



## **MistAway® Tankless Misting Unit – Gen III+ Operations Manual**

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## MistAway® Tankless Misting Unit – Gen III+ Operations Manual

### Base Functionality

- MistAway's Tankless Misting Unit, Gen III+, is a batch processing unit that precisely mixes water from a faucet and concentrated botanical insecticide from a cartridge in a batch tank and then atomizes it through an installed nozzle circuit to control mosquitoes and other annoying insects.
- The capacity of the unit is dependent on the configuration of the nozzle circuit. A practical field maximum for one zone is about 75 nozzles (some in parallel) connected by 900 feet of tubing.
- The unit may be programmed to mist up to 24 times daily, with each mist cycle having its own independent duration. A common program will consist of 2 to 3 mist cycles per day, each with a 45 – 60 second duration, for a daily total of 90 – 180 seconds.
- The unit will also mist in response to a signal from a handheld remote transmitter for a duration programmed by the user.

### Optional Equipment and Functionality

- **Wind Sensor:** Sensor input will inhibit a programmed mist if the wind speed is higher than a user-defined limit for a 5 minute period following the scheduled mist.
- **Zone Kit:** Kit will enable the unit to effectively double the number of nozzles and protected area that it would otherwise support. A single schedule drives misting in both zones.
- **External Alarm:** Unit will emit an audible alarm and/or announce a visual alarm at a user-defined duration prior to a scheduled or remote mist.

## MistAway® Tankless Misting Unit – Gen III+ Operations Manual

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## Section 1 WARRANTY

MistAway Systems Inc. (MSI) warrants this Product, the MistAway Tankless Misting Unit, Gen III+, to be free from defects in material and workmanship as follows:

For a period of one (1) year from the date of original installation (whether or not actual use begins on that date), MSI will repair or replace defective parts, with new or refurbished parts, at its option, at no charge. This warranty does not include labor or other costs incurred for diagnosing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts.

This warranty applies solely to equipment supplied by MSI and is in lieu of all other warranties, expressed or implied. No person, agent, dealer, or distributor is authorized or empowered to give any other warranty or to assume any other liability on behalf of MSI

### **Warranty Conditions:**

- This warranty is extended only to the original Purchaser and is not transferable.
- A purchase receipt or other proof of date of original purchase will be required before warranty service is rendered.
- Installation, use, care and maintenance must be normal and in accordance with instructions contained in the operating manual and MSI's service information. Failure to do so shall void this warranty.
- All claims for failure to conform to specifications or defects in material or workmanship under this warranty must be made promptly after discovery and, in any event, must be received by MSI not more than one year after the original purchase date.
- MSI reserves the right to inspect the equipment prior to any decision involving a warranty claim.
- MSI reserves the right to make warranted repairs at either the installed site or at MSI's location in Houston, TX. If MSI opts for repair at its own location, the Purchaser is responsible for shipping the item to MSI's Houston location at its expense.

### **Manufacturer's obligation under the warranty shall not apply to:**

- Any equipment, which has been damaged by negligence, misuse, abuse, neglect and/or improper adjustment, accident, vandalism, acts of God, acts of war, whether declared or undeclared, improper application, or any other contingency beyond the control of MSI
- Cosmetic damage
- Damage in transit
- Failures caused by products not supplied by MSI
- Failures, which result from faulty installation, set-up adjustments, improper operation, power line surge, improper voltage supply or damage from lightning
- Any equipment that has been repaired or altered without authorization from MSI or in a manner inconsistent with such authorization
- Any unit that has not been maintained in accordance with the operator's manual
- Normal wear on any item or piece of equipment
- Lost items

## Section 1 WARRANTY

The foregoing is MSI's only obligation and Purchaser's exclusive remedy for breach of warranty. Purchaser's failure to submit a claim as provided above shall specifically waive all claims for damages or other relief, including but not limited to claims based on latent defects. In no event shall Purchaser be entitled to special, direct, indirect, incidental, exemplary or consequential damages, expenses, injury, lost profits, lost savings, business interruption, loss of business information, or any other pecuniary loss arising out of the use of or inability to use the equipment. In any case, MSI's entire liability shall be limited to the amount Purchaser actually paid for the item.

Except as modified in writing signed by both parties, this warranty is and shall remain the complete and exclusive agreement between the parties with respect to warranties, superseding all prior agreements, oral or written, and all other communications between the parties relating to the subject matter of this agreement.

**Section 2**  
**Important Safety Instructions**

**To Protect Against Accidental Exposure to Insecticide**

**Permitted Insecticides and Handling**

- Use only insecticides that are labeled for use in automated misting systems, and use only as described in the label.
- Insecticides that state “Not for use in outdoor residential misting systems” may not be used under any circumstances.
- Insecticide label should be securely attached to the cartridge inserted in the unit.
- Strictly follow label instructions regarding storage and disposal of insecticide and container.

