DOUGLAS

WASHING AND SANITIZING SYSTEMS

BDW-HD-BH-EL

OPERATION GUIDE

Parts & Service 800-331-6870

DougMac.com

DOUGLAS
WASHING AND SANITIZING SYSTEMS

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This book is a publication of Douglas Machines Corp. Service Department.
Future editions will reflect changes in procedures or technical details.

Use and duplication of this document is encouraged.

For technical assistance, please call
1-800-331-6870.

SAFETY

Qualified installation personnel, individuals, firms, corporations, and companies are responsible for:

- Wear appropriate P.P.E. ie... hearing protection, thermal resistant gloves, and eyewear.
- Know where the **exits** are located.
- Always turn off and drain the machine before entering. Allow a cool down period. Follow facility's L.O.T.O. procedure.
- **Never** enter a machine where flooring has been removed. – Fall Hazard.
- Use non-permit required confined space guidelines for entering.
- When loading a rack into the washer keep hands away from the door edges. Keep hands on the horizontal bars inside of the rack. **Do not** hold racks on the vertical support bars or outside edges. Push the rack with both hands. Never strain yourself to move racks if racks are too heavy unload some product.
- Always use Caution. – Use mats to help reduce slip hazards.
- Ensure that float switches and level probes are well maintained and cleaned daily. Failure to do so can result in unintended heater startup and potential fire.
- **Never** leave your machine idle (not in use) for more than 4 hours. This can result in water evaporating out of the rinse tank causing damaging. Do not touch Rinse tank without a cool-down period.

CONTENTS

IMPORTANT
PRE-INSTALLATION

Qualified installation personnel, individuals, firms, corporations, and companies are responsible for:

- The installation or replacement of the gas piping and connection, installation, repair, or servicing of the equipment. Qualified installation personnel must be experienced in such work, familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference National Fuel Gas Code, NFPA 54 or latest edition or ANSI Z223.1 or latest edition, Section 1.4.

- The installation of electrical wiring from the electric meter, main control box, or service outlet to the appliance. Qualified installation personnel must be experienced in such work, familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference National Electrical Code, ANSI/NFPA 70 or latest edition. In Canada, Canadian Electrical Code Pan I (Std. 22.1 or latest).

- The installation of gas heated units in Canada. Qualified installation personnel should comply with the Installation Codes for Gas Burning Appliances and Equipment, (CAN-I-B 149.1 and B-149.2) and any local codes or approvals.

- The installation of washers equipped with casters. These washers shall be made with a connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z2 1.69 or latest, and a quick-connect device that complies with the Standard for Quick-Disconnect Devices for use with gas fuel, ANSI Z2 1.41 or latest.

- Water and waste piping and connections shall comply with the International Plumbing Code, International Code Council (ICC) or the Uniform Plumbing Code, International Association of Plumbing and Mechanical Officials (IAPMO). NSF/ANSI 3-2009

- **Douglas Machines Corp. highly discourages the use of tankless or demand water heating units as a hot water supply for our machines. They typically are not properly sized nor can they meet the demand required by our machines.**

Note: A fixed restraint must be provided if casters are used in conjunction with a flexible connector for movable appliances. This restraint must secure the washer to a non-movable surface to eliminate stress on the connector. If the washer is moved, the restraint must be reconnected after the washer is returned to its normal position.

DELIVERY

Upon delivery of your Douglas washer:

- Inspect the machine for any external damage. Any evidence of damage should be noted on the delivery receipt and signed by you and the driver.
- Remove packaging from the washer and check for any concealed damage. Carrier must be notified of damage immediately. Please retain packaging for inspection if claim is filed.
- Douglas Machines Corp. cannot accept responsibility for lost or damaged merchandise suffered in transit. The carrier assumes full responsibility for delivery in good order; however, we are prepared to assist you in any action needed regarding shipping damage.

Electrical Connections: Upon receiving your machine, all wire connections in the electric panel, pump motor and electric heaters should be checked, including the wire nuts and lugs. Check connections monthly for the first six months and every 90 days after the first six months of operation.

