Aqua-Matic

TAC-3000

Solid State Programmable
Control Panel
For Water Wash Hoods

revised 2003

TABLE OF CONTENTS

AQUA-MATIC LIMITED WARRANTY

NOTE:START-UP INSPECTION REPORT (enclosed on page 31) MUST BE COMPLETED. COPIED AND RETURNED OR THE WARRANTY IS **VOID!**

Aqua-Matic warrants to the original purchaser/user that products manufactured by Aqua-Matic shall be free from defects in material under normal use and service for a period of twelve months from the date of startup of the system at the job site.

The obligation of Aqua-Matic under this warranty is limited to Aqua-Matic repairing or replacing, free of cost to the purchaser/user, F.O.B. factory, any part(s) that, in the judgment of Aqua-Matic show evidence of defect; provided that, upon Aqua-Matic authorization, the said part(s) be returned to Aqua-Matic; transportation prepaid, for inspection and judgment. Under this warranty Aqua-Matic assumes responsibility for the expense of labor necessary to remove a defective part or install a repaired or new part for 90 days from startup date. Labor will be paid based on standard time conventions developed by Aqua-Matic engineers.

This warranty is issued only to the original purchaser/user, and is not transferable. This warranty applies to a unit installed worldwide and in lieu of all other warranties expressed or implied. Aqua-Matic neither assumes nor authorizes any other person to assume for Aqua-Matic any liabilities not herein stated.

Aqua-Matic shall not be liable for any damage or delays occurring in transit, for any default or delays in performance caused by any contingency beyond its control including war, government restrictions or restraints, strikes, short or reduced supply of raw materials, fire, flood, or other acts of God, nor damage or loss of any products, property, loss of income or profit due to malfunctioning of said unit.

TERMS OF SALE: Net 30 days, FOB our plant.

FREIGHT TERMS: All shipments are FOB our plant unless otherwise noted.

THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, NOTWITHSTANDING THE PROVISION OF THE UNIFORM COMMERCIAL CODE, THE MAGNUSON-MOSS WARRANTY FEDERAL TRADE COMMISSION IMPROVEMENT ACT, OR ANY OTHER STATUTORY OR COMMON LAW, FEDERAL OR STATE.

INTRODUCTION

The TAC-3000 is a state of the art, 24 hour, seven day, solid state water wash control panel with a four line liquid crystal display and user friendly menu driven programming. Door mounted indicator lights show the status of supply and exhaust fans, fire condition, water valves, and AC power. The control buttons on the stainless steel door, used to control the programming, are touch sensitive with no moving parts. The control panel is capable of controlling up to 5 wash zones independently with user selected duration and delay time between washing. The program allows each wash zone to be washed independently as many times as needed during a 24 hour period. The fans can be programmed to turn "ON" and "OFF" as many times as desired within a 24 hour period. Three independent auxiliary outputs are programmable to control other electrical devices which the user specifies.

FEATURES:

- Plug in solid state relays with output indication lights.
- On board circuit breakers instead of fuses.
- Liquid Crystal Display LCD).
- PIEZO electronic key pad - no moving parts to fail.
- Plug in connectors
- Indicating lights on front panel to indicate fire, exhaust fan ON, supply fan ON, water valve(s) open, and power outage.
- Manual override switches to control the fans if CPU fails.
- Maintenance switch to prevent fire signal tripping when maintenance is being performed.
- A manual lighted push button mounted on the front door can be used to send the panel into a fire condition if needed.

- User friendly, menu driven programming
- Memory held by an internal battery built into the RAM chip - memory is held indefinitely in the event of extended power outage or external 6 VDC battery failure.
- Program key switch prevents non-authorized users from changing the program.
- Manual mode is able to override programming and toggle fans, wash zones, and auxiliary outputs "ON,' and "OFF' on demand.
- User selected fan control options in a fire condition: exhaust fan on (supply fan OFF), both fans on, or both fans off.

- Capable of controlling 24 hour, 7 day program of up to 5 independent wash zones with user programmable wash, soak, and rinse duration, and delay times between each wash zone.
- 24 hour 7 day programmable fan control, capable of multiple "ON,' and "OFF" times.
- A programmable holiday schedule which turns off the fan, wash, and auxiliary operation for the holiday - up to 12 holidays can be programmed.
- Audible alarm, indicating light, and displayed message for fire indication.
- Shunt trip breaker output.
- A building fire panel contact for building alarm Systems.

OPTIONS

- Built in gas valve relay and reset button with user selected delay 2.5, 5, 7.5, or 10 seconds.
- Up to three independent 24 hour, 7 day programmable auxiliary outputs, capable of controlling secondary fans, equipment, or whatever the customer needs.
- Low soap level indication.

INSTALLATION

- **Refer to the project blueprints for proper plumbing and electrical hookup.**

Caution: Do not apply power before plumbing and ventilator air handling equipment installation is complete.

The following is the recommended procedure for installing the TAC-3000 control panel. The control panel is designed to operate at 12OVAC *50/60 Hz* line to neutral voltage. Refer to the wiring diagram on the project blueprints located on the inside of the plumbing door.

PLUMBING

1. Mount the panel on the wall (or recessed in the wall with an optional trim ring) approximately 42" from the finished floor to the bottom of the cabinet.
2. Open the cabinet and verify the pipe size. Route and connect the hot water supply piping to the manifold connection at the bottom of the cabinet.
3. Connect piping from the top connection of the manifold and route it to the ceiling. Install a vacuum breaker at the highest point of the run to the hood. For multiple zone systems install a water valve before the vacuum breaker then continue on with a tee and install another water valve and vacuum breaker for the next zone. Repeat for the other zones if applicable.
4. Install a tee fitting after the vacuum breaker and connect the 1/4" NPT soap injection check valve. For multiple zones install a detergent solenoid before the detergent check valve (see installation drawings). Repeat for the other zones if applicable.
5. Continue the pipe to the hood(s) and connect to the wash manifold on the hood(s). Repeat for the other zones if applicable.
6. Connect the tubing to the check valve and route tubing to the cabinet. At the cabinet connect tubing to the clear block mounted on the detergent pump, or for a multiple zone system, to the clear blocks mounted in the cabinet (see system blue prints).

ELECTRICAL

The following connections are made to 3 plug-in, ten terminal connectors labeled TB1, TB4, TB5. and terminals labeled **DC+, FT-, SNO, SC, SNC, FNO, FNC, FC, GVNO, GVC**. All neutral connections are at TB 1(4, 5, 6 & 7), TB4(9 & 10), and TB5(9 & 10).

7. Connect the ventilator fan motor starter(s) control coils as follows: the Exhaust fan to TB4(1) 12OVAC ***50/60 Hz*** line, the Supply fan to TB4(2) 12OVAC ***50/60 Hz*** line, and their returns to neutral.
8. Connect the fire signal sensing loop to TERMINALS labeled ***DC+***(protected with 1 amp fast blow fuse), **USE ONLY 1 AMP FAST BLOW FUSES FOR REPLACEMENT. INCORRECT FUSE WILL VOID WARRANTY.**, ***& FT- .*** Start the connection of the loop from TERMINAL labeled ***DC+*** and wire in series through the fire system micro switch (normally closed), duct collar thermoswitch(es) (normally closed), red push button on the door, and back to the panel TERMINAL labeled ***FT-.*** The loop circuit must be connected before the power is applied to the panel, or the panel will be tripped into a fire condition.

Caution: Run the DC fire loop wiring in separate conduit from the power wires.

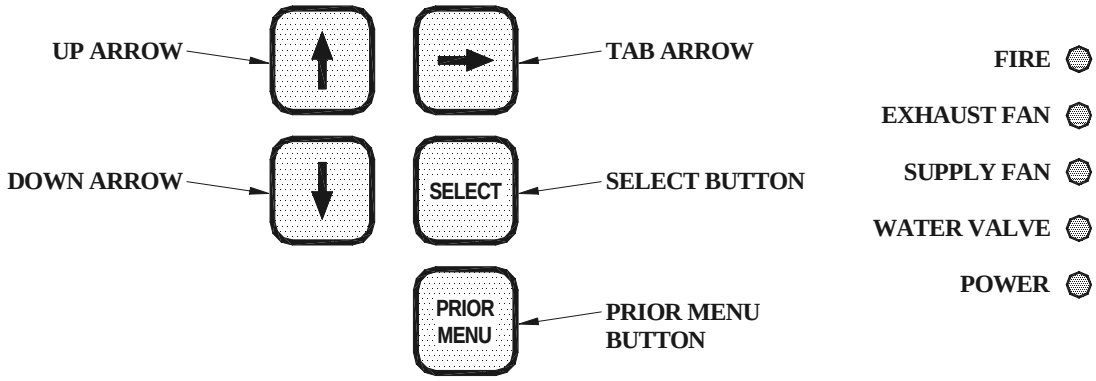
9. Connect any devices that need to be de-activated or activated in a fire condition to the panel's SPDT (Single Pole Double Throw) auxiliary relay contact (**2 CONTACTS RATED FOR *5* AMPS MAX**.) provided for field connections. The terminal blocks are labeled **FC** (protected with 5 amp fast blow fuse) , **FNC**, **FNO**, and **SC** (**protected with 5 amp fast blow fuse, feed with 120VAC wired from factory**), **SNC(normally used to field wire to shunt trip device)**, **SNO**, (C is an abbreviation for common, NO is an abbreviation for normally open, and NC is an abbreviation for normally closed). Note that the relays are normally energized with power on and the contacts are labeled with the relay in a de-energized state. **USE ONLY 5 AMP FAST BLOW FUSES FOR REPLACEMENT. INCORRECT FUSE WILL VOID WARRANTY.**
10. If the gas valve option is provided, a relay RL2 will be installed and a blue reset button will be mounted on the door above the key switch. The gas valve will be connected to terminals labeled **GVC** (protected with 5 amp fast blow fuse), and **GVNO**, only if this option is provided **USE ONLY 5 AMP FAST BLOW FUSES FOR REPLACEMENT. INCORRECT FUSE WILL VOID WARRANTY.** Note that the relay is normally energized with power on and the reset button pressed; also, the contacts are labeled with the relay in a de-energized state. The blue lighted button will illuminate when pressed to indicate the gas valve is powered and open
11. If the panel is to be used to wash multiple zones then connect each zone's water valve and detergent valve (located outside the panel) to its power connections inside the panel. Example; connect zone 1 water valve to *ZONE 1 WAT*. (Water valve), *ZONE 1 DET*. (detergent valve) and their returns to neutral. Repeat for the other zones.
12. Verity that all three toggle switches on the right side of the rear board are in the OFF (down) position.
13. Verify that all connections are complete, then connect the main I2OVAC power to the Islatrol filter and surge protector line connections mounted above the rear board.

OPERATION

The TAC-3000 has three modes of operation **AUTOMATIC MODE, MANUAL MODE,** and **PROGRAM MODE**. The LED labeled Power on the front door to the right of the buttons will always be illuminated with AC power applied to the panel.

DOOR DESCRIPTION

The descriptions of the front door control buttons are displayed below for reference. Definitions that apply to this control system to aid in understanding the system and its programming are located in the back of this manual.



The 5 LED indication lights shown above right are located on the front door to the right of the buttons.

AUTOMATIC MODE

AUTOMATIC MODE*:* With the key switch in the center position on **AUTO** the display shows the date, time, and status of the system. In this mode the program is running and the buttons on the front door are inactive. The display should look like the example shown below.

```
AUTOMATIC MODE
05/04/95 TH 11:43 AM
○Fan ●A1  ●A2  ●A3
WASH:Z1  0N     09
```

LINE 1: The top line shows the title of the menu.
LINE 2: The second line displays the date, day of the week, and time.
LINE 3: The third line gives the status of the fan(s) **(○Fan)**, auxiliary output 1 **(○A1)**, auxiliary output 2 **(○A2)**, and auxiliary output 3 **(○A3)**. **An open circle designates that the item is OFF, a closed circle designates that the item is ON**.
LINE 3: The fourth line displays the current wash zone and its status. The example above shows that zone 1 is on and is counting down from 9 minutes **ZI ON 09**. With everything off the display would look like the example below.

```
AUTOMATIC MODE
05/04/95 TH 11:43 AM
○Fan ○A1  ○A2  ○A3
WASH:Z1  0FF    00
```

- **Note: With the key switch in Auto position and the key removed, the programming CANNOT be changed!**

MANUAL MODE

MANUAL MODE: Turning the key switch to the right to **MANUAL** causes the manual mode menu to be displayed. In manual mode the fan(s), auxiliary outputs 1, 2, and 3, and the wash zones can be turned ON and OFF using the buttons on the front door (1abeled below). Note: when the panel mode is switched to MANUAL, the fan(s), Al, A2, and A3 outputs will remain in the same state they were in from the program. If they were ON they will stay ON, if they were OFF they will stay OFF.

