specially hardened sleeve bushing that is mounted on the drive shaft to prevent wear of the seals and shaft. The main bearing is fitted machinetight into the bearing trunnion housing. A nut is tightened on the shaft to prevent the cylinder from moving in and out.

The extension of the bearing trunnion housing supports the rear bearing holding the shaft. A grease seal is mounted to prevent escape of grease. The bearings are permanently lubricated and need no maintenance. Wascomat's design transfers the weight of the loaded wash cylinder to the largest possible surface area away from the bearings, for longest machine life.

51




0473

## Door

Fig. (52) The door consists of: door skirt (1), door frame (2), glass (3) and gasket (4). The skirt and door frame are both made of enameled aluminium. The skirt is bolted directly to the outer shell of the washing machine.The door hinges are fastened on the outside of the skirt and the door lock (5) is attached to the inside. The heat-hardened glass is mounted in the door using a special rubber seal which also acts as a gasket between the door and the washing machine's outer shell when the door is closed.

## Door lock

Fig. (53) The door lock consists of a circuit board (1) with a connector. The following parts are mounted on the board: the lock plate (2) against which the locking bolt turns to lock the door and a micros-witch (3) which closes when the locking bolt has locked the door.

There is also a locking device on the circuit card which acts to lock the locking bolt in place when the machine starts up. The device consists of a double-acting solenoid (4), a delay unit (5) and the locking device itself (6) which operates sideways in blocking the locking bolt with a stud. The locking device can be affected by both the solenoid and the delay unit.

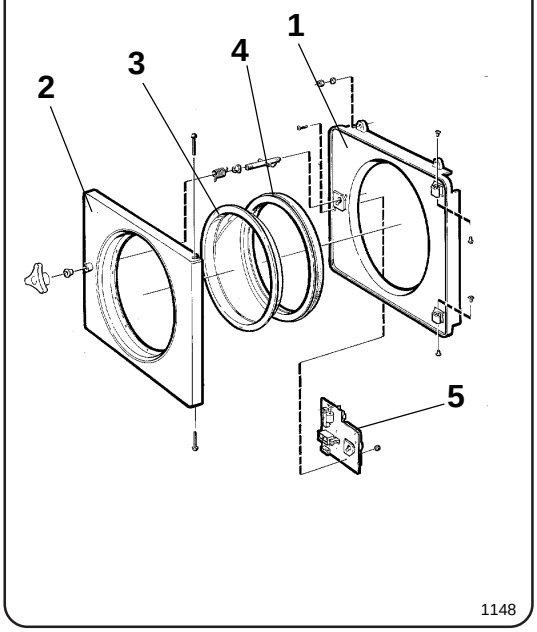
The lock operates as follows:

- When the door is shut and the locking bolt moved to the lock position, the micro switch will indicate that the door is closed.
- When the machine is started, the solenoid actuates the locking device, blocking the door lock. The locking device signals the delay unit, closing a switch in the unit. The washing machine motor will start and water enter the machine only after the delay unit receives the information that the door is locked. The bi-metallic spring in the delay unit is warmed up at the beginning of the program.
- Once the washing machine stops at the end of a cycle, the solenoid pulls back the locking stud and allows the door to open. The delay unit is spring-mounted in the locking device and is also pulled back by the solenoid which operates for about two minutes to allow the bi-metallic spring to cool down enough not to lock the door again.
- If current should disappear during a cycle, the delay unit will keep the door locked for about two minutes, ensuring that the wash water can drain out (The drain valve opens automatically when current is lost).

**NOTE**

**Do <u>not</u> attempt to repair a faulty door lock. The individual components are <u>not</u> available. Always replace the old unit with a new one, to assure proper operation of the door safety interlock.**

52

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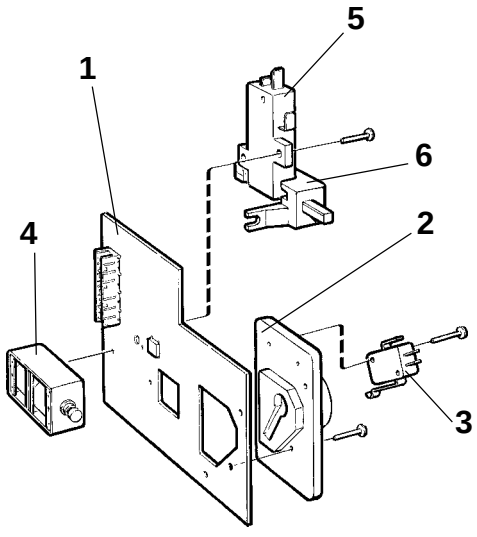
53




1149

## Control unit

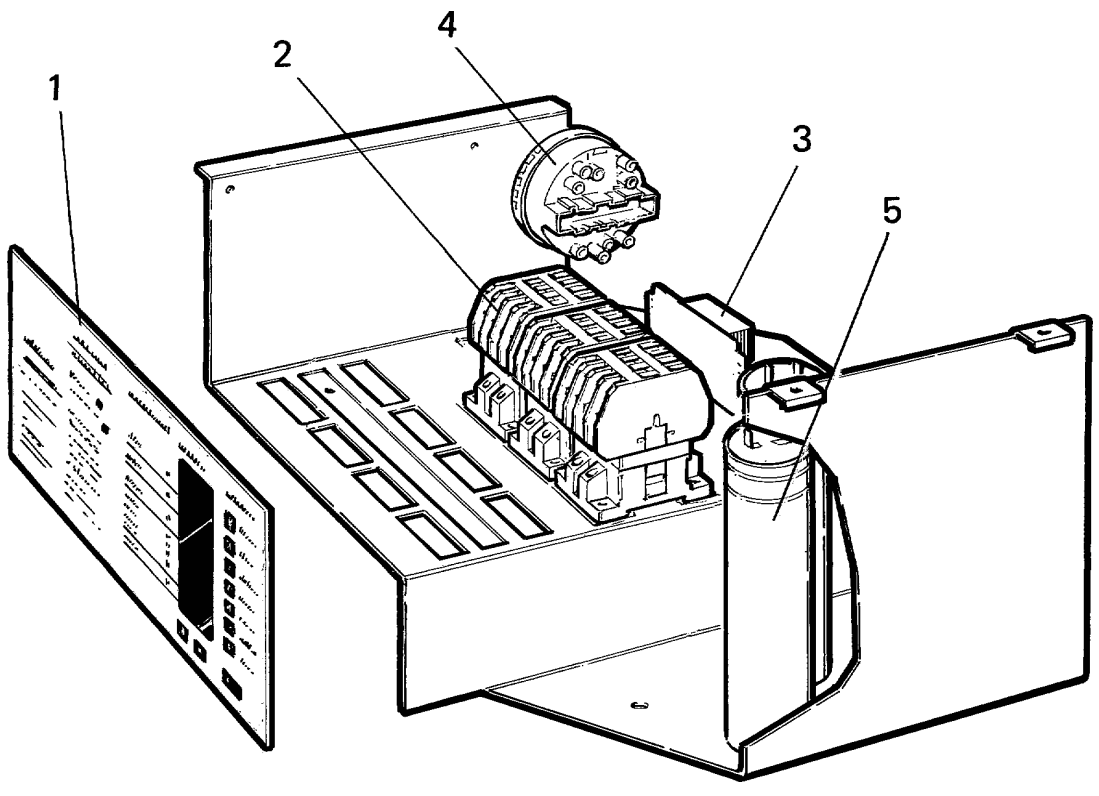
Fig 54 The keypad (1) includes all items necessary to operate the machine. These include an Information Display and wash cycle selection buttons.

The electronic timer is mounted just behind the keypad.

Relays (2), transformer (3) for supplying power to the microprocessor, and level control (4) are located at the top of the machine easily accessible for service, as are the motor capacitors (5) on 1-phase models.

Electrical connections are made by quick-disconnect plugs.

54




1865

# Relays

Fig. 55 The Emerald series models employ three relays to energize the windings of the wash/extract motor. The relays control:

- The reversing action of the motor at wash speed.
- The action of the motor at extraction speed.

