WIRING SCHEMATICS

WCN OPL WRITTEN

TIMER SEQUENCE CHART

The timer sequence charts are used in conjunction with the wiring diagrams to trace the circuitry during the timer cycle. The timer contacts and the operation or component that each contact controls are listed down the left side of the chart. The phases of the complete cycle are shown across the bottom of the chart. The timer switch increments are numbered across the top of the chart. The solid horizontal bars in the chart denote when the various contacts are closed during the cycle.

To use the timer sequence chart trace the circuitry:

1. Locate the particular part of the cycle on the sequence chart.
2. Determine which timer contacts are closed during that particular step of the cycle by noting the solid vertical bars in that step across the chart.
3. Draw in the gap of the respective contacts on the wiring diagram with a sot dark pencil, to illustrate the contacts as being closed.
4. Similarly, determine which switch contacts are closed, by the switch chart, and illustrate them as closed on the wiring schematic.
5. The circuitry during the particular step of the cycle may then be easily traced on the wiring diagram, since all contacts and switches are then properly illustrated as being open or closed.

START CIRCUIT

Power travels into the control trough on L1 & L2. 240 volts goes to a Control Transformer that steps the voltage down to 120VAC lor the controls. 120VAC then travels to the On/Off Switch. II On is selected 120VAC travels to the 1.5 amp Circuit Breaker. On 1 phase, 120VAC goes directly to the On/Off Switch and then to the 1.5 amp Circuit Breaker.

From the Circuit Breaker, 120VAC travels on the white/red wire to the Main Timer Start and On-Off Contacts. The Start Contact is closed before the machine has been started so 120VAC travels through the Start Contact and is supplied to the Advance/Start Switch. When the Advance/Start Switch is closed 120VAC is supplied on the orange/white wire to the Rapid Advance Timer Motor. This timer motor starts advancing the Main Timer to the preselected starting position. The On-Off Contact in the Main Timer closes and provides 120VAC to the S1 Door Switch. The On-Off Contact also provides 120VAC to the On Light on the red wire. With the S1 Switch closed (door is latched) the Door Lock Solenoid is now powered with 120VAC via the white/red wire. The Door Lock Solenoid pulls in, locking the door and closing the S2 and S3 Switches. The S2 Switch is a backup to the S1 Switch so that the adjustment on S1 isn't as critical. The S3 Switch provides 120VAC to Timer Contacts RA-1, 2, 3 & 4 to power the Rapid Advance Motor again (if 2 Flushes are not selected} and the Main Timer is allowed to advance on to the preselected start position.

FILL CIRCUIT-WARM

120VAC is supplied to the controls through the S1, S2, and S3 Door Switches. The On Light and the Door Lock Solenoid (discussed in Start Circuit) will remain on throughout the cycle. The Lock Thermoactua- tor Contact in the Main Timer is closed and provides the neutral side to operate the Lock Thermoactuator. This contact cycles open and closed keeping the Lock Thermoactuator activated until1 1/2 minutes before the end of the cycle. At this point the contact opens and removes power to the Lock Thermoactuator. 120VAC is provided to the Lock Thermoactuator on the orange wire from the S3 Door Switch. The Drain Contact in the Main Timer is closed and provides 120VAC to the Drain Valve on the brown/yellow wire which closes the valve. The Wash Motor Contact in the Main Timer is closed and provides 120VAC to the Reversing Timer and the Reversing Timer Motor on the blue/black wire. This will start the Reversing Timer operating which will alternately open and close the Micro Switches that provide the direction of tumble for the wash basket. Depending on the cycle selected either the Wash Light Contact, the Prewash Light Contact, or No Contact (1st Flush) in the Main Timer is closed and provides 120VAC to these Lights. The orange wire coming from the S3 Door Switch provides power to the Wash Water Contact in the Main Timer as well as the High Water Level Contact if high water level is called for. 120VAC connects from the Wash Water Contact to the Wash Temperature Contact via an internal timer connection.