- The top line of the display shows the title of the menu
- The second line shows the date, day of the week, and time.
- The third and fourth lines look like the auto mode menu except there is a flashing cursor on the ○**Fan** position.

The display should look like the one shown below.

```
MANUAL MODE
05/04/95 TH 11:43 AM
○Fan ○A1  ○A2  ○A3
WASH:Z1  0FF    00
```

Turning on the Fan(s):

1. Press the ***TAB ARROW*** button until the cursor is on the ○**Fan** position.

```
MANUAL MODE
05/04/95 TH 11:43 AM
○Fan ○A1  ○A2  ○A3
WASH:Z1  0FF    00
```

2. Press the ***UP*** or ***DOWN ARROW*** button to toggle the fan(s) ON and OFF. If toggled to ON the display will change to **(●Fan)** and the green LEDs Exhaust Fan and Supply Fan will illuminate.

```
MANUAL MODE
05/04/95 TH 11:43 AM
●Fan ○A1  ○A2  ○A3
WASH:Z1  0FF    00
```

Turning on theAuxiliary outputs 1,2, and 3:

1. Press the ***TAB ARROW*** button until the cursor is on ○**A1**, ○**A2**, or ○**A3** position.

MANUAL MODE
05/04/95 TH 11:43 AM
○Fan ○A1 ○A2 ○A3
WASH:Z1 0FF 00

2. Press the ***UP*** or ***DOWN ARROW*** button to toggle the Auxiliary output ON and OFF. If toggled to ON the display will change to ●**A1**, ●**A2**, or ●**A3.**

MANUAL MODE
05/04/95 TH 11:43 AM
○Fan ○A1 ●A2 ○A3
WASH:Z1 0FF 00

Starting the wash zone:

The control panel is capable of washing up to 5 zones independently. When the wash cycle for any one of the 5 zones is started, the fans will turn off (indicated by the green exhaust and supply fan **LEDs** turning off), but the fan symbol will remain on if it was turned on from the program **(●Fan)**; the fans will turn back on after the wash ends. Note that the fans will not turn ON once the wash ends if their status is changed to off **(○Fan).**

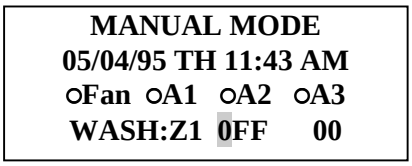
Refer to the **SYSTEM CONFIGURATION LABEL** located on the inside of the electrical cabinet, for the number of zones and items that are connected to the control panel for your system. Be sure to program only those wash zones which are configured for your system. Programming non-existent zones can cause the fans to shut down and detergent to be injected into the line.

1. Press the ***TAB ARROW*** button until the cursor is on the **Z1** position.

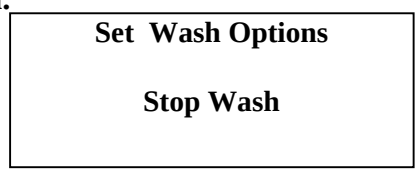
MANUAL MODE
05/04/95 TH 11:43 AM
○Fan ○A1 ○A2 ○A3
WASH:Z1 0FF 00

2. Press the ***UP*** or ***DOWN ARROW*** button to increment through the zones and stop on the zone to wash, for example **Z1.**

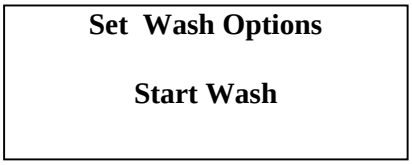
3. Press the ***TAB ARROW*** button once to the word **OFF** next to the **Z1.**



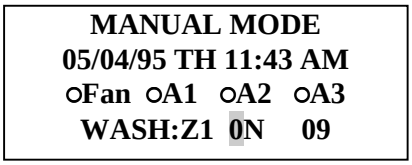
4. Press the ***SELECT*** button, the menu will change to the **Set Wash Options** menu displaying **Stop wash.**



5. Press the ***UP ARROW*** button once until the **Set Wash Options** menu displays **Start Wash.**



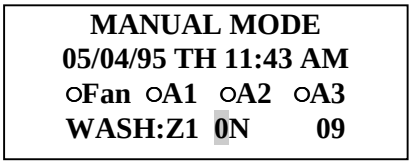
6. Press the ***SELECT*** button to activate. The menu will change to the **MANUAL MODE** menu showing **Z1 ON 09**. Note the default time for the length of the wash cycle is 9 minutes, which is the total time of the three durations (wash, soak, rinse). These times can be changed in the **PROGRAM MODE.**



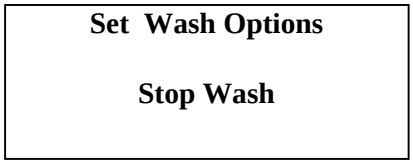
<u>Stopping (pausing) the wash</u>:

The wash can be paused at any time after it has started washing. It then can be resumed or ended. See **<u>Resuming the wash</u>** or **<u>Ending the wash</u>**.

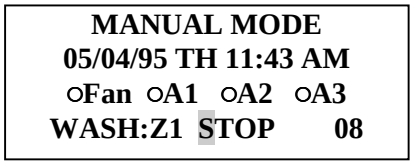
1. Press the ***TAB ARROW*** button until the cursor is on the word **ON** next to **Z1**.



2. Press the ***SELECT*** button and the following **Set Wash Options** menu will display **Stop Wash.**

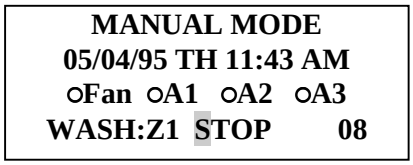


3. Press the ***SELECT*** button to activate. The wash will stop (pause) with the wash time that remains being displayed.

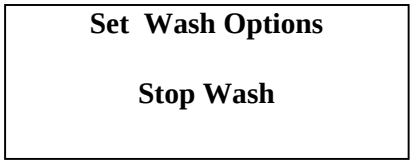


Resuming the wash:

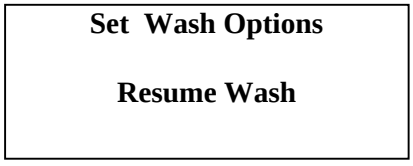
1. Press the ***TAB ARROW*** button until the cursor is on the word **STOP** next to **Z1**.



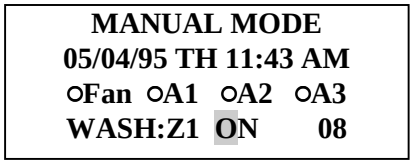
2. Press the ***SELECT*** button and the following Set Wash Options menu will display **Stop Wash**.



3. Press the ***UP*** or ***DOWN ARROW*** button until **Resume Wash** is displayed. Set Wash

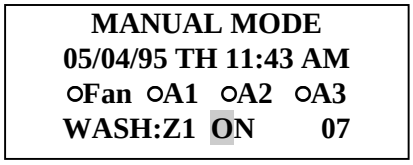


4. Press the ***SELECT*** button to activate. The **MANUAL MODE** menu will be displayed and the wash will resume with the wash time that remains being displayed.

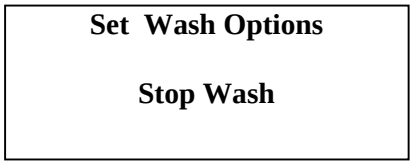


Ending the wash:

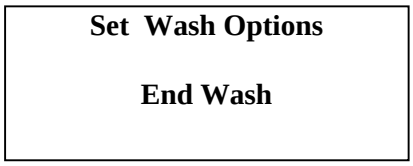
1. Press the ***TAB ARROW*** button until the cursor is on the word **ON** next to **Z1**.



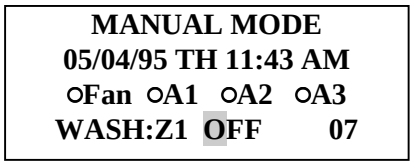
2. Press the ***SELECT*** button and the following **Set Wash Options** menu will display **Stop Wash.**



3. Press the ***UP*** or ***DOWN ARROW*** button until **End Wash** is displayed.



4. Press the ***SELECT*** button to activate. The **MANUAL MODE** menu will be displayed with the **Z1 ON** changed to **Z1 OFF** and the wash time returning to 00. The wash cycle has been ended and is complete. To restart the wash see **Starting the wash zone**.



PROGRAM MODE

PROGRAM MODE: Turn the key switch on the front door to **PROGRAM** and the screen will change to the program menu.

The program menu consists of the following control lines:

- **Set date and time** - allows the operator to change the date and time.
- **Fan cycles** - sets multiple on and off times per day for the connected exhaust/supply fans.
- **Wash Cycles** - sets multiple on and off times per day for each zone independently.
- **Wash duration** - sets the length of each wash from 1 to 14 minutes.
- **Soak duration** - sets the length of each soak from 1 to 14 minutes.
- **Rinse duration** - sets the length of each rinse from 1 to 14 minutes.
- **AUX. 1** - sets multiple on and off times per day for user defined item.
- **AUX. 2** - sets multiple on and off times per day for user defined item.
- **AUX. 3** - sets multiple on and off times per day for user defined item.
- **Fire condition -** operator selects which fans are ON or OFF in a fire condition.
- **Holiday** - operator specifies up to 12 holidays during which the system will not run the programmed schedule.
- **Copy Days** - operator may copy a programmed day to another day of the week.

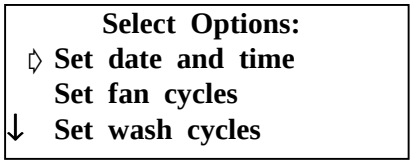
Scrolling UP and down program list:

1. Press the ***DOWN ARROW*** **button** and the arrow cursor will scroll down the list. Press the ***Up ARROW*** **button** and the arrow cursor will scroll back up the list. The menu will look like the following.

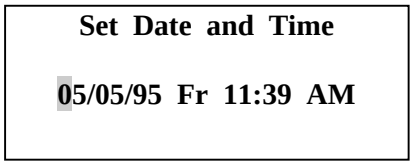
Select Options:
⇩ **Set date and time**
Set fan cycles
↓ **Set wash cycles**
Set wash duration
Set rinse duration
Set AUX1 cycles
Set AUX2 cycles
Set AUX3 cycles
Set fire options
Set holidays
Copy Days

Setting the date and time:

1. Press the ***UP ARROW*** until the arrow cursor is pointing to **Set date and time**.



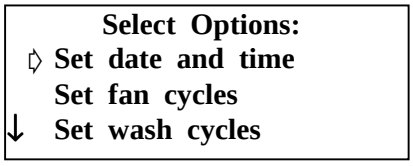
2. Press the ***SELECT*** button to enter the **Set Date and Time** menu.



3. Press the ***UP*** and ***DOWN ARROW*** buttons to increment the choices up and down to the desired setting.

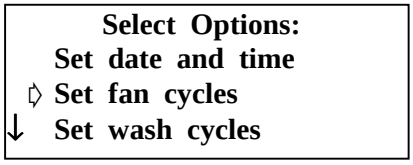
4. Press the ***TAB ARROW*** button to move the cursor to the next position in which to change.

5. When done press the ***PRIOR MENU*** button to Save the setting and return to the **Select Option** main program menu.

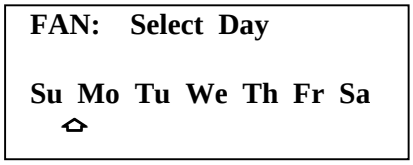


<u>Programming the Fan Cycles</u>:

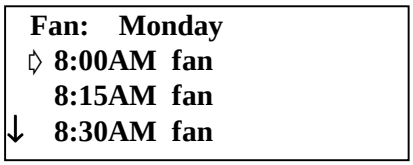
1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to **Set fan cycles**. Press the ***SELECT*** button to select. The menu will change to Fan: Select Day menu.



2. Press the ***TAB ARROW*** button to select the day of the week to program. For example **Mo = Monday.**

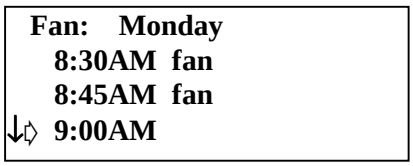


3. Press the ***SELECT*** button to change to the **Fan: Monday** menu. The **Fan: Monday** menu will display. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the time slot for the Fans to turn on. For example 8:00 AM.

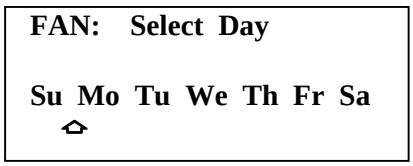


4. Press the ***SELECT*** button. The word **fan** is displayed next to the time. Note the arrow cursor will automatically increment to the next time line. Continue to press the ***SELECT*** button (the word fan will appear next to the time) until the time slot to turn off the fans is reached. For example 9:00 AM. The fans in this example will turn on 8:00 AM and since the Fan **<u>is not</u>** selected on at 9:00 AM they will turn off when 9:00 AM is reached.