## Construction

Fig. 56 The body of the relay holding the stationary contacts is made of current-resistant plastic. A solenoid and a contact bank hold the moving contacts. The contacts are spring-loaded to assure the correct contact pressure.

The relay is constructed for continous operation, whether mounted horizontally or vertically.

Screw-type terminals provide perfect connections even when one or two wires have different diameters.

## Operation

When the solenoid is energized, the two halves of the magnet core are drawn together, pulling down the moving contacts, thus making or breaking the circuit. When the current cuts out, springs force the contact bank into its original position, thus closing or opening the circuits.

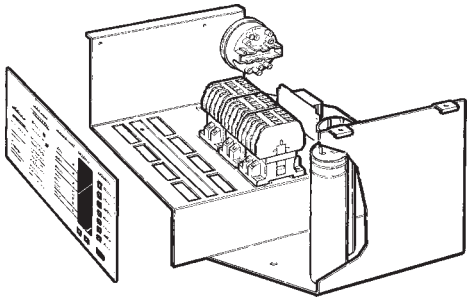
## Trouble shooting

If the relay fails to operate despite power to the coil, turn off the power and check the solenoid by measuring the resistance across the terminals (1).

If the relay hums when power is applied, this indicates either a break in the insulator holding the moving contacts at the axle where it holds the top half of core (3) or a rusty core (4), which can be cleaned.

Make sure that the moving contact assembly moves freely. Always replace burnt or pitted contacts (2) ... do not reuse contacts.

55



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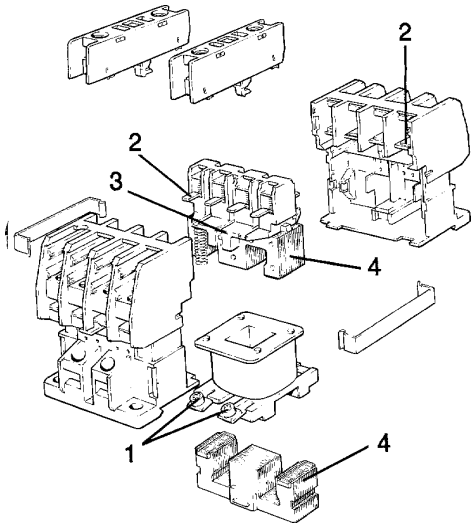



0301

# Water level controls

Fig. 57 One pressure switch is used to control the correct water levels during various cycles of the washing program.

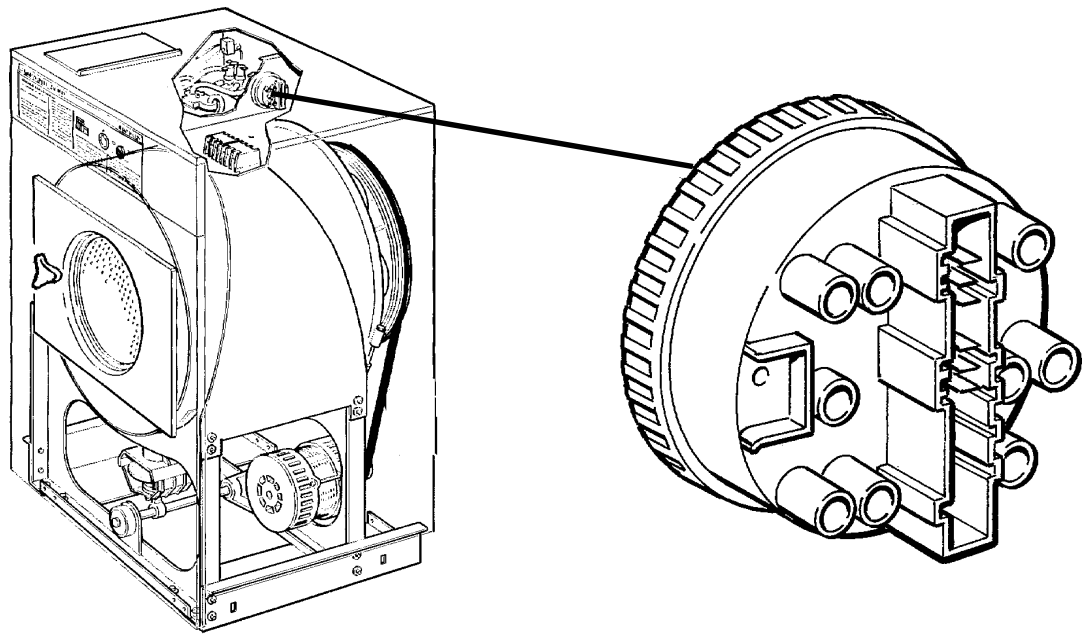
## Adjustment

All pressure switches are factory-calibrated to meet specific requirements. The trip level for any one pressure switch can be changed only within narrow limits because each trip range requires a different set of springs. Call Wascomat's Service Department at 516-371-0700 before attempting to adjust the level control!

## Water level

As a guide for checking the level control for proper functioning, the normal level should be approximately at the bottom of the door glass. It is primarily the reverse-wash mechanical action of the washer which gets clothes clean, not the level of water or amount of detergent. The water levels are set at the factory to get a full load clean without wasting a drop of water, to save you money and protect the environment.

57



1158

# Drive motor

## Description in general

Fig. 58 The motor is mounted on an axle with rubber dampeners.

Fig. 59 The V-belt is tightened by turning the motor on the axle and locking it in place using the tightener on the rear side of the motor. The motor and tightener unit have vibration and noise dampening rubber suspensions.

## Construction in general

The motor consists of stator, rotor and end-shields with ball-bearings. The stator and the rotor consists of plates, insulated from each other and welded together. The stator is provided with slots in which the 2-pole and 18-pole windings are wound. The windings are impregnated with a temperature-resistant sound-insulating resin varnish according to class B. The end-shields are die-cast. The ball bearings are permanently lubricated.

## Construction of single-phase motor

Single-phase motors have an 18-pole winding (wash-speed) the same as three-phase motors, using a continous connected capacitor, while the 2-pole winding (extract-speed) is a specially designed winding with both continous connected capacitor and starting capacitor.

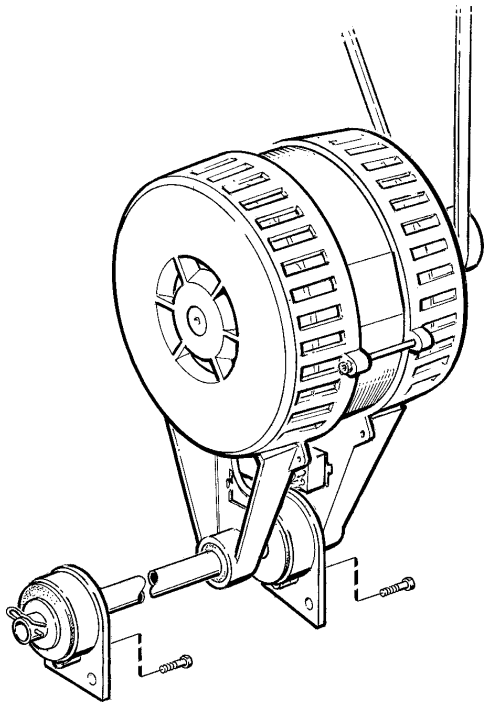
## Function of 3-phase motor

When the stator winding is charged, a magnetic field will occur, which in turn will rotate the rotor at a fixed RPM depending upon the number of poles in the winding. The 18-pole winding gives the wash speed and the 2-pole winding the extract-speed. When operating with load, the speed deviates slightly from the synchronous (no-load) speed. This difference is called the slip and is usually expressed as a percentage of the syncronous speed. The motors will work satisfactorily at nominal voltage +10%-15%.

## Function of single-phase motor

When the stator winding is charged without a capacitor, two counteracting magnetic fields are created. When a capacitor is connected, it will displace one of the two magnetic fields adding it to the other, creating a torque turning the rotor in a specific direction. The RPM is the same as for the 3-phase motor.