Now a water temperature must be selected with the Temperature Selector Switch. We'll use #2 Warm. The washer fills the tub through the back of the machine with both the C1 Cold and H1 Hot Water Valves. 120VAC goes through the closed #1 Contact in the Selector Switch and energizes the C1 Cold Water Valve Solenoid via the white/orange wire. 120VAC also travels to the closed #4 Contact in the Selector Switch. This closed contact provides power to the H1 Hot Water Valve Solenoid via the red/yellow wire. The neutral for the Water Valves & Main Timer Motor is provided through the Pause/Run Switch. In the Pause position, the neutral side for the Drive Motor, Main Timer Motor and the Pressure Switch/Water Valves is removed. (In this position the washer will hold water for a soak cycle indefinately until run is selected). The Main Timer is stopped until the Pressure Switch provides neutral when low level is reached. At the beginning of the wash bath, the detergent dispenser flushes the detergent into the tub if powdered products are used. This is accomplished with thE! Wash Dispenser Contact in the Main Timer. 120VAC travels through the closed Wash dispenser Contact and is supplied to the H2 Hot Water Valve Solenoid by the red/orange wire. 120VAC travels from the Wash Water Timer Contact to the #1 Contact in the Selector Switch via the white/black wire. Liquid Chemical Signals are 120VAC and are provided at the back of the machine by the timer.

As the washer fills with water, liquid chemicals are flushed in through the back of the tub by the fill water. While filling, the Wash Basket will tumble one direction for 19 seconds, pause, and then reverse direction for 19 seconds. All Flushes and Rinse 1, 3 & 4 are high level. Wash, Rinse 2 & Final Rinse are low level. When the water reaches low level, the low level side of the Pressure Switch moves to the full position and opens the neutral side of the line to the Water Valves(on low level baths only) and provides neutral to the Main Timer Motor {Timer does not advance until low level is reached). On high level baths, when the water reaches high level, the high level side of the Pressure Switch moves to the full position which opens the neutral side to the Water Valves. For a high level bath 120VAC travels from the timer High Water Level Contact on the green/white wire to

the R4 High Water Level Relay. When energized, the R4 High Water Level Relay opens the neutral yellow wire from the low level side of the Pressure Switch & closes the violet! yellow from the high side. When the water reaches the predetermined level the Pressure Switch moves to the full position and opens the neutral side of the line to the Water Valves. This shuts the Water Valves off.

WASH CIRCUIT

As the washer fills the tub through the back of the machine with either one or both the C1 Cold and H1 Hot Water Valves, the Wash Basket will tumble one direction for 19 seconds, pause, and then reverse direction for 19 seconds. This is accomplished through the use of a Reversing Timer. 120VAC is supplied to the Reversing Timer Motor on the blue/black wire from the Wash Motor Timer Contact in the Main Timer and 120VAC is supplied to the R1 Run Relay any time the door is locked. This R1 Relay closes & provides 24VDC to the Reversing Timer Wash Micro Switches. The Reversing Timer will alternately open and close the two Wash Micro Switches and provide 24VDC to the FW (forward) or RV (reverse) terminals on the Variable Frequency Drive.

As discussed in Start and Fill, the Lock Thermoactuator, Drain Valve, On Light, and Main Timer Motor (except in fill) are all operating throughout the Wash Cycle.

Liquid Chemicals: Injection Pumps receive 120VAC signals from the terminal strip on the back of the washer. These are labeled A, B, C, &D. (A-Prewash, B-Wash, C-Rinse 2, D-Final Rinse)

THERMOACTUATOR AND SHAKE OUT CIRCUIT

The Lock Thermoactuator Contact in the Main Timer opens 1 1/2 minutes before the end of the cycle removing the neutral to the Thermoactuator. This allows the Thermoactuator time to retract by the end of the cycle.

To insure that the Lock Thermoactuator has retracted by the end of the cycle, 1 minute prior to the end of the cycle, the Unlock Thermoactuator is powered with 120VAC through the Unlock Thermoactuator Contact in the Main Timer.

The Spin Motor Contact in the Main Timer opens, stopping voltage to the R2 Spin Motor Relay & the motor. The basket will coast to a stop. The Wash Motor Contact in the Main Timer closes providing power to the Reversing Timer once again (discussed in Wash Cycle). The washer will tumble for approximately 15 seconds to let the clothes shake loose and then stop. The neutral for the Main Timer Motor is provided through the Delay Fill Timer Contact.

END OF CYCLE CIRCUIT

The On-Off Contact in the Main Timer opens removing power to the Door Lock Switches and Relays. The machine is now stopped. The Start Contact on the Main Timer is closed providing 120VAC to the Advance/Start Switch on the white/green wire. The machine is now ready to start a new cycle.