- To remove a **fan** selection use the ***UP*** and ***DOWN ARROW*** buttons to move the arrow cursor to the line from which you wish to remove the word fan, press the ***SELECT*** button to **<u>un</u>**-select, and the word **fan** will be removed.

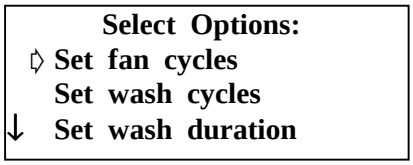


5. Repeat steps 3 and 4 to create multiple on and off times as needed, press the ***PRIOR MENU*** button to save the setting and return to the previous menu.



6. Press the ***TAB ARROW*** button to select another day to program fan cycles and repeat steps 2 through 5 until all days are programmed with the desired fan **ON** and **OFF** times.

7. Press the ***PRIOR MENU*** button again to return to the **Select Option** main program menu. Note the arrow returned to the same menu line item that was just programmed.



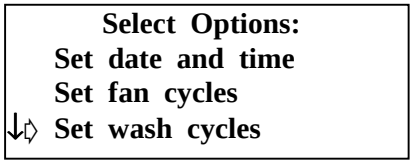
Programming the Wash Cycles:

The control panel is capable of washing up to 5 zones independently. When any one of the 5 zones is started the fans will turn off **(○Fan),**

- **Note that the fans will turn back ON, if programmed to be ON, after the wash ends.**

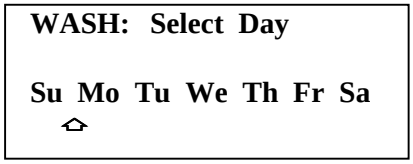
Refer to the **SYSTEM CONFIGURATION LABEL** located on the inside of the electrical cabinet, for the number of zones and items that are connected to the control panel for your system. Be sure to program only those wash zones which are configured for your system. Programming non-existent zones can cause the fans to shut down and detergent to be injected into the line.

1. Press the ***TAB ARROW*** button until the arrow cursor is pointing to Set wash cycles.



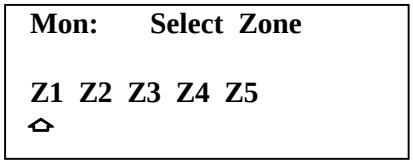
2. Press the ***SELECT*** button and the **Wash: Select Day** menu will display.

3. Press the ***TAB ARROW*** button to select the day to program the wash. For example **Mo = Monday.**

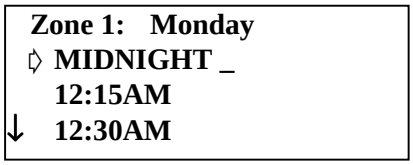


4. Press the ***SELECT*** button and the Mon: Select ***Zone*** menu will display.

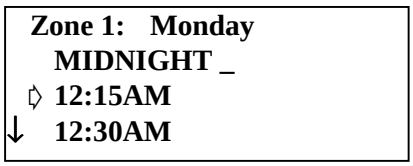
5. Press the ***TAB ARROW*** button to select the zone to program **Z1** through **Z5.** For example **Z1**.



6. Press the ***SELECT*** button and the **Zone 1: Monday** menu will be displayed.

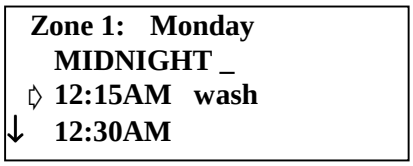


7. Press the ***UP*** and ***DOWN ARROW*** button to move the arrow cursor to point to the time line to start the wash cycle. For example 12:15 AM.



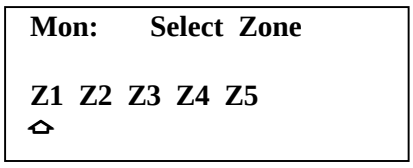
8. Press the ***SELECT*** button to select the time for the wash cycle to start. The word **wash** will be displayed next to the time selected. For this example the wash cycle starts at 12:15 AM and continues for the programmed total duration of the wash, soak, and rinse times.

- To remove a **wash** selection use the ***UP*** and ***DOWN ARROW*** buttons to move the arrow cursor to the line from which you wish to remove the word wash, press the ***SELECT*** button to **<u>un</u>**-select, and the word **wash** will be removed.



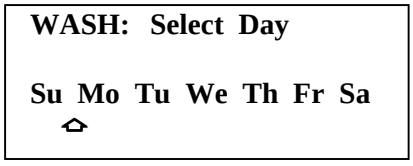
9. Repeat steps 7 and 8 to program other wash times for that day. In this example **Z1** on Monday will start to wash at 12:15AM for 9 minutes total duration, unless the duration times have been changed, and turn off at 12:24AM (12:15AM plus 9 minutes). If selected to wash again at 12:30AM and/or 3:00PM the wash will repeat each selected time for the same duration times.

10. Press the ***PRIOR MENU*** button to return to the previous screen. In this example



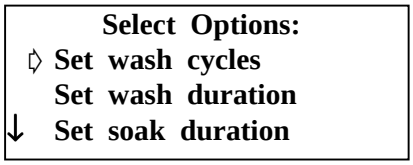
11. Repeat steps 5 through 10 to program other zones if applicable for the installed system for that day.

12. Press the ***PRIOR MENU*** button to return to the **WASH: Select Day** menu.



13. To program another day of the week repeat steps 3 through 11.

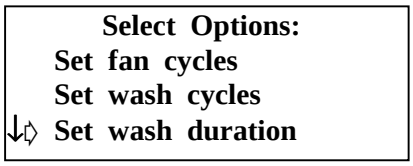
14. Press the ***PRIOR MENU*** button to return to the **Select Option** menu.



- To change the duration times see **Programming the Wash Duration.** **Programming the Soak Duration**. and **Progamming the Rinse Duration**.

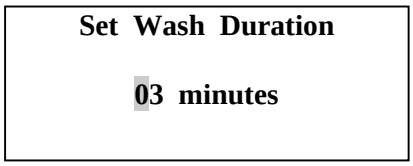
Programming the Wash Duration:

1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the **Set wash duration** line.

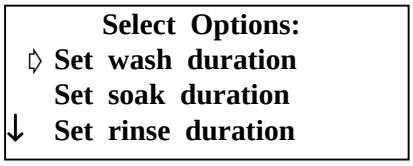


2. Press the ***SELECT*** button and the **Set Wash Duration** menu and wash duration time will be displayed.

3. Press the ***UP ARROW*** button to increment the wash duration time. Press the ***DOWN ARROW*** button to decrease the wash duration time. The default time is set at 3 minutes. This should be increased if the cooking load is heavy or be decreased if the cooking load is light. The duration can be set for a minimum time of 1 minute and a maximum time of 14 minutes.

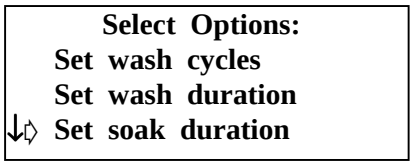


4. Press the ***PRIOR MENU*** button to activate and return to the **Select Option** main program menu.



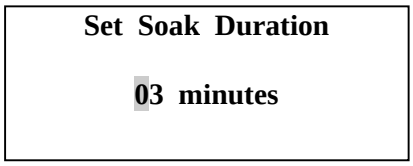
Programming the Soak Duration:

1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the **Set soak duration** line.

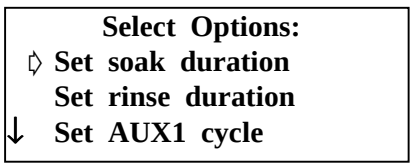


2. Press the ***SELECT*** button and the **Set Soak Duration** menu and soak duration time will be displayed.

3. Press the ***UP ARROW*** button to increment the soak duration time. Press the ***DOWN ARROW*** button to decrease the soak duration time. The default time is set at 3 minutes. This should be increased if the cooking load is heavy or be decreased if the cooking load is light. The duration can be set for a minimum time of 1 minute and a maximum time of 14 minutes..

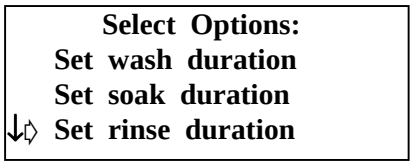


4. Press the ***PRIOR MENU*** button to return to the **Select Option** main program menu.



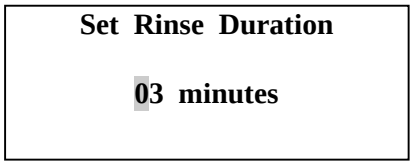
Programming the Rinse Duration:

1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the **Set rinse duration** line.

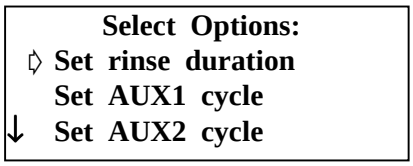


2. Press the ***SELECT*** button and the **Set Rinse Duration** menu and rinse duration time will be displayed.

3. Press the ***UP ARROW*** button to increment the rinse duration time. Press the ***DOWN ARROW*** button to decrease the rinse duration time. The default time is set at 3 minutes. This should be increased if the cooking load is heavy or be decreased if the cooking load is light. The duration can be set for a minimum time of 1 minute and a maximum time of 14 minutes..



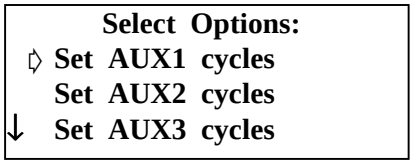
4. Press the ***PRIOR MENU*** button to return to the **Select Option** main program menu.



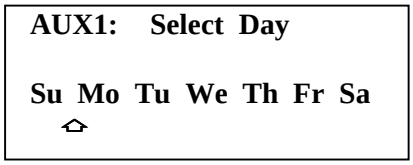
Programming the Auxiliary 1 Cycles:

The Auxiliary cycles are programmable cycles (similar to the fan cycles*)* which can be programmed with multiple ON and OFF times to control an Auxiliary output. They can be used to control electrical outlets, lights, alarms, fans, appliances, etc. that require programming for ON and OFF times. They are automatically turned OFF in a fire condition.

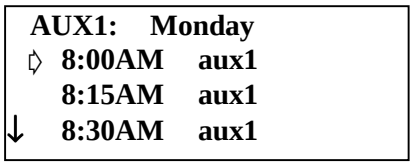
1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to **Set AUX1 cycles.**



2. Press the ***SELECT*** button and the menu will change to **AUX1**: **Select Day** menu. Press the ***TAB ARROW*** button to select the day of the week to program. For example **Mo = Monday**.

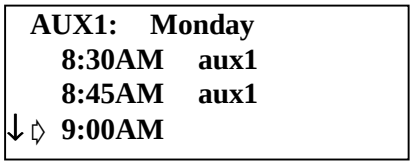


3. Press the ***SELECT*** button to display the **AUX1**: Monday menu. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the time slot for the **AUX1** to turn on. For example 8:00 AM.

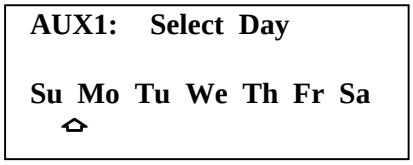


4. Press the ***SELECT*** button until the word **aux1** is displayed next to the time. Note the arrow cursor will automatically increment to the next time line. Continue to press the ***SELECT*** button (the word **auxl** will appear next to the time) until the time slot to turn off the auxiliary output is reached. For example 9:00 AM. The auxiliary output in this example will turn on at 8:00 AM and since the auxiliary output **is not** selected on at 9:00 AM, it will turn off when 9:00 AM is reached.

- To remove a **aux1** selection use the ***UP*** and ***DOWN ARROW*** buttons to move the arrow cursor to the line from which you wish to remove the word **aux1**, press the ***SELECT*** button to **un**-select, and the word **aux1** will be removed.

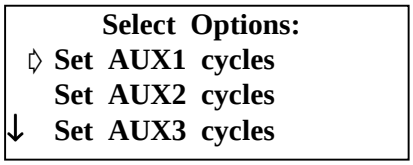


5. Repeat steps 3 and 4 to create multiple on and off times as needed, press the ***PRIOR MENU*** button to return to the previous menu.



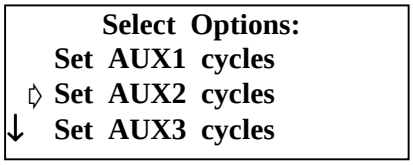
6. Press the ***TAB ARROW*** button to select another day to program auxiliary output and repeat steps 2 through 5 until all days are programmed with the desired ON and OFF times.

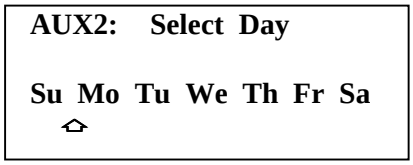
7. Press the ***PRIOR MENU*** button to return to the Select Option main program menu.