58



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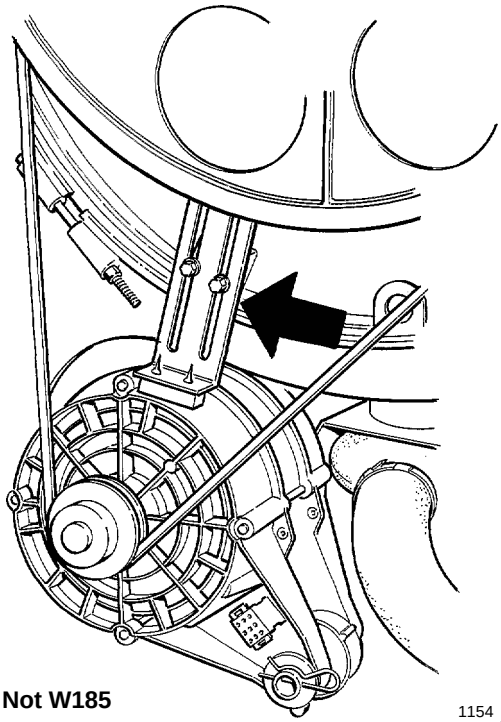
59



Not W185

1154

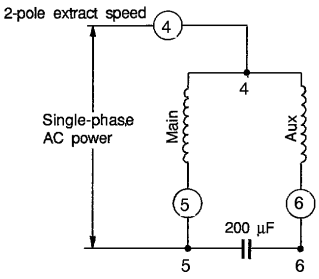
## Principal wiring and points of measuring on single-phase motors.

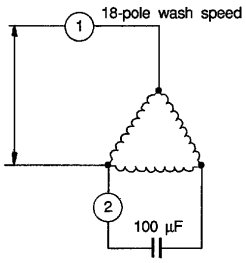
**Fig. 60** The numbers at the connection points refer to the terminal numbers at the motor connector plug.

The numbers in circles indicate points of ampere measurements.

**60**

### W75 120 V 60 Hz single-phase



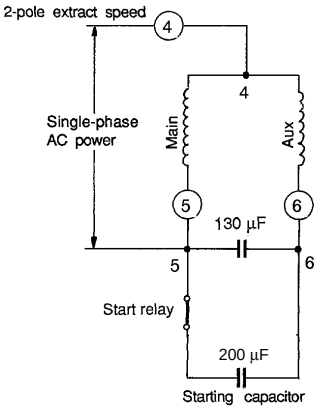

**EXTRACT WINDINGS**

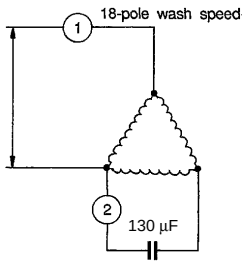
| Measuring point | at full speed |
|---|---|
| 4 | 10 A |
| 5 | 7 A |
| 6 | 14 A |

**WASH WINDINGS**

| Measuring point | unloaded |
|---|---|
| 1 | 4 A |
| 2 | 4.9 A |

### W105 120 V 60 Hz single-phase




**WASH WINDINGS**

| Measuring point | unloaded |
|---|---|
| 1 | 3.5 A |
| 2 | 5.0 A |

**EXTRACT WINDINGS**

| Measuring point | at full speed |
|---|---|
| 4 | 5.5 A |
| 5 | 2.0 A |
| 6 | 6.5 A |

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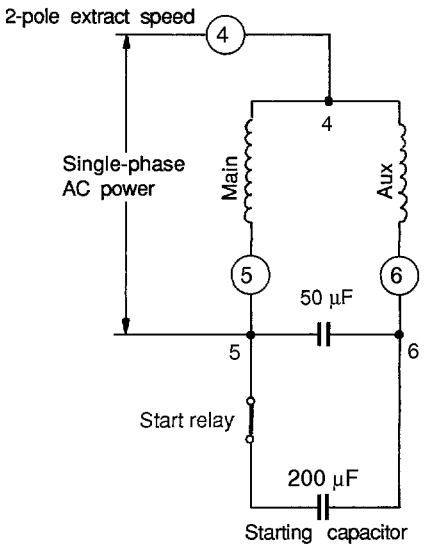
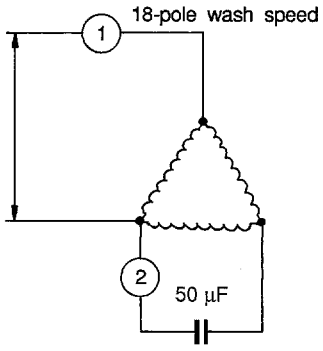
## W125 208-240 V 60 Hz single-phase




**EXTRACT WINDINGS**

| Measuring point | att full speed 208 V | 240 V |
|---|---|---|
| 4 | 3 A | 4 A |
| 5 | 3 A | 6 A |
| 6 | 6 A | 7 A |




**WASH WINDINGS**

| Measuring point | unloaded 208 V | 240 V |
|---|---|---|
| 1 | 2.9 A | 3.9 A |
| 2 | 4.6 A | 4.8 A |

1700

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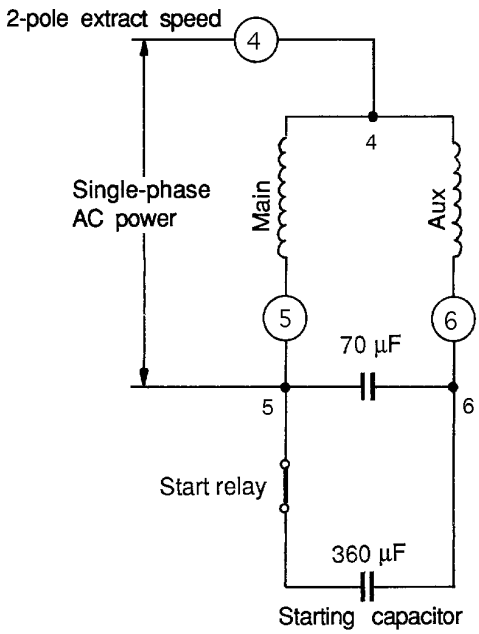
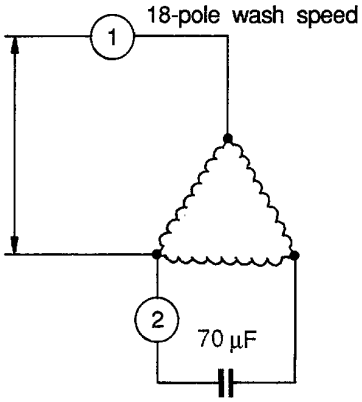
**W185 208-240 V 60 Hz single-phase**




**EXTRACT WINDINGS**

| Measuring point | att full speed | |
|---|---|---|
| | 208 V | 240 V |
| ① | 5 A | 8 A |
| ② | 5 A | 12 A |
| ③ | 7 A | 9 A |

**WASH WINDINGS**

| Measuring point | unloaded | |
|---|---|---|
| | 208 V | 240 V |
| ① | 3,3 A | 4,2 A |
| ② | 6,8 A | 7,2 A |

1791

## Motor connections

Fig. 61

1, 2 and 3: wash speed (18-pole winding).

4, 5 and 6: extract speed (2-pole winding)

7 and 9: motor overload protector.

## Motor overload protector

The motor is equipped with two self-resetting, thermal overload protectors, situated one in each of the windings of the stator. The protectors are connected in series and will trip at a temperature of 120°C (248°F) (3-phase) or 130°C (266°F) (single phase). In the event the protectors fail but the motor remains otherwise undamaged, an overload protector may be mounted in the control unit of the machine. Before making such installation check to ascertain that the windings are not damaged. A burned out motor can be re-wound.

