<table>
<thead>
<tr>
<th>Revision Letter</th>
<th>Revision Date</th>
<th>Made By</th>
<th>Applicable ECNs</th>
<th>Details</th>
</tr>
</thead>
</table>
NOMENCLATURE FOR THE MODELS COVERED IN THIS MANUAL

NOBLE I-E

Chemical sanitizing, single-rack, door type machine

Model: ____________________________
Serial No.: _______________________
Installation Date: __________________
Service Rep. Name: ________________
Phone Number: _________________
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MACHINE DIMENSIONS (Noble I-E—115/60/1)

1 [24.63 mm]

6¾ [171.45 mm]

17¼ [438.15 mm]

33½ [852.45 mm]

6 [152.40 mm]

30½ [772.63 mm]

ALL VERTICAL DIMENSIONS ARE ±½" FROM FLOOR

E1 MAIN ELECTRICAL CONNECTION (1.125" DIA HOLE)
   (Located on back of control box)
W MAIN INLET WATER CONNECTION (½ NPT-F)
D DRAIN CONNECTION (2" NPT-F)
DET DETERGENT BULKHEAD ACCESS (.875" DIA HOLE)
SAN** SANITIZER INLET

RA RINSE AND INLET
CP N/A
S* N/A
C* N/A
VI N/A
V2 N/A
SPECIFICATIONS

TABLE DIMENSIONS

TABLE DIMENSIONS
CORNER INSTALLATION

TABLE DIMENSIONS
CONNECTION TO DISHMACHINE

TABLE DIMENSIONS
STRAIGHT THROUGH INSTALLATION
### Model Designation:
Noble I-E (115V/60 HZ/1 PH)

### Operating Capacity:
- Racks per Hour: 39
- Dishes per Hour: 624
- Glasses per Hour: 1404

### Tank Capacity (Gallons):
- Wash Tank: 1.44 (90 GPH)

### Electrical Loads (as applicable):
- Wash Motor HP: 3/4

---

**NOTE:** Always refer to the machine data plate for specific electrical and water requirements. The material provided on this page is for reference only and is subject to change without notice.

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### CHEMICAL SANITIZING

**Water Temperatures (Fahrenheit/Celsius):**
- Minimum Wash Temperature: 120/49
- Minimum Rinse Temperature: 120/49
- Incoming Water Temperature: 120/49

**Other Water Requirements:**
- Water Flow Pressure (PSI): 15
- Flow Rate Minimum (GPM): 1.03
- Water Line Size (NPT): 1/2"
- Drain Line Size (NPT): 2"
- Minimum Chlorine Required (PPM): 50
SPECIFICATIONS
ELECTRICAL REQUIREMENTS

NOBLE I-E

<table>
<thead>
<tr>
<th>Volts</th>
<th>Phase</th>
<th>Freq</th>
<th>Wash Motor Amps</th>
<th>Drive Motor Amps</th>
<th>Wash Heater Pumps</th>
<th>FLA</th>
<th>MCA</th>
<th>MOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>1</td>
<td>60</td>
<td>11.4</td>
<td>N/A</td>
<td>N/A</td>
<td>11.4</td>
<td>14.3</td>
<td>25.7</td>
</tr>
</tbody>
</table>

Note 1: MCA (Minimum Circuit Ampacity) = 125% x Largest Motor + FLA of all other motors + all other loads.

Note 2: MOP (Maximum Overcurrent Protective Device) = 225% x Largest Motor + FLA of all other motors + all other loads.

Note 3: All electrical ratings provided in this manual are for reference only. Always refer to the machine data plate to get the exact electrical information for your machine. All electrical work performed on machines should be done in accordance with applicable local, state, territorial and national codes. Work should only be performed by qualified electricians and authorized service agents. A list of authorized service centers is located in the back of this manual.

Note that all electrical wiring used in the dishmachine must be rated, at a minimum, for 100°C (212°F). Furthermore, use copper conductors only.

Where applicable, heating element amperage draws have been adjusted for the assumed input voltage. The manufacturer assumes incoming voltages will be either 115, 208, 230 or 460 volts. Some of the heating elements used in the machines are rated for other voltages, such as 240 or 480 volts. Always verify the amperage draw of the machine in operation when sizing circuit protection.

The electrical configurations of this machines are as follows:

Available Electrical Characteristics:
- 115 volt, 60 Hz, single phase
- 115 volt, 50 Hz, single phase
VISUAL INSPECTION: Before installing the unit, check the container and the machine for damage. A damaged container may be an indication there is possible damage to the product. If there is any type of damage to both the container and the unit, DO NOT THROW AWAY THE CONTAINER. The dishmachine has been previously inspected at the factory and is expected to arrive in new, undamaged condition. However, rough handling by carriers or others may result in damage to the unit while it is in transit. If such a situation occurs, DO NOT RETURN THE UNIT TO THE MANUFACTURER. Instead, contact the carrier and ask them to send a representative to the site to inspect the damage. Request that an inspection report be completed. Contact the carrier within 48 hours of receiving the machine in order to report possible freight damage and the dealer from whom the unit was purchased.

UNPACKING THE MACHINE: The machine should be unboxed and removed from the pallet prior to installing. Remove the wooden lift beams and their associated brackets after the unit has been positioned. Open the front door and remove all of the materials from the inside. Once unpacked, verify there are no missing parts. If a part is missing, contact the manufacturer immediately.