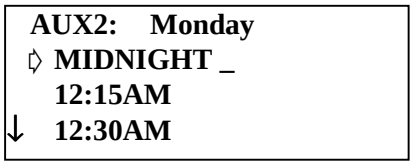


Progamming the Auxiliary 2 Cycles:

1. Repeat the instructions for **Programming the Auxiliary 1 Cycles** to program Auxiliary output 2.

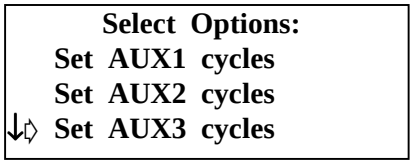


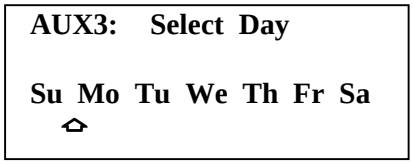


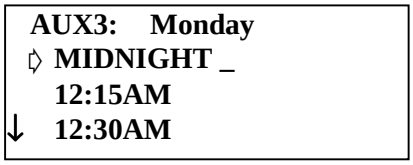


Programming the Auxiliary 3 Cycles:

1. Repeat the instructions for **Programming the Auxiliary 1 Cycles** to program Auxiliary output 3.



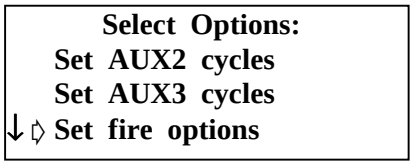




<u>Programming the Fire Option</u>:

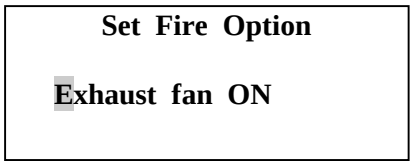
The fire options are used to select the condition of the fans in a fire condition. The panel is triggered into a fire condition when the loop circuit (consisting of three items: ***a fire extinguishing system micro switch, thermoswitch(es)*** mounted in the hood exhaust duct collar(s), and the ***red lighted push button switch*** mounted on the door front) opens. This signals the panel to set the fans to a pre-programmed state, illuminate the red light, display FIRE on the screen, open all zone water valves, close the gas valve (if applicable), and change the state of the F and S single pole double throw contact and the items they are controlling.

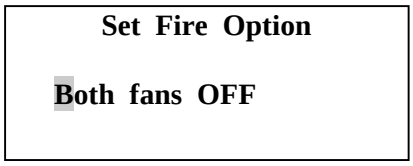
1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the **Set fire options** line.

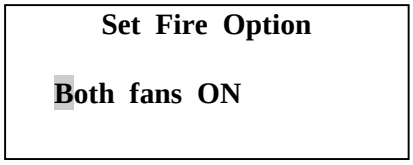


2. Press the ***SELECT*** button and the **Set Fire Option** menu will be displayed.

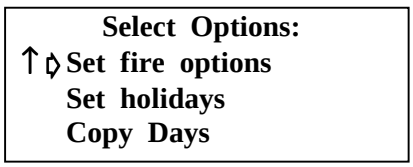
3. There are 3 selections for the fans in a fire condition: Exhaust **fan on (supply fan OFli), Both fans off, Both fans on.** The default is set to Exhaust fan on (**supply fan OFF). Press the *UP*** or ***DOWN ARROW*** button to change the option.







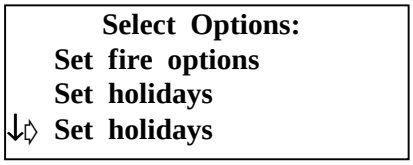
4. Press the ***PRIOR MENU*** button to return to the **Select Option** main program menu.



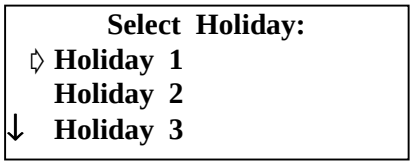
<u>Programming the Holiday schedule</u>:

- The Holiday schedule is used to set the day(s) during which the program **<u>will not</u>** run and the system will be off. The holiday schedule will begin at 12:00 **AM** on the day programmed and continue for the number of days programmed.

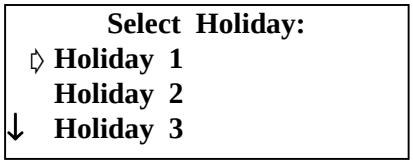
1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the **Set holidays** line.



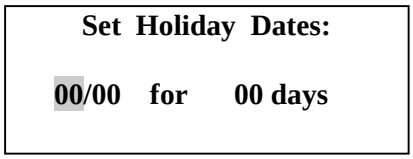
2. Press the ***SELECT*** button to change to the **Select Holiday**: menu.



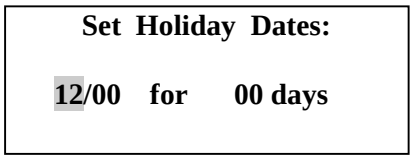
3. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to a holiday line, Holiday 1 through Holiday 12, preferably a holiday line that has not been previously programmed. A holiday can be any date during which the kitchen is closed.



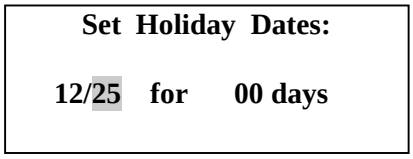
4. Press the ***SELECT*** button to change to the **Set Holiday Dates**: menu.



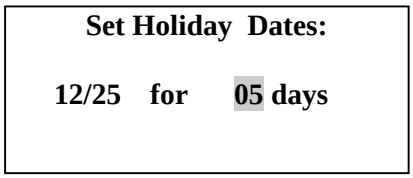
5. Press the ***UP*** or ***DOWN ARROW*** button to increment the month of the holiday to be set. For example 12 for December.



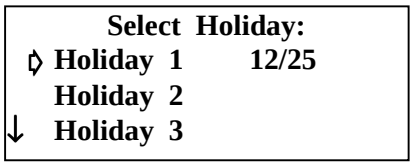
6. Press the ***TAB ARROW*** button to move the cursor to the day position. Press the ***UP*** or ***DOWN ARROW*** button to increment the day of the holiday. For example 25 for Christmas.



7. Press the ***TAB ARROW*** button to move the cursor to the <u>number of days</u> position. Press the ***UP*** or ***DOWN ARROW*** button to increment the <u>number of days</u> the holiday will extend to. The maximum <u>number of days</u> is set at 31 days starting on the date selected. For this example the Christmas holiday might start on the 25th and run for 5 days.



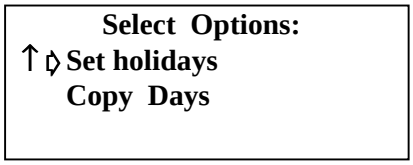
8. Press the ***PRIOR MENU*** button to back up to the **Select Holiday**: menu. The holiday line programmed will display the start date of the holiday.



- NOTE: To turn OFF the Holiday setting change the <u>number of days</u> to OO and then press the ***PRIOR MENU*** button to activate. The date next to the holiday line will be removed.

9. Repeat steps 3 through 8 to program the other holiday slots.

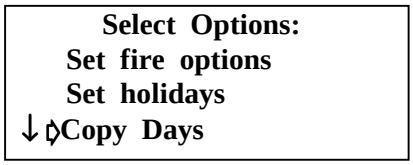
10. Press the ***PRIOR MENU*** button to return to the **Select Option** main program menu.



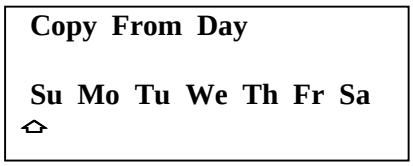
<u>Using the Copy function</u>:

- The Copy function is used to copy a daily program (Fan, Wash, Soak and Rinse cycles) from one day to another.

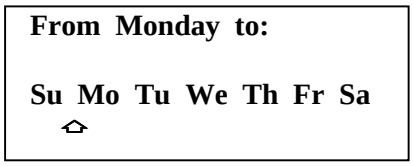
1. Press the ***DOWN ARROW*** button until the arrow cursor is pointing to the **Copy Days** line.



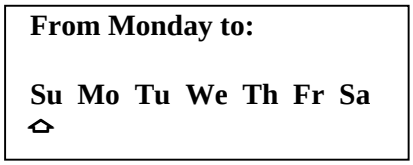
2. Press the ***SELECT*** button to change to the **Copy From Day**: menu.



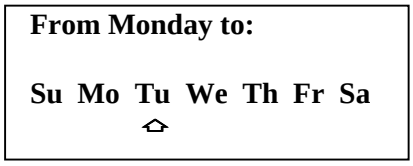
3. Press the ***TAB ARROW*** button until the arrow cursor is pointing to the day you would like to copy the program from.



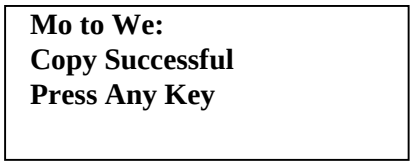
4. Press the ***SELECT*** button to change to the **From "DAY" to**: menu. (**"DAY"** will be the programmed day you are copying from such as **"Monday"**



5. Press the ***TAB ARROW*** button until the arrow cursor is pointing to the day you would like to copy the program to.

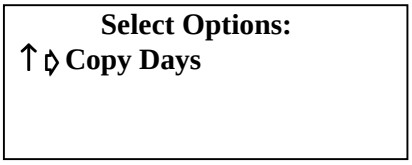


6. Press the ***SELECT*** button to complete the copy function.



7. Press any key and repeat steps 5 & 6 to copy the same program day to different days of the week.

8. Press the ***PRIOR MENU*** button to return to the **Select Option** main program menu.

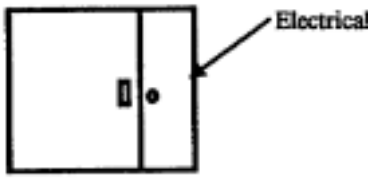


- **Once all programming is complete, turn the key switch to the AUTO position and remove the key. The program is set and running. To change the programming, insert the key and follow the programming steps above.**

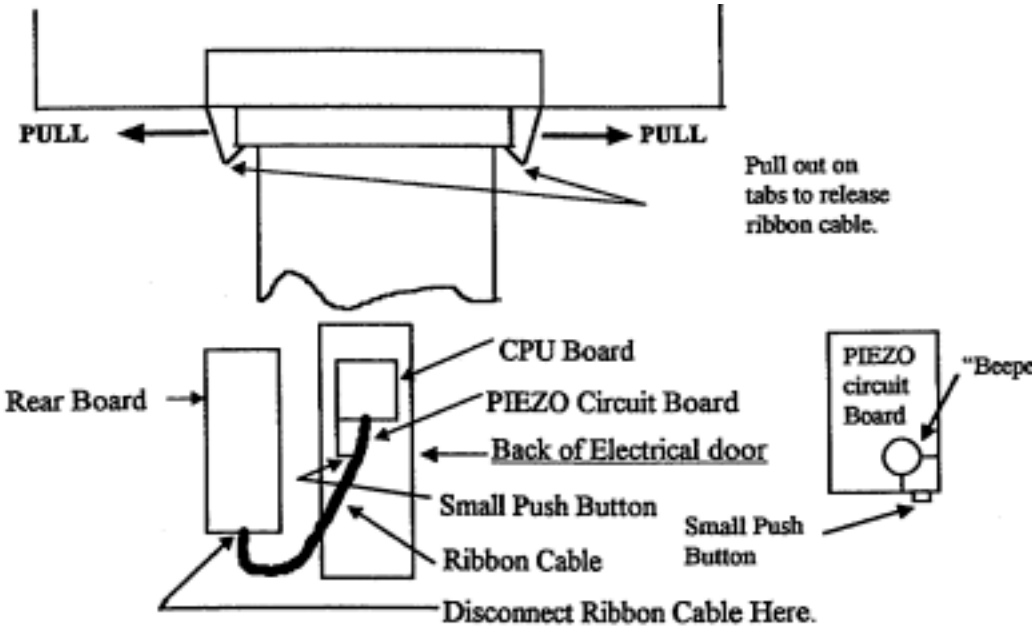
Clearing all Programming

The program can be cleared of all user entered programming. This can be useful if the current program is too extensive to clear out item by item. If the programmer needs to start from a clean slate then clearing the program would be the easiest way to accomplish this.

1. Open the Electrical door.



2. Disconnect the ribbon cable from the rear board.



3. **Press and Hold** the small push button on the small PIEZO circuit board connected to the CPU board mounted on the door. The button is on the bottom edge of the circuit card.

4. Continue holding the small push button while re-connecting the ribbon cable to the rear board.
5. Release the small push button on the small circuit card.

6. Verily that the program is cleared by checking the date and time. They should reset to **00/00/00 Su 12:00 AM**.

Note: The fire relay will not drop out tripping anything connected to the contacts while clearing the program.