> **NOTE**
>
> **Before connecting a separate overload protector consult the local code.**

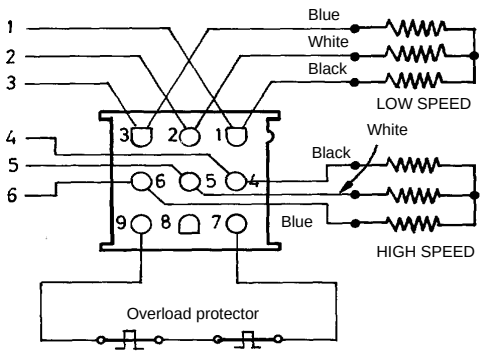
Single-phase W125 and W185 machines are also equipped with a manually resettable overload protector mounted on the extract relay in the control unit. This overload protector protects the motor during the start-up of the extraction.

## Removing the motor

Fig. 62

- Remove the drain valve (1) from the long shaft by pulling it straight up.
- Remove the tensioning unit (2) on the rear of the motor.
- Disconnect the connector (3) placed diagonally under the rear edge of the motor.
- Remove the two screws (4). Pull the shaft forward slightly until the guide pins pull out of the shaft brackets. Remove the motor unit.

61

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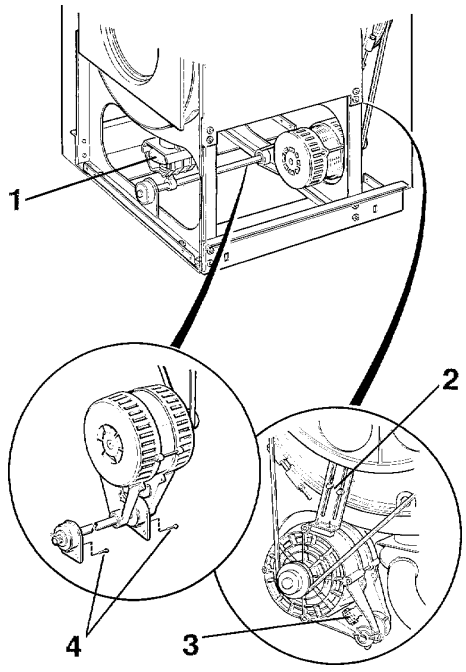
62

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# Inlet valves for W75, W105 and W125 and detergent valve for W185

## Construction

Fig. 63 Each valve has a single-inlet with either one, two or three outlets, each with its own solenoid coil. The body is made of heat-resistant polyamid plastic and the solenoids encased in water-tight plastic.

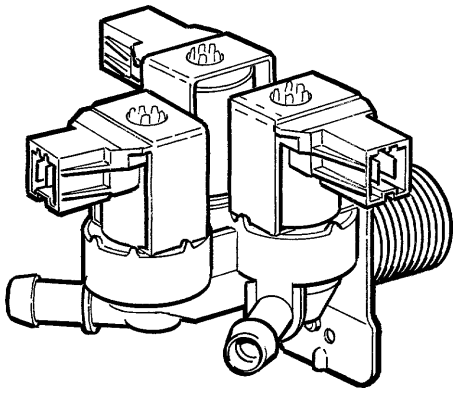
A filter screen on the inlet side prevents dirt from entering the valve. Flow restrictors can be placed at either the inlet or any of the outlets.

## Operation

Fig. 64 When the solenoid is energized, the spring-loaded plunger is drawn up and the pilot valve in the center of the diaphragm open. Because of the difference in diameter between the pilot valve opening and the ventilating hole in the diaphragm, the pressure above the diaphragm drops to a point where the admission pressure below the diaphragm can lift the diaphragm, thus opening the valve.

When the current to the solenoid is cut off, the plunger spring will press the plunger against the pilot opening of the diaphragm. The pressure above the diaphragm then rises to correspond to the water inlet pressure and the pressure of the spring will close the valve.

63



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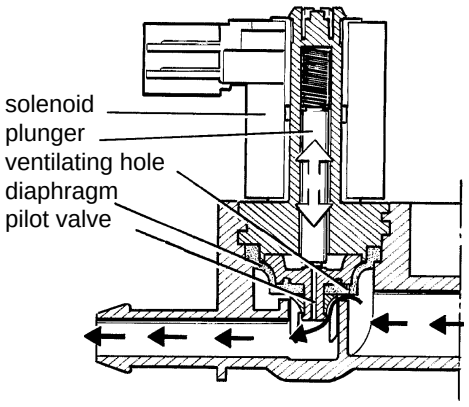


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### Maintenance instructions

Lime scale can block the hole in the valve diaphragm and interfere with the function of the valve.

Fig. 65 It is therefore advisable to disassemble and clean the valve at certain regular intervals. The frequency depends on operating conditions and the level of contamination in the water.

## Trouble shooting

### If the valve does not open

- Check that power is supplied to the coil.
- Check the coil with an instrument to determine whether there is a break or a short circuit.
- Disassemble the valve (see below) and check the openings in the valve diaphragm.
- Check the inlet strainer and clean as required.
- Undo the coil and clean the surfaces of the magnetic core.

### If the valve does not close

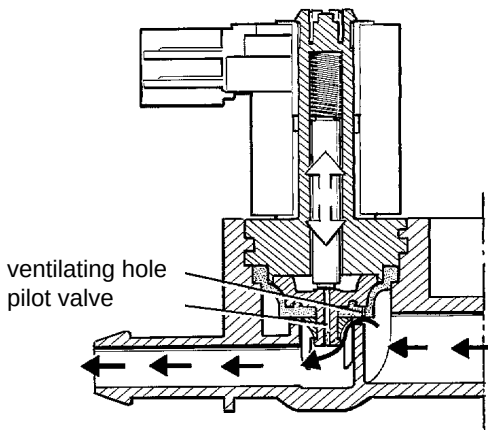
- Check that the coil is not live. The valve is normally closed when the magnet is not energised.
- Check the return spring.
- Check the diaphragm (pilot pressure opening).

### Disassembling the valve

Fig. 66
- Pull the coil straight upwards. Use a screwdriver if necessary to carefully undo the coil.

Fig. 67
- Use the tool supplied with the machine (attached to one of the hoses when the machine is delivered) to open the valve housing. Slide the tool over the protruding plastic sleeve to that the pegs on the tool engage the corresponding sockets in the valve housing.
- Use a wrench or a pair of pliers and unscrew the upper part of the valve housing.

65

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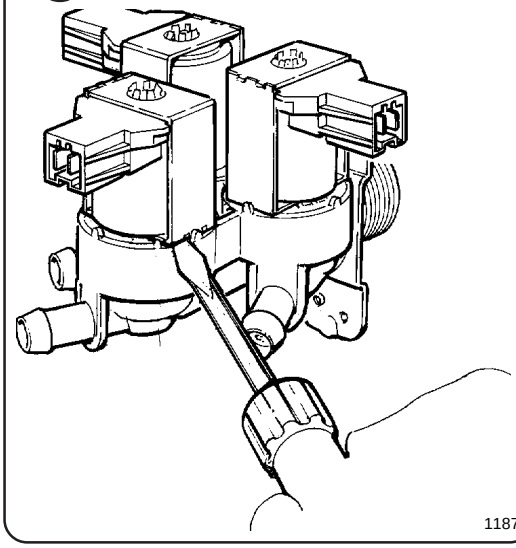

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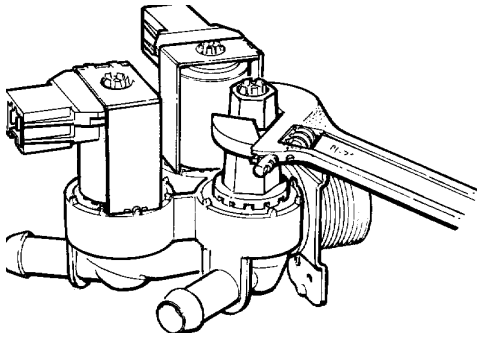

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# Inlet valve for W185 ES (from S/N 9508/011935-)

Fig. 68 The water inlets have brass bodies with larger cross section of the outlet in order to achieve a shorter filling time for the machine.