LEVEL THE DISHMACHINE: The dishmachine is designed to operate while level. This is important to prevent any damage to the machine during operation and to ensure the best results possible. The unit comes equipped with adjustable bullet feet, which can be turned using a pair of pliers. Verify the unit is level from front to back and side to side prior to making any electrical or plumbing connections.

PLUMBING THE MACHINE: All plumbing connections must be made to adhere to local, state, territorial and national codes. The installing plumber is responsible for ensuring the incoming water lines are flushed of debris prior to connecting to the machine. Note that chips and materials from cutting processes can become lodged in the solenoid valves and prevent them from opening or closing. Any valves that are found to be fouled or defective because of foreign matter left in the water line, and any subsequent water damage, are not the responsibility of the manufacturer.

Water hardness should be a maximum of 6 grains per gallon. Hard water should be treated prior to being used by the machine. Iron in the water line can cause staining. A filter designed to remove iron from the water supply is highly recommended for supplies in excess of 0.1 ppm.

The water supply line shall be 1/2" NPT minimum and must be able to provide water at the minimum temperature indicated on the machine data plate.

The unit utilizes a flow pressure of 15 PSI for the incoming water line. Do not confuse static pressure with flow pressure. Static pressure occurs when there is no flow and the valves are closed. Flow pressure occurs when water is running into the machine. In areas where pressure fluctuates or is greater than the recommended pressure, it is suggested that a water pressure regulator valve be installed.

It is recommended that a shut-off valve be installed to allow isolating the dishmachine from the water system in the event that maintenance or other activities are required. Also, it is suggested that a shock absorber (not supplied with dishmachine) be installed on the incoming water line. This prevents water hammer (hydraulic shock)—induced by the solenoid valve as it operates—from causing damage to the equipment.

CONNECTING THE DRAIN LINE: The drain for the unit is a gravity discharge drain. All piping to the machine drain must be a minimum 2" NPT AND SHALL NOT BE REDUCED. There must also be an air gap between the machine drain line and the floor sink or drain. If a grease trap is required by code, it should have a flow capacity of 5 gallons.
INSTALLATION

INSTRUCTIONS

ELECTRICAL POWER CONNECTIONS: All electrical connections are to be made in accordance with applicable portions of local, state, territorial and national codes.

DISCONNECT ELECTRICAL POWER SUPPLIES AND TAG OUT IN ACCORDANCE WITH APPROPRIATE PROCEDURES AND CODES AT THE DISCONNECT SWITCH TO INDICATE THE CIRCUIT IS BEING SERVICED.

This manual provides reference information regarding electrical requirements and loads, but that information may change without notice. Always refer to the machine data plate for voltage requirements, machine voltage, total amperage load and serial number. If a data plate has been damaged and cannot be read, contact the manufacturer.

The main power terminal blocks (for the dishmachine and for the rinse booster heater, if applicable) are located at the top of the machine. Remove the top cover to access these connections. Route incoming power lines within conduit that will connect via fittings to the pre-punched holes in the back of the control box. Install power and ground wires to lugs as indicated by the appropriate decals in the control box. Use copper conductors only. Use of an anti-oxidation agent is permissible on the power connections. Tighten all connections.

Verify the incoming voltage matches the voltage indicated on the decal next to the incoming power pre-punched hole.

DISHMACHINE VENTILATION: The dishmachine should be located into an adequate exhaust hood or ventilation system with provisions for venting. This is essential to permit efficient removal of the condensation exhaust. Ensure the exhaust system is acceptable in accordance with applicable codes and standards.

Note: Any damage that is caused by steam and/or moisture due to improper ventilation is NOT covered under the warranty.

The dishmachine has the following ventilation requirements: 200 CFM

The exhaust system must be sized to handle this volume for the dishmachine to operate in the manner it was designed.

THERMOSTATS: The thermostats on the unit have been set at the factory for the wash tank. They should only be adjusted by an authorized service agent.

TO PREPARE CHEMICAL PUMPS FOR OPERATION: The Noble I-E dishmachine is supplied with detergent, rinse additive and sanitizer-dispensing chemical feeder pumps. Locate the open ends of the chemical tubes with the tube stiffeners and place each one in the appropriate container.

A. Red Tubing = Detergent  B. Blue Tubing = Rinse Aid  C. White Tubing = Sanitizer

PRIMING CHEMICAL FEEDER PUMPS: Chemical feeder pumps need priming when the machine is first installed or if the chemical lines have been removed and air is allowed to enter.
INSTRUCTIONS

CAUTION: Water must be in the sump and wash tank prior to the dispensing of chemicals. Sanitizer in concentration is caustic and may cause damage without dilution.

1. Verify that the proper chemical tube stiffener inlet is in the proper container.

2. Use the toggle switches on the front of the control box to prime each pump. There are three switches mounted by the peristaltic pumps. One will prime the sanitizer pump only, the second will prime the detergent and the third will prime the rinse aid pump.

3. To prime the pumps, hold the switch in the momentary position until the chemical can be observed entering the sump.

4. Detergent is dispensed as required by the timer during the wash cycle. The amount of detergent may need to be increased or decreased depending on water quality and type of detergent.

5. Rinse additive is dispensed as required into the final rinse. The amount of rinse aid may need to be adjusted depending on water hardness and results.