FIRE PROTECTION

The TAC-3000 uses a series loop connected on TB2(1) labeled **DC+** to TB2(2) labeled **FIRE TRIP** - to signal a fire condition when a fire is detected. The fire condition can originate in one of three ways:

1. When the fire system discharges due to a surface fire, its *fire system micro switch or flow switch* will change states, opening the loop circuit and tripping the TAC-3000 panel. **Re-arm the fire system to reset the loop circuit and press any of the 5 control buttons on the door front to reset the panel.**
2. When a fire originates in the duct collar it will heat the ***thermoswitch*** to its trip point opening the loop circuit and signaling a ***fire condition***. **The panel will automatically reset itself once the thermoswitch has cooled down to its reset point. Pressing any of the 5 control buttons on the door front will reset the panel.**
3. The operator can trip the panel by pressing the red fire button on the door front. **Pressing the red fire button a second time will reset the loop circuit. Pressing any of the 5 control buttons on the door front will reset the panel.**

When the control panel senses a fire, the red fire button will be illuminated and the TAC-3000 panel will automatically:

- Set the fans to the pre-programmed fire condition set in the Set fire options menu The default setting is Exhaust fan ON (supply fan OFF), the other 2 selections are Both fans OFF, and Both fans ON. (The green lights labeled **EXHAUST FAN** and **SUPPLY FAN** will illuminate according to the programmed selection).
- Turn **OFF** all Auxiliary outputs.
- Open all water valves placing the panel in a continuous rinse mode. (The green light labeled **WATER VALVE** will be illuminated.)
- Change the state of the fire relay contacts and activate or de-activate controlled items connected to them. (See list of controlled items below).

CONTROLLED ITEMS

To reset the panel's sensing circuit, refer to items 1,2, and 3 listed above. The controlled items connected to the auxiliary F and S contacts on Th2 will also have to be reset. The following list contains items that are normally connected to the auxiliary contacts:

- Shunt trip breaker
- Gas valve and the system pilot lights.
- Building alarm system.
- Electrical outlets (contacts control a contactor).

- **NOTE: When the Building Fire Alarm System has been connected to the control panel, ensure that the panel is reset and then refer to the reset procedures for the Building Fire Alarm System.**

TAC-3000 STARTUP INSPECTION REPORT

To retain the warranty on your TAC-3000 control panel, fill it out and make a copy of this startup inspection report, and send it to Aqua-Matic directly upon completion of startup (address is listed on the inside front cover of this manual).

NOTE: Warranty is void if startup inspection report is not returned to Aqua-Matic.

JOB NAME:
STREET ADDRESS:
CITY/STATE/ZIP CODE:
HOOD MODEL #:
SERIAL#/JOB#:
STARTUP DATE:
INSPECTED BY:
DATE:
COMPANY NAME:
STREET ADDRESS:
CITY/STATE/ZIP CODE:

OPERATION CHECKLIST:

Refer to the **MANUAL MODE** of operation in this manual to operate the controlled items below.

_____1. Turn the fans ON and OFF.

- If the fans do not turn on but the green lights do, check the fan(s) starter 12OVAC control power connections on the starters and also on TB4(1) & (2) and their corresponding neutral returns. Also check the fan(s) motor power.
- If the fan(s) and green light(s) do not turn on, check circuit breakers on the rear panel and the main power circuit breaker. Also check the panel power connections on TB 1(1) power, and TB 1(4) neutral and on the Islatrol filter/surge protector.
- If fan(s) and green light(s) turn on, continue to the next step.

_____2. Verify that the drains are clear, check the configuration label for the number of zones and items connected to the system, then start only the wash zones that are connected (one at a time). Verify that the fan(s) and their corresponding green lights **EXHAUST FAN** and **SUPPLY FAN** turn off; and the green **WATER VALVE** light illuminates. **(Note -the duration of the wash, soak, and rinse times are set in the program mode. The default times are 3 minutes wash, 3 minutes soak, and 3 minutes rinse for a total time of 9 minutes.)**

_____ • Verify that the water is washing the hood and the detergent pump is injecting detergent into the tubing.

_____• We recommend and preset the cam setting to 2.5. Check the pump for prime and re-adjust the cam to the desired setting. Record the pump cam setting ____

_____• The recommended water pressure setting is 18-25 PSI. Adjust the pressure by the pressure reducing valve (see Component Maintenance) and record the water pressure from gauge behind plumbing door._____PSI.

_____• The recommended water temperature setting is 140 ^{0}F. Record water temperature from the gauge behind plumbing door._____^{0}F.

_____• Verity that the water and pump shut off at the end of the cycle.

_____• Check for and repair any leaks in the plumbing.

_____3. The panel is shipped with a 1 gallon jug of C-S detergent from 20/10 Products Inc. If the detergent is changed to a different brand the viscosity must be that of water for the pump to operate correctly. Verity that the detergent is present. If not, install the proper detergent. We recommend finding the same or equivalent detergent locally for your convenience, or you can re-order direct from the factory.

_____4. Once the panel is operational make a copy of these 2 pages and send them to AquaMatic at the address on the front cover to implement the warranty.

Additional Comments:

SYSTEM MAINTENANCE

The Aqua-Matic ventilator and control panel should operate trouble free for many years; however, to ensure peak performance at all times, it is recommended that the guidelines below be followed.

SYSTEM

NEW:

After the first week of operation remove and clean the line strainer screen (located in the pressure reducing valve assembly within the plumbing enclosure of the control panel). Clogging from line debris, caused by new construction, will happen more frequently until lines are flushed by repeated usage. Several cleanings may be required.

DAILY:

The detergent level should be checked daily to keep the detergent pump from losing its prime. Monitor the hot water temperature (140 ^{0}F.) and pressure (18 to 25 PSI) while ventilators are washing. This may be accomplished by checking the combination temperature/pressure gauge located within the plumbing enclosure of the control panel.

WEEKLY:

All external ventilator surfaces, including lights and access doors, which become soiled from daily use should be cleaned. These areas are not cleaned automatically by the water wash system.

QUARTERLY:

Visually inspect the grease extracting modules and all interior surfaces exposed to the internal wash system for accumulated grease buildup. If accumulated grease buildup is found refer to the COMPONENT MAINTENANCE section for possible causes and methods of correcting the situation.

ANNUALLY:

Inspect exhaust ducts, control panels, relays, solenoid valve(s), detergent pump, and all related control panel components for functionality or excessive wear to correct with preventive maintenance. Also inspect fan blowers and their blower belts for proper. tension or replace them if necessary. Remove and clean the hot water line strainer.

COMPONENT MAINTENANCE

VENTILATOR MAINTENANCE:

An accumulation of grease on the interior surfaces of the ventilator behind the grease extraction modules may be caused by clogged nozzles, clogged line strainer, lack of detergent, loss of detergent for cleaning, low water pressure, or low water temperature.

NOZZLES:

Over time the nozzles can become clogged and will have to be removed and cleaned. To clean the nozzles:

1. Remove the nozzles with a 9/16" wrench.
2. Remove the spray head from the nozzle body, being careful to retain the spinner inside the nozzle.
3. Clean out all contaminants.
4. Reassemble nozzle.
5. Reinstall nozzle on the manifold.

LINE STRAINER:

The line strainer (located in the pressure regulator valve) can be removed and cleaned as follows:

1. Remove the bottom plug and 0-ring. The strainer is attached to the bottom plug and will be extracted when the bottom plug is removed.
2. Remove and clean strainer as required.
3. If the screen is damaged a replacement of the mesh screen is required.

DETERGENT PUMP:

The detergent bottle may be empty. Refill detergent jug or replace with a new container of detergent. The panel is shipped with a 1 gallon jug of C-5 detergent from 20/10 Products Inc. If the detergent is changed to a different brand the viscosity must be that of water for the pump to operate correctly.

The detergent pump may have lost its prime resulting in the detergent not being pumped into the hot water line for cleaning. The detergent pump is primed as follows:

1. Loosen the wing nut on the knurled adjustment cam nut, located behind the clear pump block.
2. Turn the pointer index until it points to setting number 6 (maximum *flow).* Re-tighten the index.
3. Ensure that the strainer assembly is below the surface of the detergent level.
4. Ensure that the tubing connection at the bottom of the clear block is snug.

5. Loosen the tubing connection on top of the clear block.

   Warning: Do not let detergent spray from the loose fittings. Some detergents may cause burns on sensitive skin. Wrap a rag around loosened fitting to prevent the detergent from spraying.

6. Press the pump prime switch or rotate the knurled nut by hand until the detergent is drawn out of the loosened fitting with no air bubbles in the clear block.
7. Tighten the top fitting and press the pump prime switch or rotate the knurled nut by hand to verify that the detergent will be pumped beyond the clear block into the top tubing.
8. Loosen the wing nut and adjust the pointer to the desired setting (we recommend and ship the panel with a cam setting of 2.5) and re-tighten the wing nut. The pump is primed and ready for use.

WATER PRESSURE AND TEMPERATURE:

Inadequate water pressure and/or temperature could also cause the problem of insufficient cleaning. Investigate and correct the building pressure and/or temperature problem.

1. Observe the water pressure and temperature on the gauge mounted on the control panel manifold. The pressure should be between 15 and 45 PSI. The recommended pressure range is 18 to 25 PSI. The water temperature should be between 140 ^{0}F and 170 ^{0}F.
2. Observe the building water pressure before the panel. If the pressure is higher than the pressure exiting the control panel manifold, then adjust the water pressure regulator on the manifold, located in the control panel, until the desired pressure is obtained.
3. The water temperature is adjusted by the building water heater element.

The water pressure and temperature should be adjusted for each ventilator system to provide the best cleaning process. This is determined through observation of the system under normal use.

DEFINITIONS

Automatic Mode- This mode is enabled when the key switch on the front door is turned to the center to the position labeled **AUTO.** In this mode the program is running and all buttons on the door front are inactive. By removing the key with the switch in this position the program **cannot** be changed.

Aux. 1 cycle- This is a cycle which can be programmed with multiple ON and OFF times to control an Auxiliary output. This programmed cycle can control electrical outlets, lights, alarms, fans, appliances, or anything else which needs to be turned ON and OFF at programmed times.

Aux. 2 cycle- Same as **Aux 1 cycle**.

Aux. 3 cycle- Same as **Aux 1 cycle**.

Auxiliary output- This is a control voltage used to control a relay which in turn controls a device requiring greater power than the Auxiliary output relay can provide

***DOWN ARROW* button-** This button scrolls down the menu lines, decreasing numbers, and toggling controlled items ON and OFF in *manual mode*

Fans ON Switch- This switch enables the fans to be toggled ON and OFF, if the LCD board fails, and the manual fire mode switch is turned on

Fire button- This is a guarded manual red lighted button used to trip the panel into a fire condition which will set the fans to a pre-progammed state, illuminate the red light, display FIRE on the screen, open all water valves, close the gas valve (if applicable), trip shunt trip circuit breakers(if applicable), and trip the building alarm (if applicable).

Fire condition- Occurs when the loop circuit (consisting of three items: *a fire extinguishing system micro switch, thermoswitch(es)* mounted in the hood's exhaust duct collar(s), and the *red lighted push button switch* mounted on the door front) opens. This signals the panel to set the fans to a pre-programmed state, illuminate the red light, display FIRE on the screen, open all water valves, close the gas valve (if applicable), trip shunt trip circuit breakers (if applicable), and trip the building alarm (if applicable).

Fire System Micro Switch- An electrical switch mounted in the fire extinguishing system that changes states from closed to open when the fire extinguishing system discharges. It is used to signal the TAC-3000 control panel to trip into *a fire condition*

Flow Switch- A switch operated by water flow when the building sprinkler system discharges. Used in the same capacity as *Fire System Micro Switch.*

LCD- An abbreviation for Liquid Crystal Display which is the 1 inch by 3 inch four line display on the front door.

LED- An abbreviation for Light Emitting Diode such as the 5 lights (1 red, 4 green) on the door front in a column to the right side of the buttons.

Gas Reset Option- A option needed if a electrical gas valve is to be connected and properly controlled. This option adds a relay to the rear circuit board and a blue lighted push button to the door front and allows a 12OVAC gas valve to be connected to the panel. The blue push button is pressed to close and maintain the gas valve, illuminating the blue light, until the panel is sent into ***a*** *fire condition* or AC power is turned off. If AC power is out and returns before the delay time is reached the gas valve will re-close eliminating the nuisance of having to reset the gas valve and appliance pilot lights. The delay time can be set to 2.5, 5, 7.5, or 10 seconds delay by dip switch on the rear circuit board.

Low Soap Option- This option is provided to signal with a flashing "Low Soap" message that the detergent tank is low when a *zone* is washing.

Maintenance Switch- This switch should normally be in the OFF (down) position. It is used to maintain the fire relay for the purpose of removing AC power to facilitate wire maintenance. Only the 6 VDC battery connection must remain connected to the system. With the switch in the ON position any device connected to the fire relay contacts will not trip. For example if an alarm is connected to the contact it will not trip when AC power is removed eliminating nuisance alarms while wiring maintenance is being performed.