SAFETY PRECAUTIONS

Important: All safety precautions must be adhered to as to avoid personal injury.

Please Be Cautious!

BEFORE ATTEMPTING TO PERFORM ANY SERVICE TO THE UNIT ENSURE THAT THE ELEC- TRICAL DISCONNECT HAS BEEN TURNED TO THE OFF POSITION AND LOCKED OUT WITH A PHYISCAL LOCKING MECHANISM.

"THIS MACHINE MUST BE OPERATED WITH AN AUTOMATIC DETERGENT FEEDER AND, IF APPLI- CABLE AN AUTOMATIC CHEMICAL SANITIZER FEEDER, INCLUDING A VISUAL MEANS TO VERIFY THAT DETERGENTS AND SANITIZERS ARE DELIVERED OR A VISUAL OR AUDIBLE ALARM TO SIGNAL IF DETERGENTS AND SANITIZERS ARE NOT AVAILABLE FOR DELIVERY TO THE RESPECTIVE WASHING AND SANITIZING SYSTEM."

This manual will help with troubleshooting and the replacement of parts.

For parts or technical assistance please call Douglas Machines Corporation at **800-331-6870** and ask for the Service Department. Please have your **Serial Number** available to assist with the call. If the call is an emergency and after nor- mal working hours (Monday – Friday 8 AM - 4:30 PM) you can call your warranty provider direct and follow it up with a call during normal hours of operations. Douglas Machines Corporation will provide you with your local warranty provider contact information during the Factory Start up and Demonstration.

DO'S AND DO NOT'S

DO'S

- Before attempting any maintenance or repairs, ensure that electrical supply to the
- unit has been turned off and locked out. Wear safety glasses.
- Check inside the unit before starting the cycle to ensure nothing is inside.
- Keep hands and clothing clear of moving parts.
- Ensure safety rules are followed at all times.
- Ensure all electrical panel enclosures are closed before using the machine.

DO NOT'S

- Attempt to perform any maintenance, repairs or adjustments unless the
- supply power has been shut off and locked out first.
- Open door during machine cycle. There may be a delay between cycle steps so ensure cycle is complete by visually checking that the Run light in not illuminated.
- Hose down any electrical components.
- Remove any access panels or pit grids while unit is in use. Touch outside of cabinet without wearing gloves.
- Attempt to do any service or make any adjustments to this unit unless you
- are qualified service person.

SET UP

Lower washer circuit set-up

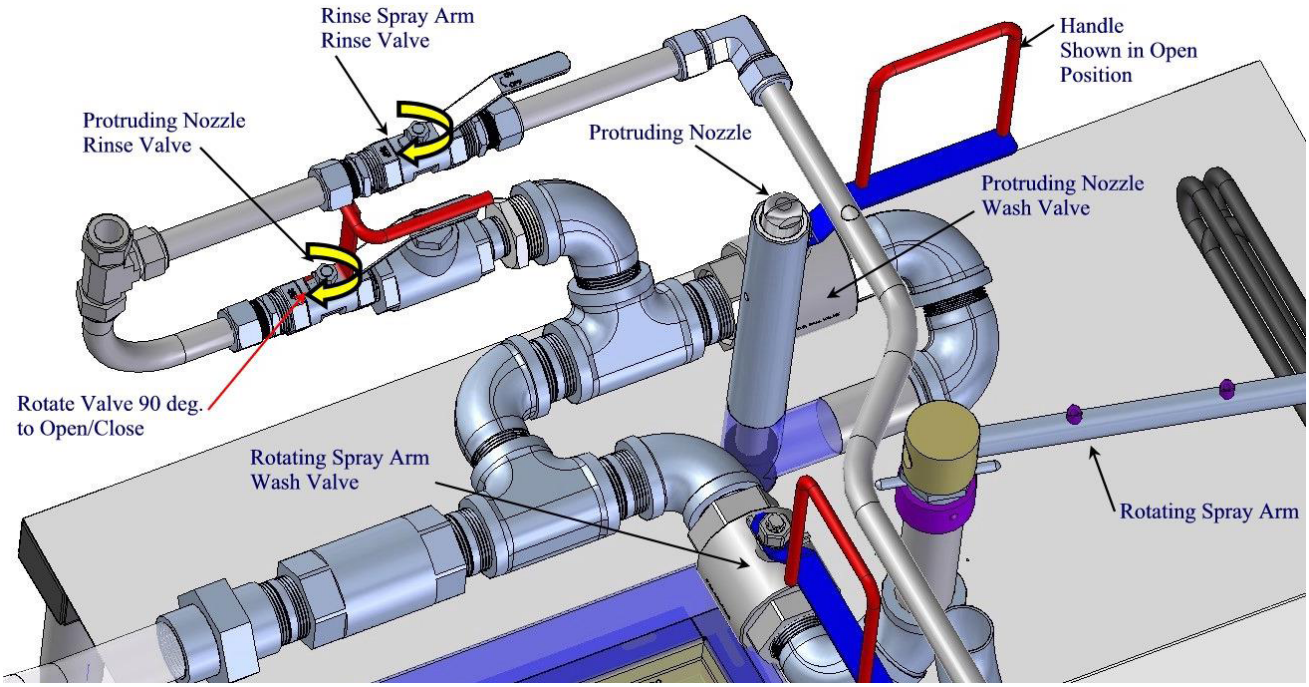
Determine type of lower wash configuration desired and set wash valves as follows: See Illustration below