6. Sanitizer is dispensed into the final rinse. The amount of sanitizer may need to be adjusted depending on the concentration and type of sanitizer used.

7. Please refer to the next page for instruction on adjusting the chemical feeder pumps on the CAM timer.

WARNING: Some of the chemicals used in dishwashing may cause chemical burns if they come in contact with skin. Wear protective gear when handling these chemicals. If these chemicals do come into contact with the skin, immediately flush the affected area with fresh water. Always refer to the chemical agent packaging for safe handling and first-aid instructions.
INSTALLATION

CAM TIMER OPERATION

The Noble I-E CAM timer is a 1 minute, 30 second, 8-CAM timer (CAM 8 is a spare) that controls the operation of the dishmachine. The following is a description of the set points for each CAM and the function of each switch.

CAM 1 is a cut CAM with a single notch that serves as the cycle/reset control.

FUNCTION: When the machine is in the operation mode the notch is in the home position. The machine will remain idle until the door is opened, then CAM 1 moves to the start position and holds until the door is closed. The closing of the door will start the next cycle. The CAM will rotate a complete cycle and return to the home position and hold.

CAM 2 is a cut CAM that provides the wash cycle timing.

FUNCTION: The wash CAM works off the normally open contacts of CAM 2. This requires the microswitch be held closed by the CAM. It will close and energize the wash pump 2 seconds after the cycle switch is activated. The pump will operate through the wash cycle (40 seconds) then shut down for the dwell period (20 seconds). As the CAM rotates it energizes the pump for the rinse cycle (25 seconds). When CAM 1 reaches its home position it will de-energize CAM 2, shutting down the wash pump.

NOTE: The last 6 CAMS are adjustable. The following instructions will require that the timer position have the CAMs to the front and the motor to the left.

CAM 3 is an adjustable CAM that controls the drain valve.

FUNCTION: The drain solenoid works off the normally closed contacts of CAM 3. When the cycle is initiated, the microswitch will be held open until it is allowed to drop into the notch of the CAM. This energizes the drain solenoid which then drains the machine. After a 12 second delay the CAM reverses the microswitch, de-energizing the drain solenoid. This CAM may require adjusting due to varying water pressure. The drain solenoid must remain open long enough to remove whatever water the fill valve solenoid allows in the machine. This could vary due to the water supply line pressure.

SETTINGS: The right side of CAM 3 must be set to pick up the microswitch just before the wash/rinse cycle CAM switch drops. It will hold the drain solenoid open to drain all the water in the tank from the unit during the dwell period. Any adjustment made to the drain should be made to the left side of CAM 3. The CAM must be moved back into the wash time until all of the water is drained from the machine.

CAM 4 is an adjustable CAM that controls the fill valve and the amount of water used.

FUNCTION: The fill valve CAM works off the normally closed contacts of CAM 4. This requires the microswitch to be held open by the CAM and allowed to drop into the notch to operate the fill valve. This energizes the fill solenoid which opens to start filling the machine with fresh water. After a 10 second delay the CAM reverses the microswitch, de-energizing the fill solenoid. The fill CAM may require adjustment due to varying water pressure. The fill solenoid must remain open a sufficient length of time to fill the machine to the correct level.

SETTINGS: The right side of CAM 4 must be set to allow the microswitch to drop 2 seconds before the drain solenoid is de-energized to ensure the detergent residue is flushed from the unit. It will hold the fill solenoid open until the CAM switch arm is raised. At that time the fill solenoid is de-energized, shutting off the incoming water. The tub will be filled to the correct level. Any adjustment made to the timing of the fill solenoid should be made with the left side of CAM 4. To increase the water level, open the notch of the CAM; to decrease, the notch should be closed.
**CAM 5 is an adjustable CAM that controls the sanitizer pump.**

FUNCTION: The sanitizer pump CAM works off the naturally closed contacts of CAM 5. This requires the microswitch to be held open by the CAM and allowed to drop into the notch to operate the pump. The time that the sanitizer pump will remain energized must be determined in the field to suit water conditions and the chemical used.

SETTINGS: The left side of CAM 5 must be set to allow the microswitch to drop in past the starting point of the fill CAM and after the drain solenoid has closed. The adjustment for sanitizer volume must be made with the right side of the CAM. To increase the volume the notch should be increased. To decrease, the notch should be closed slightly in increments until the correct level is reached.

**CAM 6 is an adjustable CAM that controls the detergent pump.**

FUNCTION: The detergent pump CAM works off the normally closed contacts of CAM 6. This requires the microswitch to be held open by the CAM and allowed to drop into the notch to operate the pump. The time that the detergent pump will remain energized must be determined in the field to suit water conditions and the chemical used.

SETTINGS: The left side of CAM 6 must be set to drop in past the starting point of the wash pump CAM. The adjustment for detergent volume must be made with the right side of the CAM. To increase the volume, the notch should be increased. To decrease, the notch should be closed slightly in increments until the correct level is reached.

**CAM 7 is an adjustable CAM that controls the rinse aid pump.**

FUNCTION: The rinse aid pump CAM works off the normally closed contacts of CAM 7. This requires the microswitch to be held open by the CAM and allowed to drop into the notch to operate the pump. The time that the rinse aid pump will remain energized must be determined in the field to suit water conditions and the chemical used.