## Construction

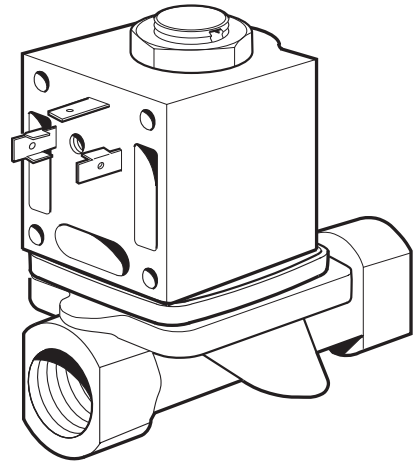
Fig. 69 The valve housing is made of pressed brass. The spring-loaded plunger is made of stainless steel and located at its lower end.

## Operation

The valve is automatically operated by means of a rubber diaphragm and a pilot valve in exactly the same way as the supply injector valve.

> **NOTE**
>
> **To strip, clean, re-assemble and troubleshoot the inlet valve, follow the instructions outlined for the supply injector valve.**

68



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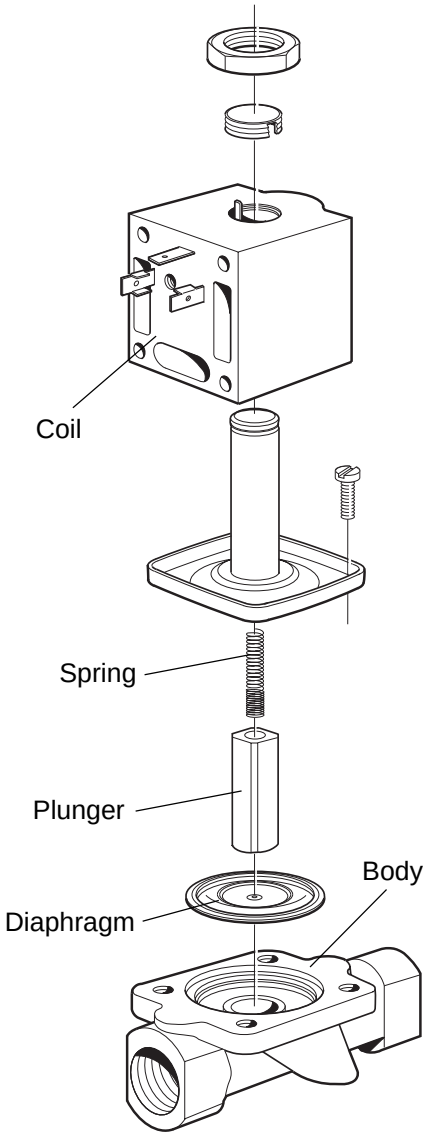



3961

# Inlet valve for W185 (up to S/N -9508/011934)

Fig. 70 The water inlets have brass bodies with larger cross section of the outlet in order to achieve a shorter filling time for the machine.

## Construction

The valve housing is made of pressed brass. The spring-loaded plunger is made of stainless steel and located at its lower end is a rubber gasket for the pilot valve.

## Operation

The valve is automatically operated by means of a rubber diaphragm and a pilot valve in exactly the same way as the supply injector valve.

> **NOTE**
>
> **To strip, clean, re-assemble and troubleshoot the inlet valve, follow the instructions outlined for the supply injector valve.**

## Clean out

At water temperatures of more than 60°C/140°F, the lime deposits are heavily increased. This can cause function problems due to blocking up the equalizing orifice of the valve.

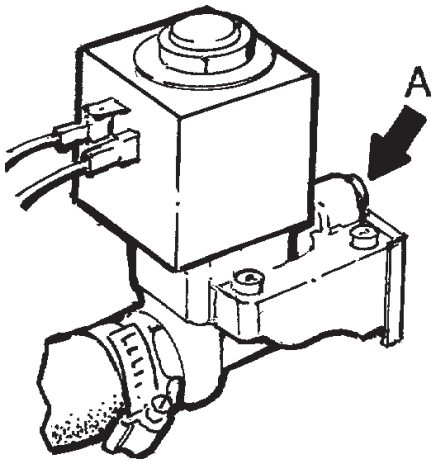
Fig. 70 The fault can be eliminated by cleaning the equalizing orifice (marked A).

Fig. 71 If there are much deposits the orifice can be changed from 0.5 mm to 0.8 mm. The screwhead of the orifice is marked with 1 ring for the size of 0.5 mm and 2 rings for the size of 0.8 mm.

Clean the orifice as follows:

1. Shut off the orifice.
2. Unscrew the orifice.
3. Clean the hole in the orifice carefully with a pin or similar not thicker than 0.5 resp. 0.8 mm. (Fig. 72)
4. Mount the orifice, be careful with sealing and tighten.
5. Open the main supply.

70

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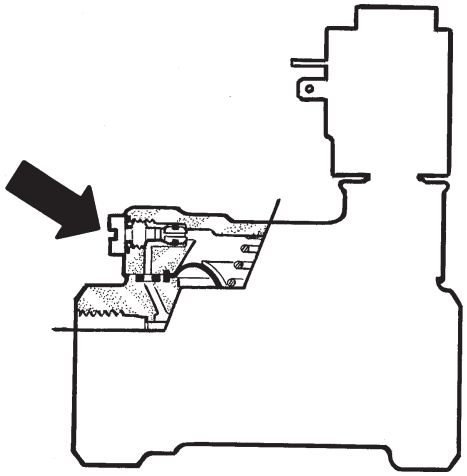

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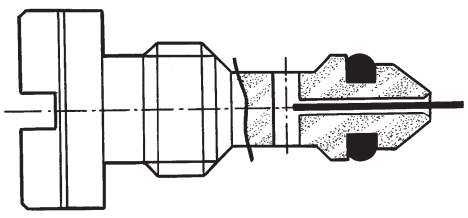


0369

# Drain valve

## Description

Fig. 73 The drain valve is operated by using the pressure in the cold water intake. A tube (1) is connected between the cold water intake and a solenoid valve (2). When the solenoid valve is activated, it opens and allows water to flow into the feeder tube (3). The water presses up a piston (4), which uses the pressure lid (5) to close the drain valve rubber membrane. When the solenoid valve cuts out, the water presure and the springs (7) on the lid push the piston back, allowing the water to pass the solenoid valve and drain out via the return tube (8).

## Trouble shooting

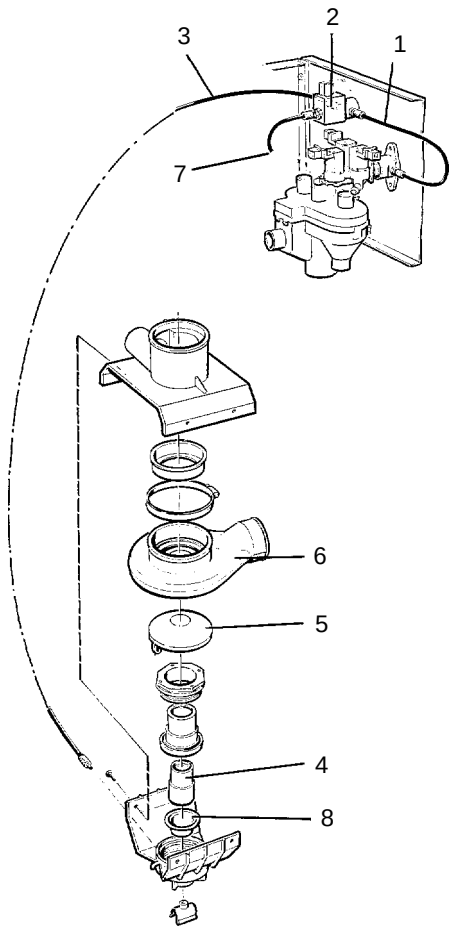
If the drain valve doesn't close:

- Check that the solenoid valve (2) receives electricity.
- Check that the solenoid valve and the tubes are clear by:
  - removing the drain hose (3).
  - Check that water exits the hose when the valve is activated.
- Check that the diaphragm (9) is undamaged.