Protruding Wash Nozzle Configuration

- Close Rotating Spray Arm Wash Valve
- Close Spray Arm Rinse Valve
- Open Protruding Nozzle Wash Valve
- Open Protruding Nozzle Rinse Valve

Rotating Spray Arm Configuration

- Open Rotating Spray Arm Wash Valve
- Open Spray Arm Rinse Valve
- Close Protruding Nozzle Wash Valve
- Close Protruding Nozzle Rinse Valve



START UP

IMPORTANT: LOCATE AND REMEMBER WHERE YOU'RE ELECTRICAL DISCONNECTS ARE.

Some of the following steps will be performed in the electrical panel enclosure. We recommend disconnection of all incoming power before doing any service in the electrical enclosure. Please Be Cautious!

- With incoming electrical power disconnected or turned off, remove electrical panel enclosure cover. Turn all thermostats to the lowest or off position (turning knobs in the counter clockwise direction).

- Locate and make sure the drain and pump petcock is in the closed position. The pump petcock will remain in the closed position from now on unless service is needed on the pump. Shut off all breakers going to the heaters if electrically heated (breakers will be marked WASH HEATER, RINSE HEATER).

- From inside the machine's wash tank below the filter baskets, locate the float switch and remove the zip tie that was used for shipping. The float will have a tag attached to it with (REMOVE ZIP TIE BEFORE START UP).

- With electrical enclosure panel cover still off, turn incoming power back on. Make sure the circuit breaker marked PUMP and breaker marked 120 is in the on position. **APPLIES TO U.S. MODELS ONLY (BE VERY CAUTIOUS THIS IS NOW A HOT PANEL).**

- Turn the On/Off/Fill Switch to the Fill position and release it. At this point the machine will start to fill. If it doesn't fill to the overflow, reprogramming of the auto fill may be necessary. You must also make sure the incoming water pressure is in-between 20psi to 30psi flow pressure as stated in the Recommend Installation Guide. Note: incoming water pressure over 30psi will void warranty to related items.

- Select the Short Wash Cycle and push the Start Button, the wash pump should start running at this point. If pump doesn't start running, check that all fuses are in (if applicable) and all breakers marked PUMP and 120 are in the on position. With pump running, check pump rotation, looking at the rear of the pump motor, the fan should be rotating in a clockwise direction. If pump is not rotating in the correct direction reversal of electrical phases will be necessary **(contact your electrician or Douglas Machines for details).**