Manual Fire Mode Switch- This switch should normally be in the OFF (down) position. It is placed in the ON position only when the front *LCD* display board fails in order to manually select the ***fire condition*** settings and enable the *Fans ON Switch* to toggle the fans ON and OFF.

Manual Mode- This mode is enabled when the key switch on the front door is turned to the right to the position labeled **MANUAL**. In this mode a cursor can be positioned on the individually labeled controlled outputs to turn them ON and OFF by pressing either the ***UP*** or ***DOWN ARROW*** button on the front door.

PIEZO buttons- These are the 5 touch sensitive buttons on the front door which are very durable and do not contain moving parts which can fail.

PRIOR MENU button- This button returns to the previous menu screen prior to entering the displayed menu screen.

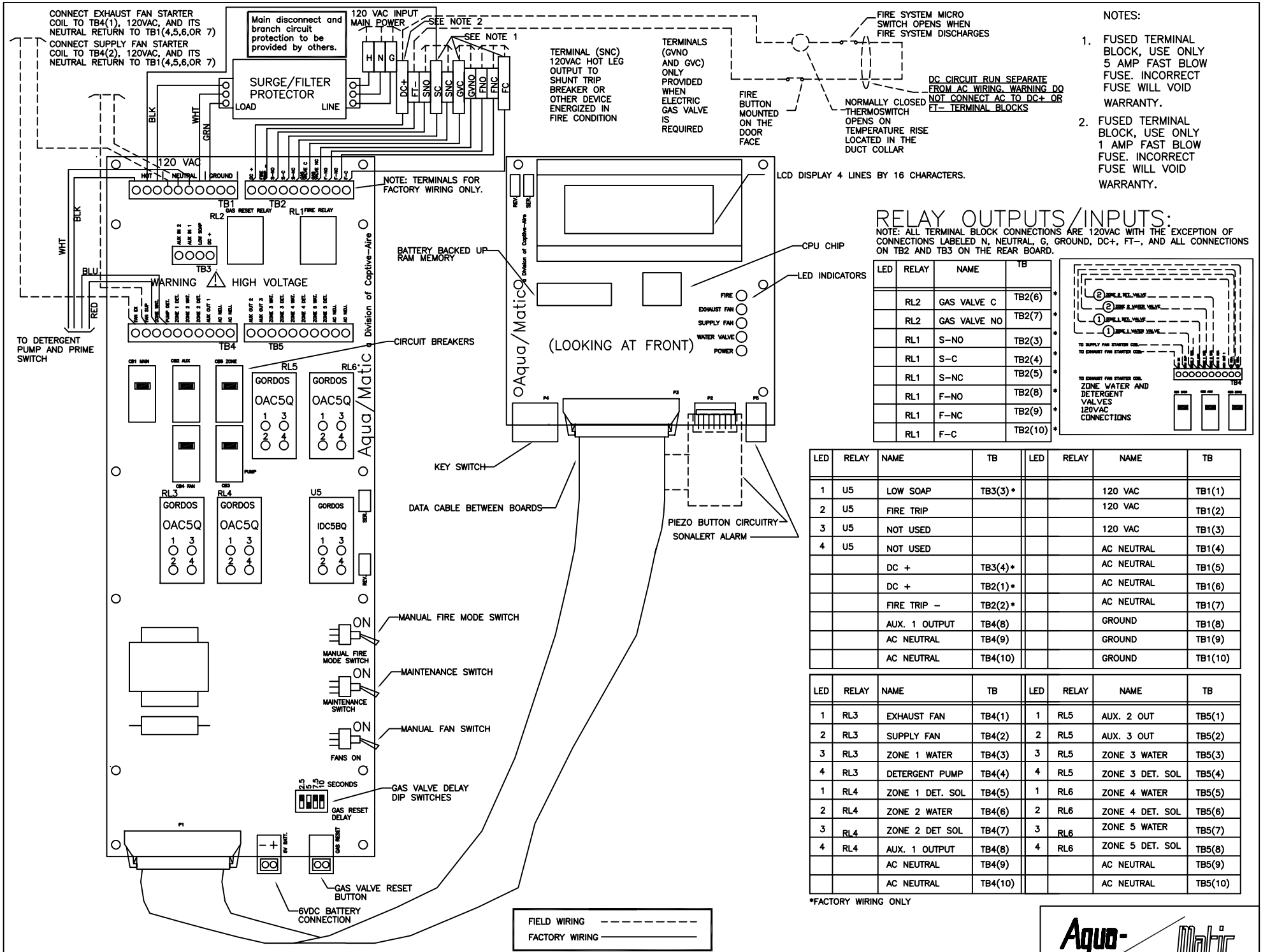
ILLUSTRATIONS

TAC-3000

ELECTRICAL WIRING DIAGRAMS
and
PLUMBING ROUTING AND CONNECTIONS

TOTAL CONNECTED LOAD TO EXHAUST AND SUPPLY FANS NOT TO EXCEED 3.15 AMPS

POINT TO POINT ELECTRICAL DATA



RELAY OUTPUTS/INPUTS:

NOTE: ALL TERMINAL BLOCK CONNECTIONS ARE 120VAC WITH THE EXCEPTION OF CONNECTIONS LABELED N, NEUTRAL, G, GROUND, DC+, FT-, AND ALL CONNECTIONS ON TB2 AND TB3 ON THE REAR BOARD.

LED	RELAY	NAME	TB	
	RL2	GAS VALVE C	TB2(6)	*
	RL2	GAS VALVE NO	TB2(7)	*
	RL1	S-NO	TB2(3)	*
	RL1	S-C	TB2(4)	*
	RL1	S-NC	TB2(5)	*
	RL1	F-NO	TB2(8)	*
	RL1	F-NC	TB2(9)	*
	RL1	F-C	TB2(10)	*

LED	RELAY	NAME	TB	LED	RELAY	NAME	TB
1	U5	LOW SOAP	TB3(3)*			120 VAC	TB1(1)
2	U5	FIRE TRIP				120 VAC	TB1(2)
3	U5	NOT USED				120 VAC	TB1(3)
4	U5	NOT USED				AC NEUTRAL	TB1(4)
		DC +	TB3(4)*			AC NEUTRAL	TB1(5)
		DC +	TB2(1)*			AC NEUTRAL	TB1(6)
		FIRE TRIP -	TB2(2)*			AC NEUTRAL	TB1(7)
		AUX. 1 OUTPUT	TB4(8)			GROUND	TB1(8)
		AC NEUTRAL	TB4(9)			GROUND	TB1(9)
		AC NEUTRAL	TB4(10)			GROUND	TB1(10)

LED	RELAY	NAME	TB	LED	RELAY	NAME	TB
1	RL3	EXHAUST FAN	TB4(1)	1	RL5	AUX. 2 OUT	TB5(1)
2	RL3	SUPPLY FAN	TB4(2)	2	RL5	AUX. 3 OUT	TB5(2)
3	RL3	ZONE 1 WATER	TB4(3)	3	RL5	ZONE 3 WATER	TB5(3)
4	RL3	DETERGENT PUMP	TB4(4)	4	RL5	ZONE 3 DET. SOL	TB5(4)
1	RL4	ZONE 1 DET. SOL	TB4(5)	1	RL6	ZONE 4 WATER	TB5(5)
2	RL4	ZONE 2 WATER	TB4(6)	2	RL6	ZONE 4 DET. SOL	TB5(6)
3	RL4	ZONE 2 DET SOL	TB4(7)	3	RL6	ZONE 5 WATER	TB5(7)
4	RL4	AUX. 1 OUTPUT	TB4(8)	4	RL6	ZONE 5 DET. SOL	TB5(8)
		AC NEUTRAL	TB4(9)			AC NEUTRAL	TB5(9)
		AC NEUTRAL	TB4(10)			AC NEUTRAL	TB5(10)

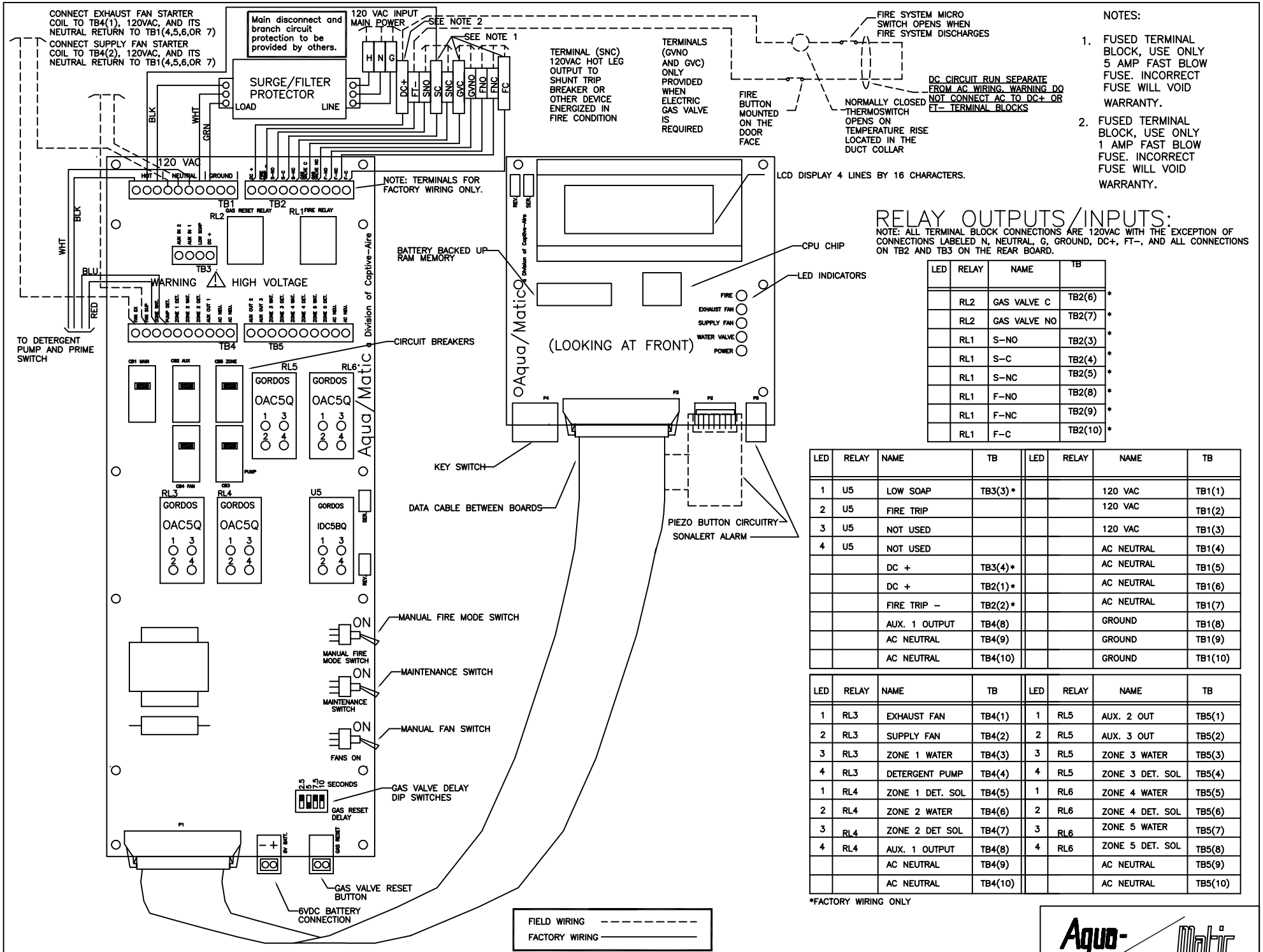
*FACTORY WIRING ONLY

Aqua-Matic

DIAGRAM #T3K100D2 JDP 05/21/03

TOTAL CONNECTED LOAD TO EXHAUST AND SUPPLY FANS NOT TO EXCEED 3.15 AMPS

POINT TO POINT ELECTRICAL DATA



NOTES:

1. FUSED TERMINAL BLOCK, USE ONLY 5 AMP FAST BLOW FUSE. INCORRECT FUSE WILL VOID WARRANTY.
2. FUSED TERMINAL BLOCK, USE ONLY 1 AMP FAST BLOW FUSE. INCORRECT FUSE WILL VOID WARRANTY.

RELAY OUTPUTS/INPUTS:

NOTE: ALL TERMINAL BLOCK CONNECTIONS ARE 120VAC WITH THE EXCEPTION OF CONNECTIONS LABELED N, NEUTRAL, G, GROUND, DC+, FT-, AND ALL CONNECTIONS ON TB2 AND TB3 ON THE REAR BOARD.