If the drain valve doesn't open:

- Check that the return tube (8) is open.
- Check that the piston (4) doesn't seize.

73

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## Soap supply box

Fig. 74 The three-compartment soap supply box is located at the top of the machine. Viewed from the front, the compartments are marked with figures 1, 2 and 3 and are used as follows:

Compartment 1

This compartment is used for adding detergent at the beginning of the Prewash cycle. Powders may be loaded immediately; for liquids, wait until the display shows an arrow and the compartment flushes with water.

Compartment 2

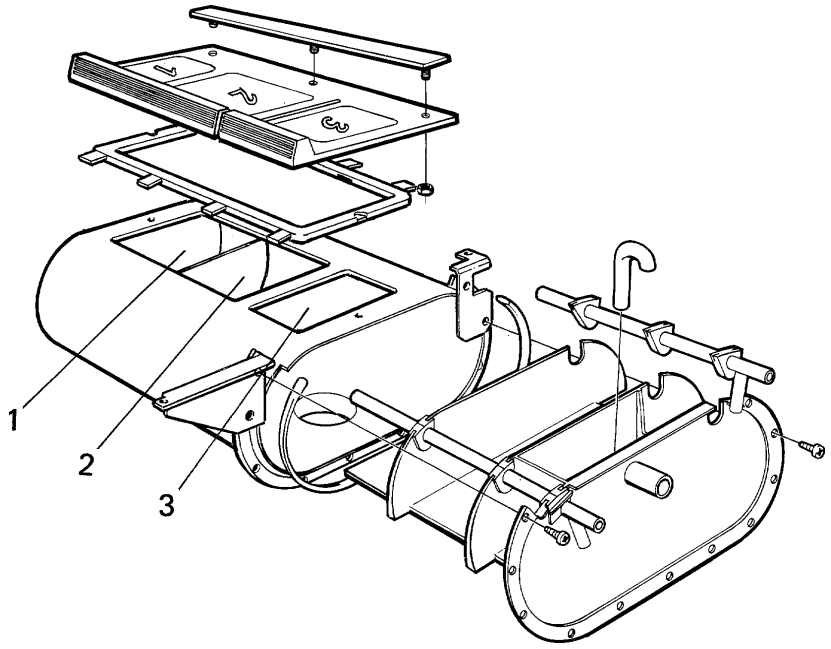
This compartment is used for adding detergent at the beginning of the Wash cycle. If bleach is used, it is added to this compartment when the display arrow appears.

The insert is used to help prevent oversudsing.

Compartment 3

This compartment is used for liquid fabric softener, which is siphoned into the drum at the start of the third rinse. Liquid softener may be added at the beginning of the cycle or during the final rinse when the arrow appears.

74

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# Maintenance

Preventive maintenance has been reduced to a minimum by the careful design of reliable components and material.

However, the following measures should be taken at regular intervals and in proportion to the hours of service.

**IMPORTANT**

**Make certain that all electrical power to the machine is shut off before removing top or rear panels.**

## Daily

- Check the door lock and interlock before starting operations.
- The soap supply box should be cleaned at the end of each working day as follows:
  - Use a spatula to scrape loose any detergent which may have stuck on the inside of the dispenser.
  - Flush the loosened detergent with warm water.
  - Wipe dry and leave lid open.

Fig. 75

- Check that the drain valve does not leak and that it opens properly.
- Check that the door does not leak. Clean residual detergent and foreign matter from the door gasket.
- Wipe the outside of the machine.
- When the machine is not in use, leave door slightly open to allow moisture to evaporate.

## Weekly

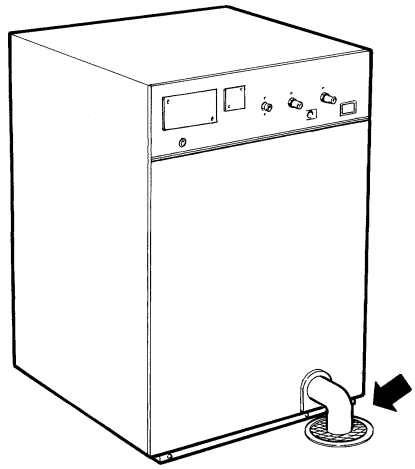
- Remove the top panel and carefully clean the rubber gasket on top of the soap box so it tightly seals to the top panel. If you do not maintain a tight seal you risk suds overflow onto the door lock.

## Every three months

Fig. 76

- Remove the hose from the drain connection and clean the inside of the drain valve.
- Remove the rear panel of the machine and check that the V-belt of the wash motor is undamaged and correctly tensioned.

75



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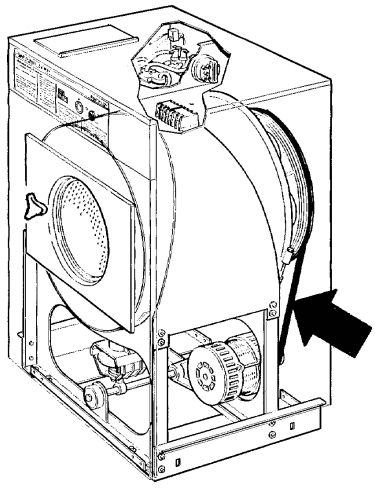

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- Check that all tubing, piping and connections are free from leaks.
- Wipe and clean the inside of the machine, making sure that the control components are protected from moisture and dirt during the cleaning operation.

# Trouble shooting

The purpose of the trouble-shooting guide is to facilitate the location and correction of the most common machine problems.

Before the top panel is removed, power to the machine must be switched off at the main source or at the separate circuit breaker.

At each trouble-shooting attempt, the plug in connectors on the control panel should be moved in and out in order to eliminate improper contact due to faulty connection.

Please note that this guide does not include all possibilities, but only those most likely to cause the symptoms listed.

In trouble-shooting electrical problems, always make certain to have the proper electrical schematic or wiring diagram at hand. Test for power using a V-O-M or similiar meter on the AC voltage scale. Test for continuity with all electrical power off.

## If the machine does not start

Fig. 77

A Check the circuit breaker at the incoming power source.

B Check the door lock, including cable.

C Check the glass cartridge fuses.

D Check for loose wires at the incoming power terminal block.

## If water does not drain

Fig. 78

A Check the drian valve for clog. Check the drain solenoid (located next to the water valves) for proper operation.

B Disconnect the drain hose connected to the main drain line. If a full flow of water comes out, the problem is in the main drain line. If water flow is slow, the problem is a clog between the drain valve and the drum. Clean out the drain valve completely, including the rubber boot at the top of the drain valve.

## If fuses continually blow

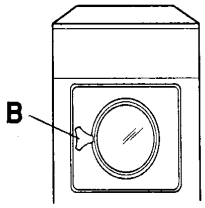
A Check the door lock, including cable.

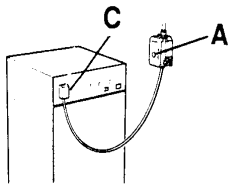
B Check for short circuit.

## If the timer rapid advances or stops during cycle

A Check the door lock, including cable.

77

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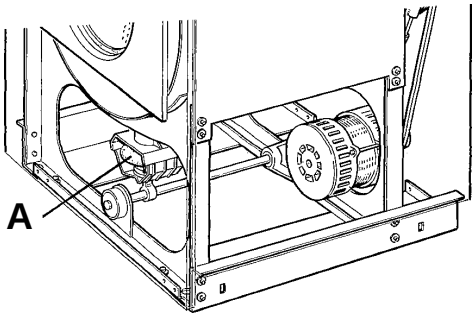


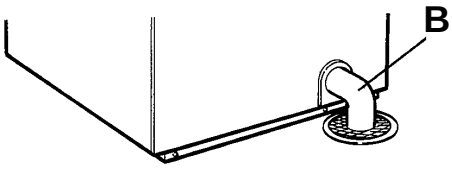


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## If the machine does not extract

Fig. 79

A Check the extract relay and relay coil for proper operation.