- Now its time to fill the rinse tank. Depress the Start button, the machine will now run through a complete cycle. A complete cycle entails, wash (pump running), rinse (pump not running, rinse solenoid valve open), and a one- (1) minute dwell & steam extraction (during dwell the machine can not be restarted). Please note while the machine is in the rinse and dwell period you will not see any readings on the jet pressure gauge. To ensure the rinse tank is filled, you need to physically hear water spraying inside the wash cabinet after the wash pump has stopped running. You may need to run more than one –(1) cycle to accomplish this. **CAUTION: Before proceeding to the next step, make sure you can hear water spraying in the cabinet after the wash pump stops running. If not heater damage may occur, warranty will be void to related items.**

- Now it's time to set the thermostats. Were looking for a reading on the temperature gauges to be 150 degrees wash temperature and 190 degrees rinse temperature. Turning the thermostat knobs in a clockwise motion, and using top dead center as our indicator, increase the thermostat marked WASH to 150 degrees, now increase the thermostat marked RINSE to 190 degrees. Allow 30 to 60 minutes for heat up time. Note: There can be as much as 12 to 15 degrees various between the thermostat and the temperature gauge. Always set the thermostats to accommodate the desired temperature gauge reading.

- At this point your heat source should be engaged. If electrically heated the wash and rinse heater contactors will be engaged. If gas heated the burner or burners will fire. If steam heated the steam solenoids will open. If you are not sure or if the specific heat source is not on and the unit is not heating up, contact Douglas Machines for assistance.

- Now that every thing is working fine. It's time to put the electrical enclosure panel back on the electrical enclosure and start washing.

OPERATION

With the machine turned on, filled to the overflow, and heated up to the correct operating temperatures, we'll need to add detergent now. Note: You must use a non-foaming, non-caustic, low chlorine type of soap (unless the machine has been specifically manufactured for caustic use). If the machine is fitted with an automatic soap dispenser, ensure the dispenser is turned on and filled up. If machine is not equipped with an automatic soap dispenser, follow your detergent manufacturer recommended specifications for application and concentration.

Loading your machine. When loading you must have the open end of the item being washed situated to drain all the water back into the wash tank of the machine. This means that you'll have the open end facing down.

Now that we've filled the machine, let it heat up, put detergent in it, and loaded it. It's time to start washing! All you have to do is choose you're desired wash cycle time. To do this, select short (four- (4) minute cycle), medium (six- (6) minute cycle), or long (eight- (8) minute cycle) cycle time. Let the machine run through its entire cycle (wash, rinse, and dwell). If you open the door or hit the stop button any time during the cycle, the machine will shut off. When you restart the machine it will not start from where it stopped, it will start from the beginning of the cycle again. When full cycle has completed you will be able to unload and reload the machine.

MAINTENANCE

Daily Maintenance

If your machine has an electric heater or heaters in the wash tank, it's time to clean those now. The heater coils will be located directly under the low water probe. Using a wire brush or scouring pad clean the exposed heating coils on the heater or heaters, directing all debris into the drain.

Now that the wash cabinet, filters, wash tank reservoir, low water probe, and electric heater or heaters (if applicable) have been cleaned. You can now put the filters back in place.

Inspect all the spray jets, look for any that are missing, obstructed, or worn out. If you find any jets missing or worn out, contact Douglas Machines Corp. for a replacement. If you find any jets obstructed. Try to remove the obstruction by pulling it out or by forcing it back into the jet pipe. If you need to force it back into the jet pipe you'll need to remove the jet pipe end cap (reference your parts manual for jet pipe end cap location) in order to remove the obstruction from the pipe.

Clean the outside of the machine. Using a stainless steel cleaner or soft cloth with a mild detergent wipe down the outside of the machine.

Close the drain valve, check that the filters are back in place, and turn the main power back on. Wait to refill the machine till you're ready to wash again (it's easier and less expensive to heat warm water then cold). The machine is now ready for the next shift or next day of washing.

Periodic Maintenance

Wash pump motor lubrication. You'll find two- (2) grease fitting on the top of the wash pump motor, one- (1) at each end. You'll need to grease these under normal conditions every 90 days. Use an electric motor bearing grease similar to Shell Dollum or Chevron SRI.