SETTINGS: The left side of CAM 7 must be set to drop in past the starting point of the fill CAM after the drain solenoid has closed. The adjustment for rinse aid volume must be made with the right side of the CAM. To increase the volume the notch should be increased. To decrease, the notch should be closed slightly in increments until the correct level is reached.

**CAM 8 is a spare.**
FALSE PANEL INSTRUCTIONS

1. Loosen the rack assembly from the unit.
2. False panel will mount to the rack inside the dishmachine.
3. Position panel in unit on side to be closed.
4. Hold panel against side of dishmachine and push up.
5. Panel will clip inside the unit under the edge of the hood.
6. Holes in false panel will line up with rack assembly holes.
7. Re-install screws for rack assembly which will secure false panel to unit.
8. Re-assemble the rack track in an “L” shape for a corner operation.
**PREPARATION:** Before proceeding with the start-up of the unit, verify the following:

- The sump strainer is in place and is clean.
- The drain stopper is installed.
- The strainers are installed.

**POWER UP:** To place the unit in standby, press the START button on the front of the machine.

**FILLING THE WASH TUB:** For the initial fill, close doors and depress and hold the OFF/ON/FILL rocker switch in the FILL position for approximately 8-10 seconds. Open the doors and verify that the water level is correct. Water must be between two lines on drain stopper pipe. Hereafter, the water level is controlled by the timer that has been preset at the factory. Verify that the drain stopper is preventing the wash tub water from pouring out excessively. There may be some slight leakage from the drain hole. Verify that there are no other leaks on the unit before proceeding any further. The wash tub must be completely filled before operating the wash pump to prevent damage to the component. Once the wash tub is filled, the unit is ready for operation.

The water level is controlled by the timer that has been preset at the factory.

To increase or decrease the water level, close the door and turn the power circuit breaker on. Open and close the door to run a cycle, then check the water level. Adjust as necessary and close the control box cover. The machine runs a complete cycle to drain and fill. If the machine is not allowed to drain, the water will build up inside the tub. After the initial fill, the rinse water for the current cycle will become the wash water for the next cycle.

**FIRST RACK:** The first rack of ware that is placed into the unit will typically reduce the temperature of the wash tank, and the first rack may need to run through the unit again. This process may be necessary any time the unit has not been operated for an extended period of time, although this is dependent on the type of ware being used, its temperature and the ambient temperature of the kitchen area. To ensure proper operation, always observe the temperatures of the wash and rinse when first starting the unit.

**WARE PREPARATION:** Proper preparation of ware is essential for the smooth, efficient operation of this dishmachine. Any ware placed inside the machine should have all solid food waste and scraps removed. It is recommended that ware also be sprayed down prior to entry into the dishmachine.

Place cups and glasses upside down in racks so they do not hold water during the cycle. Presoak flatware in warm water to assist in removing food. Load plates and saucers in the same direction, with the food surface facing the unload end of the machine.

**WASHING A RACK OF WARE:** To wash a rack, open the doors completely (beware of hot water dripping from the doors) and slide the rack into the unit. Close the doors and the unit will start automatically. Once the cycle is completed, open the door (again careful of the dripping hot water) and remove the rack of clean ware. Replace with a rack of soiled ware and close the doors. The process will then repeat itself.
INSTALLATION
OPERATING INSTRUCTIONS

OPERATIONAL INSPECTIONS: Based upon usage, the pan strainer may become clogged with soil and debris as the workday progresses. Operators should regularly inspect the pan strainer to ensure it has not become clogged. If the strainer becomes clogged, it will reduce the washing capability of the machine. Instruct operators to clean out the pan strainer at regular intervals or as required by work load.

SHUTDOWN AND CLEANING: At the end of the workday, close the doors. When the unit completes the cycle, turn the power switch to the OFF position and open the doors. Manually remove the drain stopper from the tub and allow the tub to drain (CAUTION: Wash tank water will be hot!). Once the wash tub is drained, remove the pan strainer and the pump suction strainer. Remove soil and debris from the strainer and set to the side. Unscrew the wash and rinse arms from their manifolds. Remove the endcaps and flush the arms with water. Use a brush to clean out the inside of the arms. If the nozzles appear to be clogged, use a toothpick to remove the obstruction. Wipe the inside of the unit out, removing all soil and scraps. Reassemble the wash and rinse arms and replace them in the unit. The arms only need to be hand tight, do not use tools to tighten them down. Reinstall the strainers and close the doors.
To proceed with the delime operation, fill the dishmachine with the correct amount of delime solution as recommended by the manufacturer of the chemicals. The tank capacities of the machine can be found in the Specifications section of this manual.

After the chemicals are added, perform the following steps:

1. Flip the NORMAL/DELIME Toggle Switch to DELIME. (NOTE: The Delime Switch is located on the back of the control box)
2. Disconnect or turn off chemical feeder pumps.
3. Close all doors.
4. Press the Power Switch and run the machine for the length of time required by the chemical solution manufacturer.
5. Press the Power Switch to shut the unit off.
6. Open the door and step away for 5 minutes.
7. Inspect the inside of the unit to determine if expectations have been met. If not, try running the delime solution through the unit for more time.
8. Once clean, drain the machine completely.
9. Close the door.
10. Refill the unit.
11. Press the Power Switch and run the unit in Manual for 10 minutes.
12. Press the Power Switch to turn off the unit.
13. Open the front door.
14. Drain the unit.
15. Flip the NORMAL/DELIME Switch to NORMAL.
16. The machine is ready to use.