B Check the door lock, including cable.

## If the motor does not operate at wash speed

Fig. 80

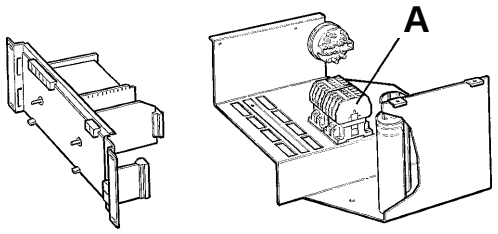
A Check the wash relay(s).

B Check the normally-closed contact of the extract relay.

C Check the motor and V-belt.

D Review procedures outlined under section "If machine does not start".

79

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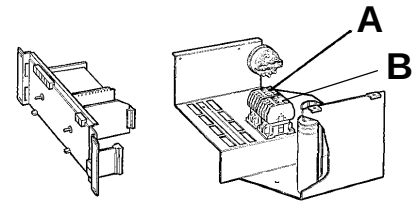


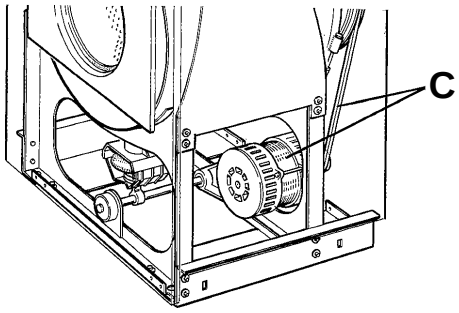


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### If the machine runs slowly on wash speed or there is a slapping or thumping noise

Fig. 81 A Replace the V-belts

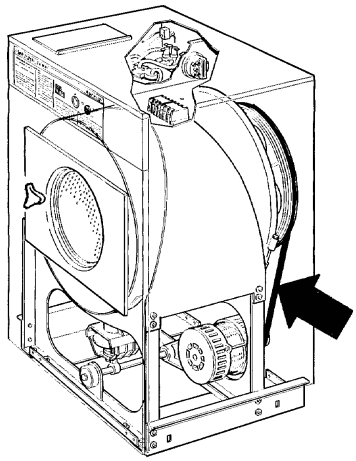
### If a metallic noise can be heard at the rear of machine

Fig. 82 A Tighten the pulley on the motor shaft

### If the door is leaking

Fig. 83 A Check the door gasket. If the gasket is in good condition, rotate the gasket 180 degrees by hand to even out the compression pattern, or wrap a nylon cord around the entire gasket, using the slit provided, so the gasket applies pressure to the outer cylinder.

81



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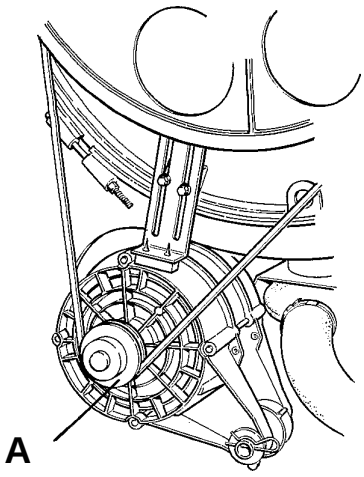


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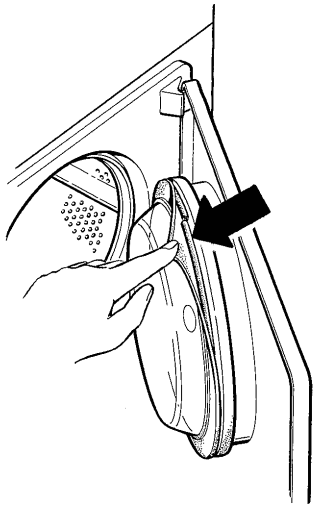


1176

### If there is a leaking around the glass

Fig. 84

A Replace door gasket if worn.

### If water does not enter the machine

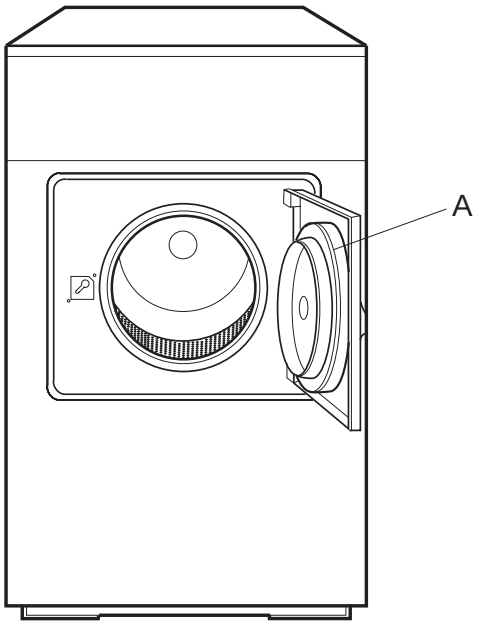
Fig. 85

A Check the valve coils on inlet valves.

B Check wires leading to valve coils.

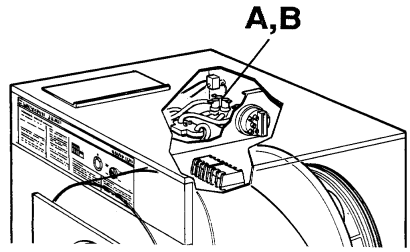
C Be sure water shut-off valves are in open position!

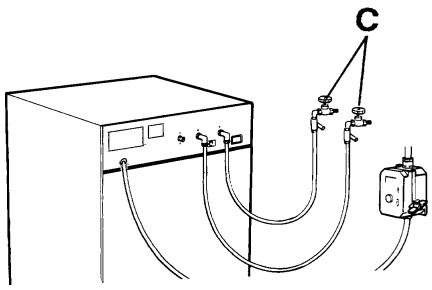
84




1212

85




1837

### If water continues to fill without stopping

Fig. 86

A Check the hose attached to level control unit.

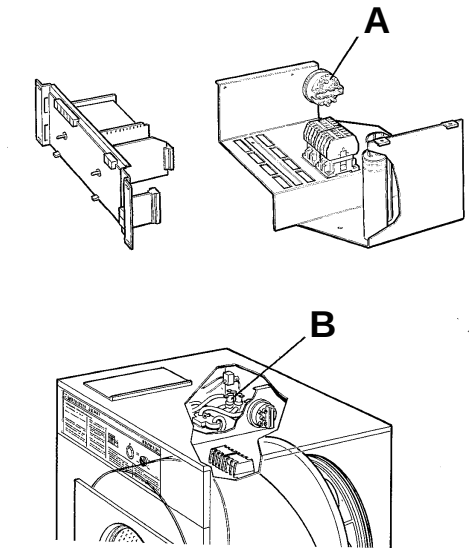
B Check the inlet valves for dirt underneath the valve diaphragm. To localize, shut off power. If water continues to flow, inlet valves have foreign material in them and should be thoroughly cleaned.

### If water continues to flow without filling the machine

Fig. 87

A Check seating of the drain valve.

86

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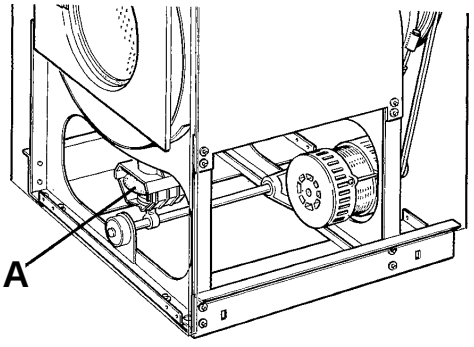
87




1215

## If the machine or panels vibrate

Fig. 88

Tighten the bolts and level the washer.

Check that the shipping security has been removed. Refer to Function control on page 14.