The removal of lime and or scale may be necessary at certain times. This will vary due to the condition of your water. If you're finding lime and scale building up on the interior walls of the machine, chances are they're also building up in the piping. This could impair washing ability. You'll need to use some sort of lime and scale removal chemical. Whatever you decide to use please make sure it's safe to use on stainless steel, bronze, and brass. If you have any questions on what to use or how to use it, do not hesitate to contact Douglas Machines Corp.

Electrical Connections – The first 6 months that you have your unit, you should go over all wire connections in the electric panels as well as check the wire nuts on all motor leads. After the first 6 months, you should only need to do this every 90 days.

PROGRAMMING
1827 PC Board
Technical Information

The controller is an open board construction intended to be installed inside of an electrical panel. The board operates on nominal 120 VAC line.

The basic function of the board is to control the operation of the unit, going through a cycle of Wash, Rinse, and then Fan (Dwell).

The six relays on the board control six outputs. One relay controls two of the outputs, and the sixth relay is a master control relay.

The outputs include a ready light, a fan, a heater contactor, a wash pump motor contactor, a rinse solenoid valve, and a fill valve.

Three potentiometers control Wash time: Short, Medium, and Long. Two switch inputs control which pot is selected. The Long switch selects the long pot, the Medium switch selects the medium pot, and the Short switch selects the short pot.

Routine Operation/Connections

Be aware that the board also controls a Fill cycle.

Note that the Fill cycle turns on the Fill valve and waits until the water level in the machine reaches the level probe.

At this point, the Fill valve is left on for the pre-programmed time to fill above the probe and then turned off.
Setting the Times

To set times on the 1827 PC board, several steps are required:
Open the control box.

Locate the PC board, a device approximately 8” x 5” with 6 relays and a transformer.

The timer settings are located to the right of the transformer and are ½” blue squares with a white dial. They are labeled Long, Medium, Short, and Rinse

To decrease the time, turn the timer counter-clockwise.

To increase the time, turn the timer clockwise.

Factory Settings

Cycle	Duration
Rinse	30 Seconds
Long	8 Minutes
Short	4 Minutes

Note that the Rinse pot is fixed @ 30 sec. for NSF, and that non-NSF Rinse time is adjustable.

Programming the Auto Fill

Before starting, make sure there is no water in the machine and that the drain valve is closed.

Turn the Off/On/Fill switch to the On position, but make sure not to turn all the way to Fill.

Locate the Program button on the PC board.

This black button is located on the right hand side just below the Program LED and labeled with the letters PGM.

Push in the PGM button but do not hold the button down, as it will then execute a test Mode.
When the Program light located above the button begins to flash, turn the Off/On/Fill switch to the Fill position.

The solenoid valve then opens and the machine begins to fill.

When the water reaches the overflow level, turn the Off/On/Fill switch again to the Fill position.

Observe that the Fill Time is set.

TROUBLE SHOOTING

Note: Some of the following remedies may need to be performed in the electrical panel. Before you perform any task in the electrical panel, please make sure all incoming power is disconnected or turned off.

Problem	Things to Check
Machine will not turn on	• Incoming power turned on • Machine circuit breakers and/or fuses in place and turned on
Machine will not heat up (gas heated)	• Machine is filled to correct level • Low water probe is clean • Gas supply is on • Thermostats set to desired temperature
Machine will not heat up (electric heated)	• Machine is filled to correct level • Low water probe is clean • Circuit breakers and or fuses marked heaters • Thermostats set to desired temperature
Wash pump will not start	• Machine is filled to correct level • Low water probe is clean • Door is in the closed position • Circuit breakers and or fuses marked wash pump motor
Wash pressure is low	• Machine is filled to correct level • Filters are clear and in place • All wash jets and end caps are in place • Excessive amount of foam is present • Pump is rotating in correct direction • Pressure gauge
Not rinsing	• Incoming water pressure • Door is closed • Rinse solenoid valve

Problem	Things to Check
Rinse temperature not hot enough	• Incoming water temperature (120° - 140°max.) • Incoming water pressure (no less than 20psi. and no more than 30psi. of flow) • Thermostat set to correct temperature (180° - 210°max.) • Heat source engaged
Not cleaning	• Detergent level • Wash pressure (see door sticker for minimum pressure) • Wash temperature • Wash jets (clogged) • Water Level • Filters clear • If rotary table, check if table turning freely

If you are experiencing any other problems or have any questions or concerns, please do not hesitate to contact the Service Department at 1-800-331-6870.