This equipment is not recommended for use with deionized water or other aggressive fluids. Use of deionized water or other aggressive fluids will result in corrosion and failure of materials and components. Use of deionized water or other aggressive fluids will void the manufacturer’s warranty.
MAINTENANCE

PREVENTATIVE MAINTENANCE

The dishmachine covered in this manual is designed to operate with a minimum of interaction with the operator. However, this does not mean that some items will not wear out in time. The manufacturer highly recommends that any maintenance and repairs not specifically discussed in this manual should be performed by QUALIFIED SERVICE PERSONNEL ONLY. Performing maintenance on the dishmachine may void the warranty if it is still in effect.

There are many things that operators can do to prevent catastrophic damage to the dishmachine. One of the major causes of component failure has to do with pre-scrapping procedures. A dishmachine is not a garbage disposal; any large pieces of material that are put into the machine shall remain in the machine until they are either broken up (after spreading out on dishware!) or physically removed. Strainers are installed to help catch debris, but do no good if they are clogged. Have operators regularly inspect the pan strainers to ensure (1) that they are free of soil and debris and (2) are laying flat in the tub.

When cleaning out strainers, do NOT beat them on waste cans. The strainers are made of metal but once severe damage is done, it will not work properly. Wipe out strainers with a rag and rinse under a faucet if necessary. For stubborn debris, a toothpick can be used to dislodge any obstructions from the perforations. Always ensure that strainers are placed back in the machine before operation and that they lay flat in the tub.

Refer to the section titled "Plumbing the Machine" (page 5) to learn more about how water hardness will effect the performance of this machine. Hard water makes dishmachines work harder and decreases efficiency.

Again, it is important to remind operators that attempting corrective maintenance on the dishmachine could lead to larger problems or even cause harm to the operator. If a problem is discovered, secure the dishmachine using proper shut down procedures as listed in this manual and contact a QUALIFIED SERVICE AGENCY.

Some problems may not begin with the machine. One common problem occurs when temperatures are too low. Verify that the water temperatures coming to the dishmachine match the requirements listed on the machine data plate. There can be a variety of reasons why water temperature is too low. These can be discussed with a QUALIFIED SERVICE AGENCY to determine solutions.

By following the operating and cleaning instructions in this manual, the operator will see the most efficient results from the machine. As a reminder, here are some steps to ensure that the dishmachine is being operated properly:

1. Ensure that the water temperatures match those listed on the machine data plate.
2. Ensure that all strainers are in place before operating the machine.
3. Ensure that all wash and/or rinse arms are secure in the machine before operating.
4. Ensure that drains are closed/sealed before operating.
5. Remove as much soil as possible from dishes before loading into racks.
6. Do not overfill racks.
7. Ensure that glasses are placed upside down in the rack.
8. Ensure that all chemicals being injected into machine have been verified as being at the correct concentrations.
9. Clean out the machine at the end of every workday as per the instructions in the manual.
10. Always contact a QUALIFIED SERVICE AGENCY whenever a serious problem arises.
11. Follow all safety procedures, whether listed in this manual or put forth by local, state or national codes/regulations.
<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dishmachine will not run, no voltage at wash relay terminals L1 and T1.</td>
<td>1. Service disconnect switch off or faulty.</td>
<td>1. Turn disconnect on.</td>
</tr>
<tr>
<td></td>
<td>2. Branch circuit breaker tripped/fuse blown.</td>
<td>2. Reset or replace.</td>
</tr>
<tr>
<td></td>
<td>3. Loose or broken connection to dishmachine.</td>
<td>3. Tighten or replace connections.</td>
</tr>
<tr>
<td>Machine will not run in “ON” position or in Delime mode.</td>
<td>1. Door switch is defective.</td>
<td>1. With door open, check for voltage between ORANGE/WHITE door switch and neutral. If 120V, replace the door switch.</td>
</tr>
<tr>
<td></td>
<td>2. Faulty OFF/ON/FILL switch.</td>
<td>2. With switch ON, check voltage between BLACK and WHITE/BLACK ON switch. Replace the switch if 120V.</td>
</tr>
<tr>
<td></td>
<td>3. Faulty NORMAL/DELIME switch.</td>
<td>3. In the NORMAL position, check the voltage between WHITE/BLACK and WHITE/RED wires to switch. If 120V, replace the switch.</td>
</tr>
<tr>
<td>Machine fills continuously even with no power applied to the machine.</td>
<td>Water inlet solenoid valve allowing water into machine.</td>
<td>1. Check water pressure during fill, pressure must be 15 psi.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Repair or replace water inlet solenoid valve.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(See instructions on servicing solenoid valve, pg. 17.)</td>
</tr>
<tr>
<td>Dishmachine runs continuously in the wash cycle.</td>
<td>1. Machine is in Delime mode.</td>
<td>1. Flip NORMAL/DELIME switch to NORMAL mode.</td>
</tr>
<tr>
<td></td>
<td>2. Possible issue with CAM timer.</td>
<td>2. Contact Noble Warewashing.</td>
</tr>
<tr>
<td>Dishmachine will not hold water.</td>
<td>1. Faulty drain ball.</td>
<td>1. Replace drain ball.</td>
</tr>
<tr>
<td></td>
<td>2. Obstructed drain hole.</td>
<td>2. Clear obstruction from drain.</td>
</tr>
<tr>
<td></td>
<td>3. Drain linkage is binding.</td>
<td>3. Repair damaged drain mechanism parts.</td>
</tr>
<tr>
<td>Dishmachine will not fill, other functions work.</td>
<td>1. Y-strainer clogged.</td>
<td>1. Clean strainer screen.</td>
</tr>
<tr>
<td></td>
<td>2. Incoming water to unit is turned off.</td>
<td>2. Turn on water to the machine.</td>
</tr>
<tr>
<td></td>
<td>3. Faulty OFF/ON/FILL switch.</td>
<td>3. Depress switch, measure between BLACK and WHITE/GREEN wire. If 120V, replace switch.</td>
</tr>
<tr>
<td></td>
<td>4. Faulty solenoid coil.</td>
<td>4. If coil has voltage but no continuity, replace solenoid.</td>
</tr>
<tr>
<td>PROBLEM</td>
<td>POSSIBLE CAUSE</td>
<td>REMEDY</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dishmachine fills slowly and/or the rinse is weak.</td>
<td>1. Clogged or obstructed rinse arms.</td>
<td>1. Remove and clean the rinse arms.</td>
</tr>
<tr>
<td></td>
<td>2. Low incoming water pressure.</td>
<td>2. Adjust the water pressure regulator to ensure that there is 15 psi water flow pressure.</td>
</tr>
<tr>
<td></td>
<td>3. Y-strainer is clogged.</td>
<td>3. Clean out the Y-strainer.</td>
</tr>
<tr>
<td>Doors will not close completely.</td>
<td>1. Improper spring tension.</td>
<td>1. Adjust spring tension as required by loosening (not removing) spring bolt nuts and adjusting the tension. Tighten nuts when done.</td>
</tr>
<tr>
<td></td>
<td>2. Obstruction in door channel.</td>
<td>2. Remove the obstruction.</td>
</tr>
<tr>
<td>Water leaks at wash pump.</td>
<td>1. Wash pump seal is defective.</td>
<td>1. Replace wash pump seal.</td>
</tr>
<tr>
<td></td>
<td>2. Petcock or pump drain leaking.</td>
<td>2. Close shut or tighten.</td>
</tr>
<tr>
<td>Dishes are not coming clean.</td>
<td>1. Machine temperatures are not up to the minimum requirements.</td>
<td>1. Verify that incoming water temperature meets requirements listed on the machine data plate.</td>
</tr>
<tr>
<td></td>
<td>2. No detergent/too much detergent.</td>
<td>2. Adjust detergent concentration as required for the amount of water held by the machine. (It is recommended the chemical provider be contacted before making any changes.)</td>
</tr>
</tbody>
</table>
**INCOMING WATER SOLENOID VALVE SERVICE INSTRUCTIONS**

**DISSASSEMBLY:** The valve may be taken apart by unscrewing the valve bonnet from the valve body. After unscrewing, carefully lift off the valve bonnet. Do not drop the plunger. The O-Ring and diaphragm can now be lifted out.

**BE CAREFUL NOT TO DAMAGE THE MACHINED FACES WHILE THE VALVE IS APART.**

**TO REASSEMBLE:** Place the diaphragm in the valve body with the pilot port extension up. Hold the plunger with the synthetic seal against the pilot port. Make sure the O-Ring is in place, then lower the valve bonnet over the plunger. Screw valve bonnet down on the valve body.

**POSSIBLE PROBLEMS:**
1. Pilot port extension #1 clogged. Clean hole.
2. Hole #2 clogged. Pass heated straight pin through hole.
### CONTROL BOX COMPONENTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
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<tbody>
<tr>
<td>1</td>
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<td>Control Assembly</td>
<td>05700-004-11-05</td>
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<tr>
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<td>Decal, Warning–Disconnect Power</td>
<td>09905-100-75-93</td>
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<td>Upper Decal, Noble I-E</td>
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<td>Peri Pump, 36 RPM</td>
<td>05700-003-25-02</td>
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<td>5</td>
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<td>Peri Pump, 14 RPM</td>
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<td>Decal, Copper Conductors</td>
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<td>Light, Red</td>
<td>05945-504-07-18</td>
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<td>Light, Green</td>
<td>05954-504-08-18</td>
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<td>Switch, Prime</td>
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<td>Screw, 6-32 x ⅜ w/Washer</td>
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<td>Chemical Feeder Pump Kit Assembly, 14 RPM w/Motor</td>
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<td>Fitting, ½&quot;, Plastic</td>
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<td>Relay, Pole</td>
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<td>Switch, Delime</td>
<td>05930-301-21-18</td>
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<td>Lock, Control Box (NOT Shown)</td>
<td>05340-102-01-00</td>
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CHEMICAL FEEDER PUMP COMPONENTS

Chemical Feeder Pump Kit Assembly, 36 RPM w/Motor 120V (Complete) 05700-003-25-02

Chemical Feeder Pump Kit Assembly, 14 RPM w/Motor 120V (Complete) 05700-003-25-03

Rear Housing
04320-111-37-09

Screw, 8-32 x ¾”
Phillips Pan Head
2 per
05305-011-37-07

Front Housing
04320-111-37-08

Screw, 6-32 x ¾”
Phillips Pan Head
4 per
05305-011-37-05

Roller, Red (Detergent/Sanitizer)
04320-111-36-70
Roller, White (Rinse Aid)
04320-002-82-28