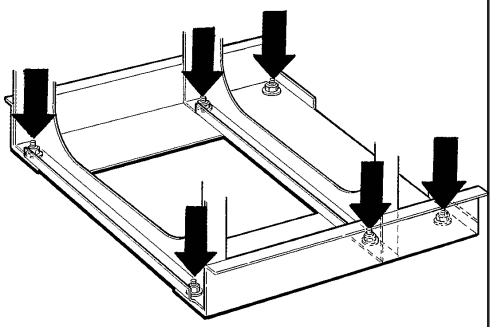
## If keypad buttons do not work

Fig. 89

A Check the ribbon connector for proper contact on the microprocessor board.

B Replace the keypad.

88



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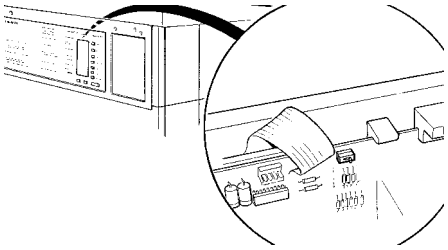
89



1476

# Fault-finding program

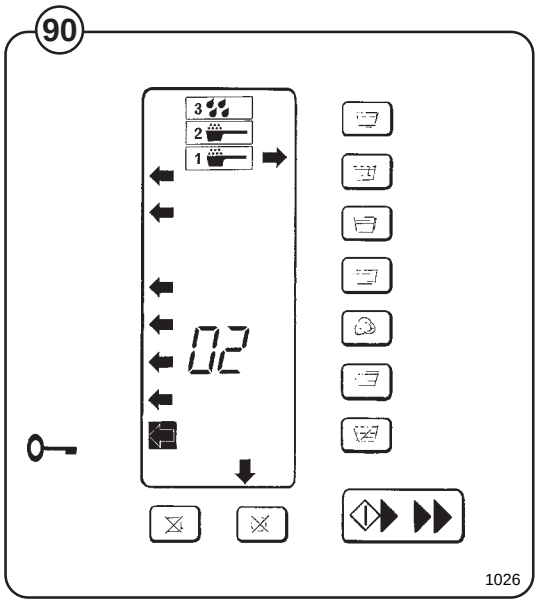
If there is a power failure the washer will remember the selected cycle for about 8-10 minutes. The cycle will restart automatically when power is restored.

Fig. 90

Certain faults are automatically detected and indicated by a number code shown in the Information Display.

For fault codes 01 and 02 restart may be attempted after the fault has been corrected. For all other faults power to the washer must be turned off and on again before the washer can be restarted.

If fault codes 03-09 appear, contact authorized service personnel.




| Fault Code | Cause of fault |
|---|---|
| 01 | Water level too low. Open water taps. Check level control. Check drain valve for leak. |
| 02 | Door lock fault. Open and lock door again. Replace if necessary. |
| 03 | Break in or to temperature sensor. |
| 04 | Short-circuit in or to temperature sensor. |
| 05 | Water in drum at start of cycle. Clogged drain valve or drain line. |
| 06 | Software error. Try again or call Wascomat. |
| 07 | Not used. |
| 08 | Too much water in drum at start of an extraction. Clogged drain valve of drain line. |
| 09 | Not used. |

# Built-in service program

A service program has been built into the washer. This program should only be used by qualified service personnel.

## Setting service switch

- Remove the washer top cover.
- Move the service switch to the service program position. (The switch is located on top of the circuit board next to the ribbon connector).

Fig. 91

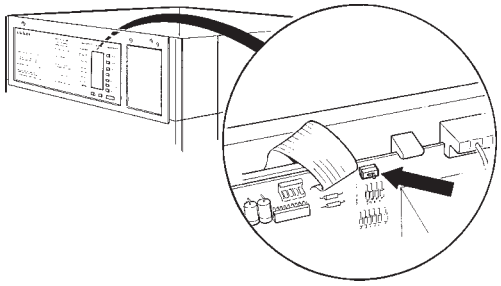
Fig. 92

This transforms the buttons into a numerical keypad. Numbers 1-7 are on the wash cycle buttons, the Extra Extract button is 8 and the Gentle Wash button is 9. The START button serves as an ON/OFF switch.

**NOTE**

**When in service program the number 0 does not exist. Numbers used are 11-19, 21-28 etc.**

91



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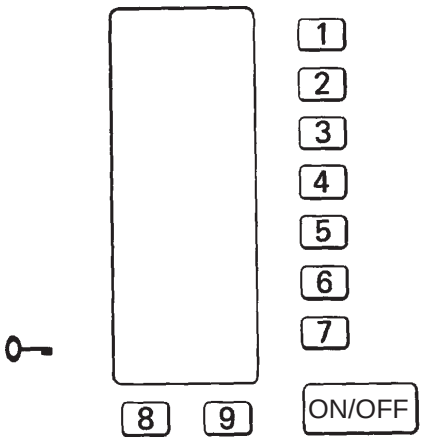
92

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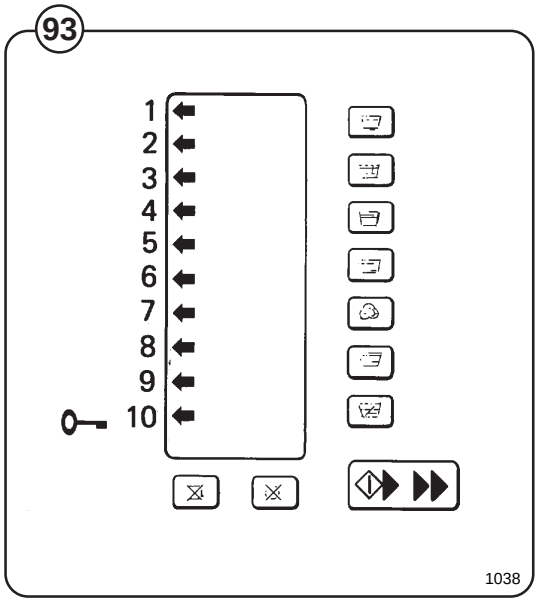
## Function checks

Fig. 93 Arrows indicte certain inputs by lighting. For example, arrow number 5 is lit when the door closes. This shows that the door lock microswitch is operating correctly.

The table below shows the inputs displayed by the arrows.

| Arrow | Function |
|---|---|
| 1 | Price programming switch |
| 2 | Coin meter input |
| 3 | Not used |
| 4 | Not used |
| 5 | Door lock switch |
| 6 | Price reduction |
| 7 | Not used |
| 8 | Free wash |
| 9 | Not used |
| 10 | ON/OFF (Use START button). |

(Arrows not presently used are being reserved for future software enhancements).

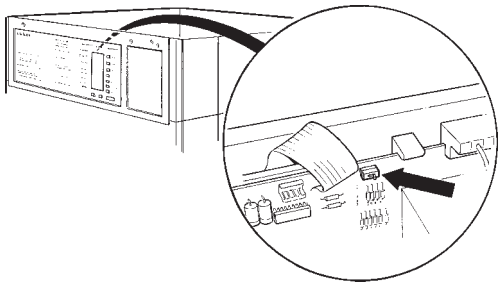


It is also possible to directly activate certain functions by using the buttons on the keypad. The chosen function can then be turned on and off using the START button. Arrow 10 (see Fig. 39) simply shows if the function is on or off.

This table shows which functions can be activated, along with the number code for each.

| Code | Function |
|---|---|
| 11 | Flush compartment 1 (only W185ES) |
| 12 | Flush compartment 2 |
| 13 | Flush compartment 3 |
| 14 | Not used |
| 15 | Not used |
| 16 | Hot water valve |
| 17 | Cold water valve (only W185ES) Flush compartment 1 (only W75ES, W105ES, W125ES) |
| 18 | Not used |
| 19 | Not used |
| 21 | Motor (clockwise) |
| 22 | Motor (counter-clockwise) |
| 23 | Not used |
| 24 | Extraction (counter-clockwise) |
| 25 | Not used |
| 26 | Drain valve |
| 27 | Door lock |
| 28 | Not used |

94



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## Leaving service program

Fig. 94

- Return the service switch to its original position.
- Refit the machine's top cover.