TROUBLESHOOTING
ERROR CODES

To aid in troubleshooting, the PGM LED also serves as an error code indicator. In case of error, the LED flashes on and off at ½ second on and ½ second off and then pauses for 3 seconds.

The flashing pattern continues as long as the controller is in Idle Mode. The number of times the LED flashes between 3 second pauses indicates the number of the error.

Error Code Value Table

	PGM Error	Interpretation
1	Watchdog timeout on filling to level probe	• When the controller is in either a Fill cycle or a Teach Fill cycle, there is a 15 minute time limit until the water level reaches the level probe. • If the fill valve is on for 15 minutes, the valve shuts off and the Fill cycle aborts. The controller reverts to Idle Mode.
2	Watchdog timeout on filling above the level probe	• When in a Fill cycle or a Teach Fill cycle, there is a 5 minute limit for which the fill valve may be on after the water reaches the level probe. • This error could occur in a Fill cycle only if an incorrect time were stored in the EEPROM or read from the EEPROM. • In Teach Mode, this could occur if the operator walked away from the machine while it was in Teach Mode. If this timeout occurs, the fill valve turns off and the machine returns to Idle Mode.
3	Loss of master control relay during machine cycle	• This error could occur if the door was opened or if the motor overloads opened during a Wash or Rinse cycle.
4	Loss of water level during a machine cycle	• This could occur in two situations: • a) If the water in the machine drops during a cycle because a large container being washed is collecting wash water, or • b) The water level in the machine is very low and the wash water circulating in the pump and plumbing is enough to lower the water level below the probe. • The water level must be low for 5 seconds for the cycle to be aborted. The heater output will, however, be turned off immediately when the water level is below the probe.

	PGM Error	Interpretation
5	EEPROM read error	• Data stored in the EEPROM is redundant, and the two redundant numbers are compared. If they don't match, a read error is generated. • This error could occur if a Fill cycle is started, but a Teach cycle has not been done to program the Fill time. It should not occur, as Douglas will program a Fill time as part of the test procedure. • The error could also occur if installing a new board.
6	Attempt to start a Fill cycle or Teach Fill cycle when the water level is already at the level probe	• Clear the code by starting a new cycle.
7	Attempt to start machine cycle without water to the level probe	• If unit has water and a clean, low water probe, see Low Water Section.

- Note that when one of these errors occurs, the controller reverts to Idle Mode.
- Note that the error code flashes on the LED as long as it is in Idle Mode.
- Note that as soon as a successful machine cycle, Fill cycle, or Teach Fill cycle executes, the error LED goes out.
- There is no need to reset anything by turning the machine off.
- For example, if the operator were to try to fill the machine a second time and the water were already at the level probe, nothing would happen. The error would flash on the PGM LED, but if the cover were on the electrical box, no one would see it. If the start button were then pressed, the error LED would go out and a normal machine cycle would be executed.

Troubleshooting Table for the 1827 PC Board

Problem	Likely Source	Corrective Procedures
Wash pump will not start	Door	• Make certain that the door is closed. • Make certain that the door is contacting the door switch, or is within 1/8” of Prox switch. • Check to see if the door switch is bad. • If using a door switch, perform a continuity check. • If using a Prox switch, jump out connections at PC board. • Check to see if the OK LED on the PC board is illuminated. • To see if the spring-loaded Stop button is stuck in, press it in
	Pump Motor	• Check to see if the pump motor overload has tripped. • Press the Reset button on the overload (blue button located in the electrical panel). • See Overloads in the Reference Section.
	Circuit Breaker	• Check to see if the circuit breaker for the pump motor has tripped. • Try resetting the breaker.
	Pump Motor Fuses	• Check to see if any of the fuses for the pump motor are blown. • Check all fuses.