LED	RELAY	NAME	TB	
	RL2	GAS VALVE C	TB2(6)	*
	RL2	GAS VALVE NO	TB2(7)	*
	RL1	S-NO	TB2(3)	*
	RL1	S-C	TB2(4)	*
	RL1	S-NC	TB2(5)	*
	RL1	F-NO	TB2(8)	*
	RL1	F-NC	TB2(9)	*
	RL1	F-C	TB2(10)	*

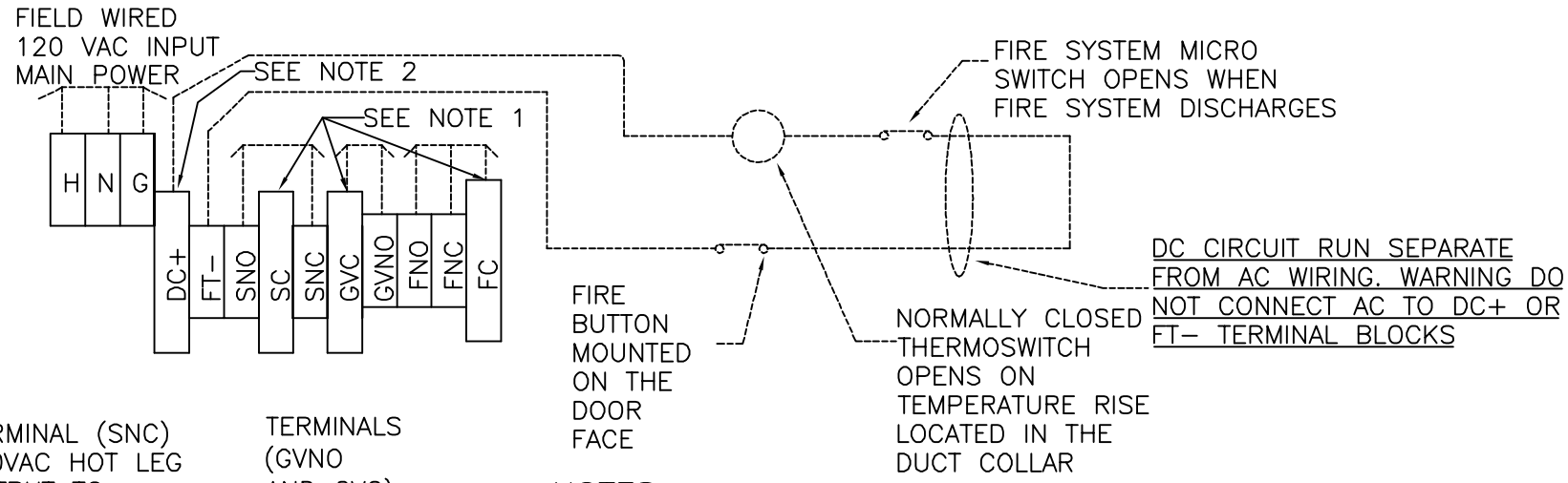
LED	RELAY	NAME	TB	LED	RELAY	NAME	TB
1	U5	LOW SOAP	TB3(3)*			120 VAC	TB1(1)
2	U5	FIRE TRIP				120 VAC	TB1(2)
3	U5	NOT USED				120 VAC	TB1(3)
4	U5	NOT USED				AC NEUTRAL	TB1(4)
		DC +	TB3(4)*			AC NEUTRAL	TB1(5)
		DC +	TB2(1)*			AC NEUTRAL	TB1(6)
		FIRE TRIP -	TB2(2)*			AC NEUTRAL	TB1(7)
		AUX. 1 OUTPUT	TB4(8)			GROUND	TB1(8)
		AC NEUTRAL	TB4(9)			GROUND	TB1(9)
		AC NEUTRAL	TB4(10)			GROUND	TB1(10)

LED	RELAY	NAME	TB	LED	RELAY	NAME	TB
1	RL3	EXHAUST FAN	TB4(1)	1	RL5	AUX. 2 OUT	TB5(1)
2	RL3	SUPPLY FAN	TB4(2)	2	RL5	AUX. 3 OUT	TB5(2)
3	RL3	ZONE 1 WATER	TB4(3)	3	RL5	ZONE 3 WATER	TB5(3)
4	RL3	DETERGENT PUMP	TB4(4)	4	RL5	ZONE 3 DET. SOL	TB5(4)
1	RL4	ZONE 1 DET. SOL	TB4(5)	1	RL6	ZONE 4 WATER	TB5(5)
2	RL4	ZONE 2 WATER	TB4(6)	2	RL6	ZONE 4 DET. SOL	TB5(6)
3	RL4	ZONE 2 DET SOL	TB4(7)	3	RL6	ZONE 5 WATER	TB5(7)
4	RL4	AUX. 1 OUTPUT	TB4(8)	4	RL6	ZONE 5 DET. SOL	TB5(8)
		AC NEUTRAL	TB4(9)			AC NEUTRAL	TB5(9)
		AC NEUTRAL	TB4(10)			AC NEUTRAL	TB5(10)

*FACTORY WIRING ONLY

Aqua-Matic

DIAGRAM #T3K100D0 JDP 05/07/03

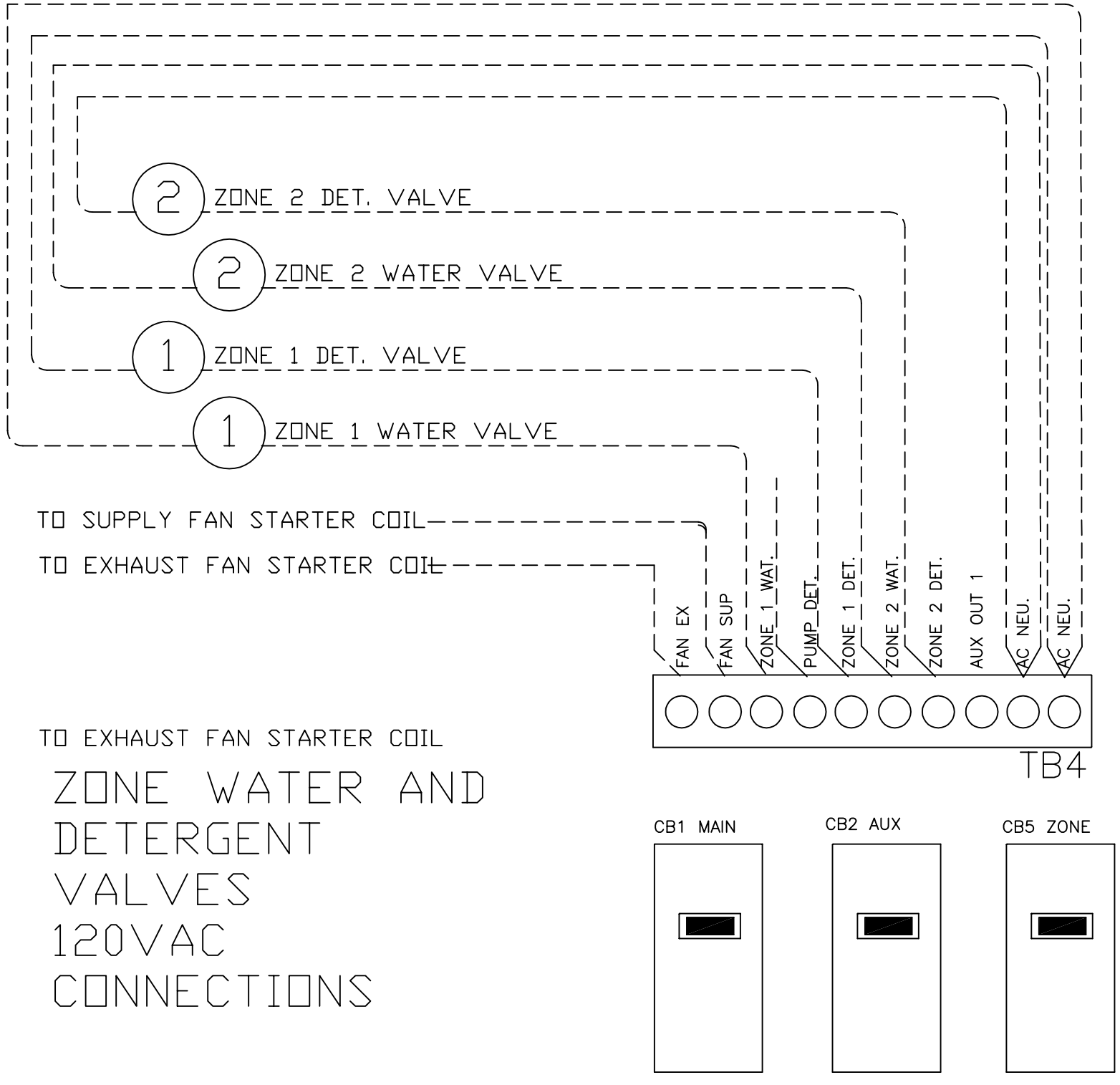


TERMINAL (SNC) 120VAC HOT LEG OUTPUT TO SHUNT TRIP BREAKER OR OTHER DEVICE ENERGIZED IN FIRE CONDITION

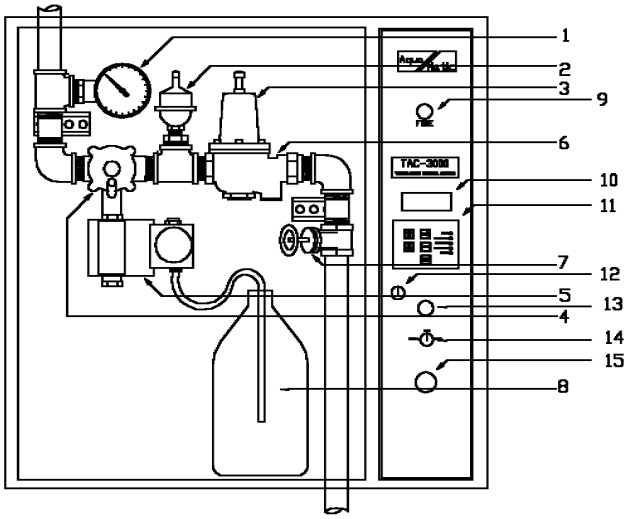
TERMINALS (GVNO AND GVC) ONLY PROVIDED WHEN ELECTRIC GAS VALVE IS REQUIRED

NOTES:

1. FUSED TERMINAL BLOCK, USE ONLY 5 AMP FAST BLOW FUSE. INCORRECT FUSE WILL VOID WARRANTY.
2. FUSED TERMINAL BLOCK, USE ONLY 1 AMP FAST BLOW FUSE. INCORRECT FUSE WILL VOID WARRANTY.

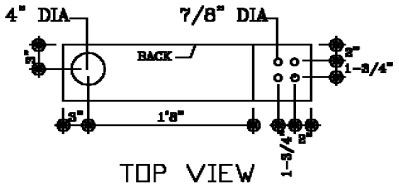

2
ZONE 2 DET. VALVE
2
ZONE 2 WATER VALVE
1
ZONE 1 DET. VALVE
1
ZONE 1 WATER VALVE
TO SUPPLY FAN STARTER COIL
TO EXHAUST FAN STARTER COIL
FAN EX
FAN SUP
ZONE 1 WAT.
PUMP DET.
ZONE 1 DET.
ZONE 2 WAT.
ZONE 2 DET.
AUX OUT 1
AC NEU.
AC NEU.
TB4
TO EXHAUST FAN STARTER COIL
ZONE WATER AND DETERGENT VALVES 120VAC CONNECTIONS
CB1 MAIN
CB2 AUX
CB5 ZONE