If using Tygoprene Tubing:
Roller, White
04320-002-82-28
Roller, Black
04320-111-65-27

Squeeze Tube, Detergent/Sanitizer
(use with the red roller)
05700-111-35-29
Clear Squeeze Tube, Rinse Aid
05700-011-76-41
Tube, 3/16 x 8” Clear Tygoprene
05700-003-22-89

Motor, 14 RPM 115V
Rinse Aid Feeder Pump
04320-111-35-13
Motor, 14 RPM 240V
Rinse Aid Feeder Pump
04320-111-47-46
Motor, 36 RPM 115V
Detergent/Sanitizer Feeder Pump
04320-111-35-14
Motor, 36 RPM 240V
Detergent/Sanitizer Feeder Pump
04320-111-47-47
<table>
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<td>6</td>
<td>Bolt, ¼-20 x ½”</td>
<td>05305-274-02-00</td>
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<td>Washer, S/S ¼”</td>
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<td>Bracket, Cantilever Support</td>
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<td>Wear Button</td>
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<td>05700-003-24-25</td>
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<td>Strainer, Inlet ½”</td>
<td>04730-217-01-10</td>
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<td>Nipple, ½” x 2” (Brass)</td>
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<td>Solenoid Valve, ½”, 120V</td>
<td>04810-003-71-55</td>
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<td>Elbow, ½” Street (Brass)</td>
<td>04730-206-08-00</td>
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<td>14</td>
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<td>Air Gap Weldment</td>
<td>05700-002-81-70</td>
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## DOOR ASSEMBLY

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<td>Arm, Cantilever</td>
<td>05700-003-52-91</td>
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<tr>
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<td>2</td>
<td>Spring Pin, ¼&quot; Dia. x 1-⅛&quot;</td>
<td>05315-407-06-00</td>
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<td>Yoke Assembly</td>
<td>05700-000-75-77</td>
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<td>Cotter Pin</td>
<td>05315-207-01-00</td>
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<td>3b</td>
<td>1</td>
<td>Yoke</td>
<td>05700-000-75-78</td>
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<td>3c</td>
<td>1</td>
<td>Clevis Pin</td>
<td>05315-700-01-00</td>
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<td>3d</td>
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<td>Nylon Washer</td>
<td>05311-369-03-00</td>
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<td>Bushing</td>
<td>03120-100-03-00</td>
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<td>Lock Nut, ⅜&quot;-16 S/S (not shown)</td>
<td>05310-256-04-00</td>
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<td>Rod, Spring Universal</td>
<td>05700-003-67-39</td>
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<td>Spring, Cantilever</td>
<td>05340-109-02-00</td>
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<td>Bolt, Hanger Eye ¾-16&quot;</td>
<td>05306-956-05-00</td>
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<td>Washer, ¾&quot; I.D. x ⅞&quot; O.D.</td>
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<td>Nut, Hex ¾-16&quot; S/S</td>
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<td>Cantilever Arm Connector</td>
<td>05700-011-90-99</td>
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<td>Screw, ¼-20&quot;</td>
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<td>2</td>
<td>Washer, ¼&quot; I.D. S/S</td>
<td>05311-174-01-00</td>
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<td>Lock Nut, ¼-20&quot; S/S w/Nylon Insert</td>
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<td>Sleeve, Cantilever Arm</td>
<td>05700-000-85-69</td>
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<td>Plug, Cantilever</td>
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<td>Door Magnet</td>
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<td>Door Assembly, Right Side</td>
<td>05700-002-30-88</td>
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<td>05700-111-33-59</td>
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<td>Spacer, PB Bolt</td>
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<td>Front Door Assembly</td>
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WASH ARM ASSEMBLY

Wash Arm Assembly
05700-021-87-76

<table>
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<td>Wash Arm</td>
<td>05700-021-63-42</td>
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<td>Wash Arm w/End Caps</td>
<td>05700-003-57-70</td>
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<tr>
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<td>O-Ring. 117-S70 Silicon</td>
<td>05330-002-60-69</td>
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### WASH MANIFOLD ASSEMBLY

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<td>Bolt, $\frac{3}{8}$-16 x ¾&quot; S/S</td>
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<td>Casting, Upper Wash Manifold</td>
<td>05700-031-34-82</td>
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<td>¾&quot; Lockwasher, S/S</td>
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<td>Bolt, $\frac{3}{8}$-16 x 1-¼&quot; S/S</td>
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<td>Lower Wash Manifold</td>
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<td>¾&quot; Bevel, Square</td>
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<td>Wash Manifold Tube</td>
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## PARTS

### TUB ASSEMBLY

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<td>Tub Assembly</td>
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<td>Rack Guide Assembly</td>
<td>05700-031-36-76</td>
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<td>Bulkhead Fitting, ½”</td>
<td>04730-011-45-21</td>
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<td>Clamp, Nylon</td>
<td>04730-011-39-01</td>
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<td>Lock Nut, 10-24 S/S</td>
<td>05310-373-01-00</td>
</tr>
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<td>5</td>
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<td>Wash Arm Assembly</td>
<td>05700-021-87-76</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Bolt, ¼-20 x ½” S/S</td>
<td>05305-274-02-00</td>
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<tr>
<td></td>
<td>4</td>
<td>Lock Nut, ¼-20 S/S</td>
<td>05310-374-01-00</td>
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<tr>
<td>7</td>
<td>4</td>
<td>Bolt, ¼-20 x 1-¼” S/S</td>
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<td>Lock Nut, ¼-20 S/S</td>
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<td>Lower Wash Manifold</td>
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## Parts List