Troubleshooting Table for the 1827 PC Board, cont'd

Problem	Likely Source of Problem	Corrective Procedures
Was pump will not start	Water	• Check to see if there is water in the tank. • Low water protection component may be preventing the Wash pump from running. • If there is water in the tank and the pump motor will not start, the low water probe in the tank may not be sensing the water. • Clean the probe. • Check the level LED on the PC board. It should be illuminated. • If the PGM LED is flashing 7 times, it means that an attempt has been made to start a wash cycle without water to the level probe. • See Low Water Circuit: Control Type.
Machine will not go into Rinse cycle	Door	• Make certain that the door is closed. • Make certain that the door is contacting the door switch.
	Rinse Solenoid	• Check to see that the rinse solenoid is being energized when the Wash cycle times out. • See 1827 PC Board: Routine Operation/ Connections Table.
	Rinse LED	• Check to see that the Rinse LED is illuminated on the PC board. • If it is, then the problem is most likely the solenoid.
Machine will not fill	Water	• If there is already water in the machine and it is above the water probe but the machine is not full, drop the water level below the probe. • Restart the Fill. • This condition will give an error code of 6 flashes on the PC board PGM LED (located in the electric panel).

Troubleshooting Table for the 1827 PC Board, cont'd

Problem	Likely Source of Problem	Corrective Procedure
Machine will not fill, continued	Water, cont'd.	• Ensure low water probe is clean. • It may be necessary to re-program Auto Fill time. • Refer to 1827 PC Board: Setting the Times.
Wash tank will not fill completely	Water pressure	• If water pressure in the building has changed, the Fill cycle can be affected because the Fill cycle is timed. • Fill time may need to be reprogrammed. • See 1827 PC Board: Programming the Auto Fill. • Proper water pressure to the machine is 60 psi static and 25 psi flow.
	Auto Fill Power	• If there is no power to the Auto Fill solenoid, refer to 1827 PC Board: Routine Operation/Connections.
Wash tank will not heat up	Low water	• Power to the Wash T-stat should be 120V + 10 V from the PC board, J1-6 Wire # 16.
	Wash T-stat power	• Power to the Wash contactor coil should be 120V + 10 V from the T-stat, Wire # 6.
	Wash contactor coil power	• If the circuit breaker for the heaters has tripped, try to reset the breaker.
	Heater circuit breaker	• If the circuit breaker for the heaters has tripped, try to reset the breaker.
	Heater fuses	• Check all heater fuses to see if they have blown.
	Gas heat	• Refer to the Gas Heating: Maxon or Infrared: Troubleshooting.
	LED	• Verify that the level and HTR LED's are illuminated on the PC board.

Problem	Likely Source of Problem	Corrective Procedure
Wash pump turns off during Wash cycle	Pump motor overload	• If the pump motor overload has tripped, press the Reset button on the overload (blue button, located in the electrical panel). • Refer to Overloads in the Reference Section.
	PGM LED on PC board	• If the PGM LED on the PC board is flashing 4 times, it is indicating that there is not enough water in the machine. • Lower the water level below the level probe. • Reprogram the Fill time. • Refer to 1827 PC Board: Programming the Auto Fill..
	Excess water pressure	• When the Wash pump is started, the water pressure may be pushing against the door and causing the door switch to open. • In this condition, the OK LED on the PC board would not be illuminated.
Rinse tank will not heat up	Heater circuit breaker	• If the circuit breaker for the heaters has tripped, try to reset the breaker.
	Heater fuses	• Check all fuses in case any have blown.
	Rinse T-stat power	• Power to the Rinse contactor should be 120V + 10 V from the T-stat Wire # 4. • Note: Rinse tank should be full of water at all times.

DOUGLAS

WASHING AND SANITIZING SYSTEMS

IMPORTANT NUMBERS

FOR WARRANTY WORK YOU MUST CALL DOUGLAS MACHINES CORP.
AT 800-331-6870 AND WE WILL ISSUE A PURCHASE ORDER
TO THE LOCAL SERVICE AGENT.

FOR PART OR TECHINCAL SUPPORT, PLEASE CALL
DOUGLAS MACHINES CORP. AT 800-331-6870

Thank You!

For Partnering with
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