TAC-3000 CONTROL BOX
1" MANIFOLD ASSEMBLY

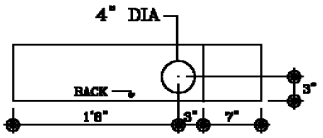


PARTS LIST

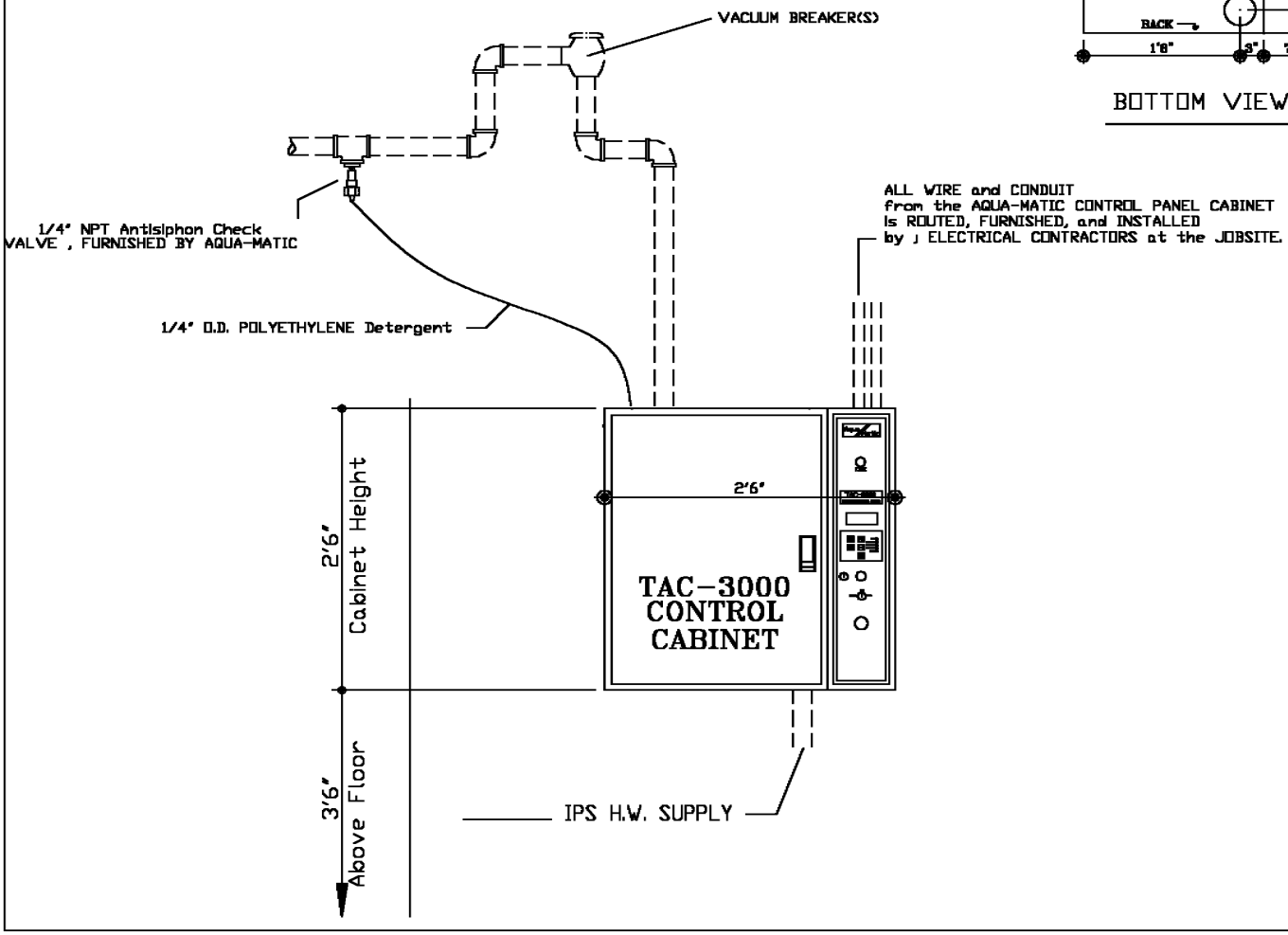
1. COMBINATION PRESSURE TEMPERATURE GAUGE
2. SHOCK ABSORBER
3. PRESSURE REDUCING VALVE
4. SOLENOID VALVE
5. DETERGENT PUMP
6. LINE STRAINER
7. GATE VALVE
8. 1 GAL. DETERGENT RESERVOIR
9. FIRE BUTTON
10. LIQUID CRYSTAL DISPLAY
11. PIEZO BUTTONS AND LIGHTS
12. DOOR LOCK
13. GAS RESET BUTTON
14. PROGRAM KEY SWITCH
15. ALARM



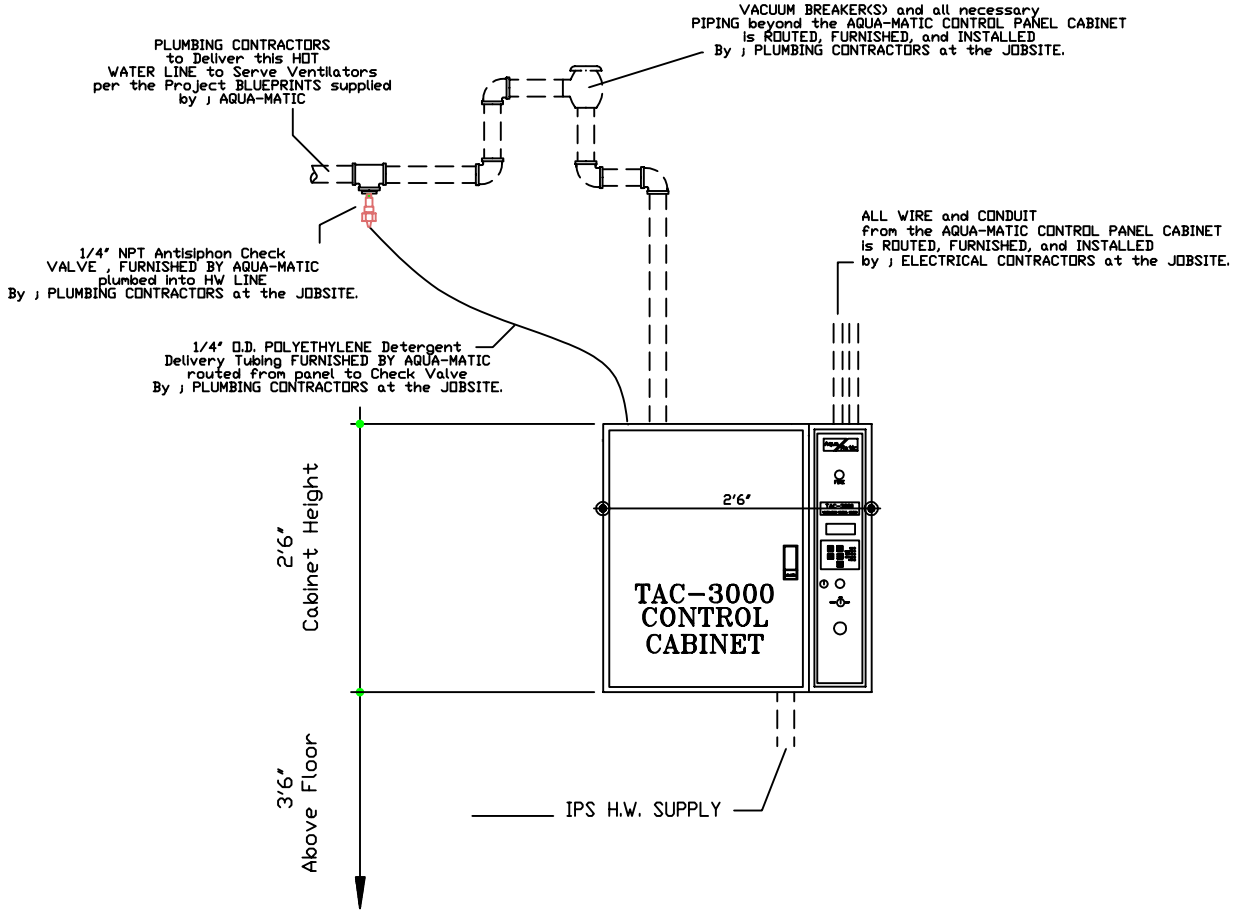
TOP VIEW

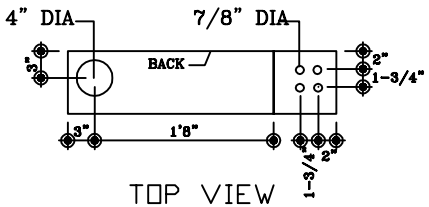


BOTTOM VIEW

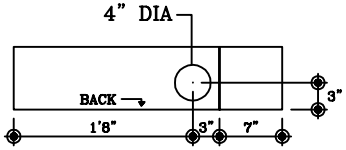


PROPOSED PLUMBING ROUGHING DATA 1 WASH ZONE

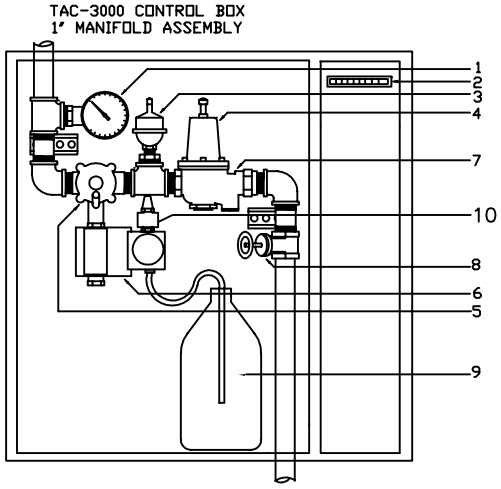




TOP VIEW



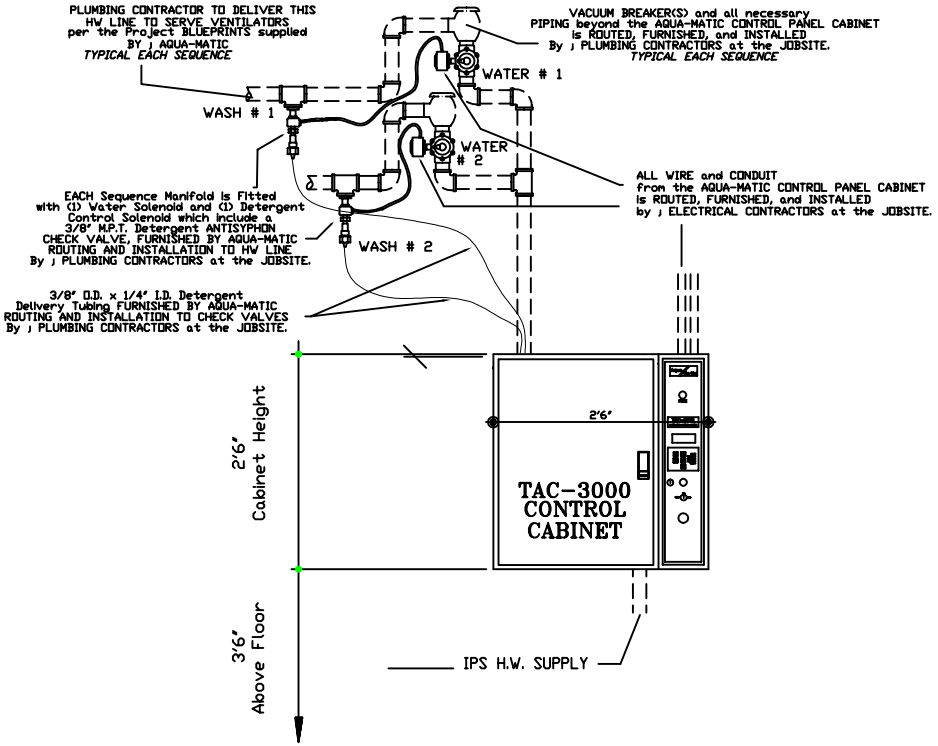
BOTTOM VIEW

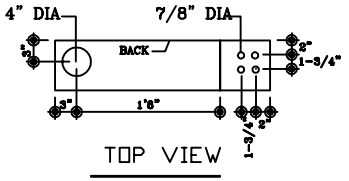


PARTS LIST

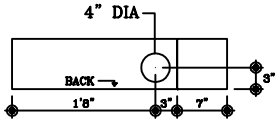
1. COMBINATION PRESSURE TEMPERATURE GAUGE
2. MAIN CONNECTIONS
3. SHOCK ABSORBER
4. PRESSURE REDUCING VALVE
5. SOLENOID VALVE
6. DETERGENT PUMP
7. LINE STRAINER
8. GATE VALVE
9. 1 GAL. DETERGENT RESERVOIR
10. FLOW MONITOR

PROPOSED PLUMBING ROUGHING DATA
TWO WASH ZONES

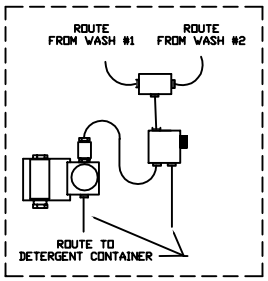


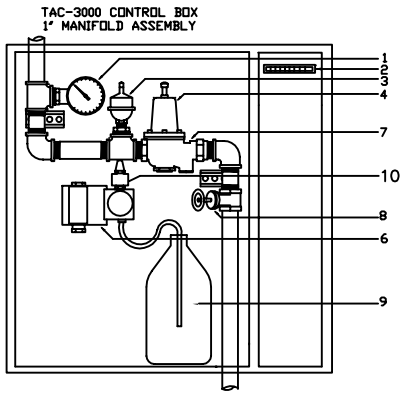


TOP VIEW



BOTTOM VIEW





PARTS LIST

1. COMBINATION PRESSURE TEMPERATURE GAUGE
2. MAIN CONNECTIONS
3. SHOCK ABSORBER
4. PRESSURE REDUCING VALVE
5. SOLENOID VALVE (located in plumbing line)
6. DETERGENT PUMP
7. LINE STRAINER
8. GATE VALVE
9. 1 GAL. DETERGENT RESERVOIR
10. FLOW MONITOR