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<td>Pump and Motor Assembly (see page 29)</td>
<td>06105-002-69-78</td>
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<td>Pump Drain Hose</td>
<td>05700-003-78-58</td>
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<td>Clamp, 7/16&quot; to 25/32&quot;</td>
<td>04730-011-36-05</td>
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<td>4</td>
<td>1</td>
<td>Clamp, 5-⅝&quot; to 6&quot;, #96</td>
<td>04730-011-34-90</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Sump Weldment</td>
<td>05700-003-78-41</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Sump Gasket</td>
<td>05330-003-78-31</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>Lock Nut, ¼-20 S/S</td>
<td>05310-374-01-00</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Drain Solenoid, 115V (NOT SHOWN)</td>
<td>04810-200-11-00</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Drain Link Connector (NOT SHOWN)</td>
<td>05700-002-38-10</td>
</tr>
</tbody>
</table>
SPILLWAY ASSEMBLY

Drain, Seat
05700-021-34-38

Gasket, Spillway
05700-111-34-52

Spillway Weldment
05700-003-52-13

Lock Nut, ¼-20 S/S
05310-374-01-00

Drain Link
05700-003-78-49

Connection, Drain Link
05700-002-38-10
Complete Pump and Motor Assembly
06105-002-69-78

- Mechanical Seal
  05330-002-34-22
- Impeller
  05700-002-81-86
- Case Cap Screw
  05305-002-81-88
- Shim Kit
  05700-002-82-58
- Case O-Ring
  05330-002-81-83
- Motor Only
  06105-002-79-61
- Seal Plate
  05700-002-81-87

Pump Dishcharge Hose (not shown)
05700-003-78-50

Hose Clamp, 1-5/16” to 2-¼” S/S (not shown)
04730-719-01-37 (2 required)
PARTS

FRAME ASSEMBLY

Accumulator, Weldment
05700-004-08-39

Accumulator, Strainer
05700-004-09-08

Frame, Weldment
05700-003-78-38

Bullet Feet, S/S
05340-108-01-03

Splash Shield
05700-004-01-54

Bolt, ¼-20 x ⅜"
05305-274-20-00

Lock Nut, ¼-20 (Low Profile)
(not shown)
05310-374-02-00

Bolt, ¼-20 x 1-½"
05305-274-23-00

Lock Nut, ¼-20
(not shown)
05310-374-01-00
**PARTS**

**MISCELLANEOUS**

- **Ball Stopper**
  
  05700-121-35-54

- **Flanged Bullet Foot (optional)**
  
  05340-002-34-86

- **Stand Pipe Assembly**
  
  05700-031-35-55

- **Bulk Head Fitting**
  
  04730-011-45-21

- **Blue Chemical Tubing (120")**
  
  05700-011-37-17

- **Red Chemical Tubing (120")**
  
  05700-011-37-15

- **White Chemical Tubing (120")**
  
  05700-011-37-13

- **Chemical Tubing Stiffener**
  
  05700-002-66-49

- **Chemical Tubing Wye Fitting**
  
  04730-003-36-14
MISCELLANEOUS PARTS

Water Hammer Arrestor Kit

Water Arrestor, ½"
06685-100-05-00

Tee, ½" x ½" x ½"
04730-211-27-00

Nipple, ½" NPT, Close, Brass
04730-207-15-00
NOBLE I-E ELECTRICAL DIAGRAM
LADDER SCHEMATIC

115 VOLS 60 HERTZ SINGLE PHASE

SCHEMATICS
ELECTRICAL DIAGRAM, NOBLE I-E

LEGEND

NM  WASH PUMP MOTOR
DN  DETERGENT PUMP MOTOR - 36 RPM
BN  BAIN ASK PUMP MOTOR - 14 RPM
SM  SANITIZER PUMP MOTOR - 36 RPM
TV  TANK MOTOR
R1  WASH RELAY
CR  DOOR RELAY
SO  OFF/ON/TM SWITCH
S2  DOOR SWITCH
SA  REGIME SWITCH
SA  SANITIZER PUMP SWITCH
S1  DIFFERENT PUMP SWITCH
S1  FILL AND PUMP SWITCH
SB  DETERGENT VACUUM SWITCH
PH  POWER LOT
E1  CYCLE LIGHT
E2  CYCLE LIGH
E3  DETERGENT LIGHT
EE  BRITISH LIGHT
PE  FILL SOLU/DISH
PC  CYCLE/RESET MICROSWITCH
C1  WASH MICROSWITCH
C2  BAIN MICROSWITCH
C3  FILL MICROSWITCH
C4  DETERGENT MICROSWITCH
C5  BAIN AUTO MICROSWITCH
C6  SPACE MICROSWITCH
C7  SANITIZER MICROSWITCH
C8  MICROSWITCH
C9  DETERGENT BUFFER
C2  DETERGENT BUFFER
C2  SANITIZER BUFFER

TIMING CHART