**Nozzle Circuit Installation:**

- The nozzle circuit should be configured and installed so that insecticide does not drift off the property.
- Nozzles should be directed to spray towards the target area and away from swimming pools, water bodies, or eating and cooking areas.



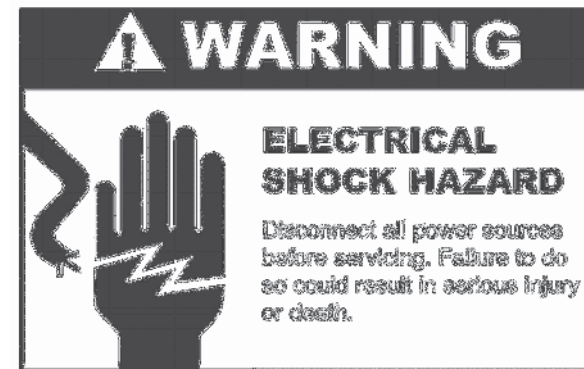
**Using the Unit**

- Do not allow the unit to mist in the presence of people, pets or food.
- Unit must be configured, installed and operated so that any insecticide application complies with all label directions, including application rate and prohibitions against offsite drift.
- The unit should be locked.
- Unit and remote transmitter should be secured against access by children.
- DIP Switches on remote transmitter should be repositioned (from factory setting) to ensure that another transmitter will not activate unit.
- If a leak or siphon in nozzle circuit is suspected, discontinue use of unit until it is repaired.
- Unit must never be used for cooling.

**Section 2**  
**Important Safety Instructions**

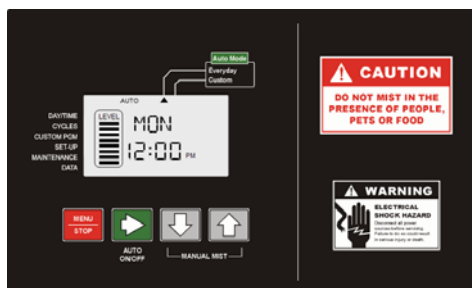
**To Protect Against Fire or Electric Shock**

- Ensure unit is positioned where it is free from flooding or exposure to irrigation system spray.
- Unit must be plugged into electrical outlet with ground fault interrupt protection. (GFI/GFCI)
- Extension cord must not be used.
- Disconnect unit from power source if replacing components.
- Replace fuses only with those of equivalent value.



## Section 3 Setting Up the Unit

### Using the Controller



- Pressing Green ► button will cycle through each of four System Modes. The ▲ at the top of the display points to the active System Mode.
  1. OFF – Unit will perform a daily agitation cycle and otherwise sit idle.
  2. ON – Unit will allow Remote and MANUAL MISTs, but no AUTO MISTs.
  3. AUTO-EVERYDAY – Misting program runs daily. This is the most commonly used System Mode.
  4. AUTO-CUSTOM – Misting program runs only on days set in CUSTOM PGM menu.
- Pressing Red MENU/STOP button displays triangular cursor by DAY/TIME position on left side of display. Use ▲ or ▼ buttons to cycle through menu structure. Use Green ► button to select menu item and view or change data element within that item.
- Within a menu item, the convention is that the flashing data element can be changed with the ▲ or ▼ buttons. Move to the next data element with the Green ► button.
- Exit the menu item by pressing the MENU button. The unit will revert to previous System Mode in 3 minutes if the MENU button is not pressed.
- Clear any error code by pressing the Red MENU/Stop button for 5 seconds. The System Mode will return to its previous state (usually AUTO Everyday).
- To reset the controller to factory settings, unplug the unit, and hold down MENU and the ▲ buttons while plugging the unit back in. Mist Cycles, remote duration and number of nozzles must be reentered.

## Section 3 Setting Up the Unit

- 1. Position Gen III+ Unit**
  - On firm level surface.
  - Free from flooding or sprinklers.
  - Near GFCI outlet and faucet.
- 2. Install Water Supply Line**
  - Confirm faucet is able to deliver at least 1 gal/min..
  - Be careful not to introduce dirt or other contaminants into line.
  - Insert 3/8" tubing/filter assembly into 3/8" bulkhead fitting located at the back right corner of unit.
  - Thread adapter onto faucet (or optional hose bib "Y").
  - Measure and cut 3/8" nylon tubing
  - Run water to flush line before connecting to filter inlet.
- 3. Connect Nozzle Circuit**
  - To 1/4" bulkhead fitting at back right corner of unit.
  - If zone kit, install according to instructions provided.
- 4. Connect Remote Antenna**
  - Thread onto coax fitting on top of unit.
- 5. Connect Electric Power**
  - GFCI Outlet.
  - 115 volts minimum. Confirm voltage with multi-meter.
  - 15 amp circuit required. Unit draws 9 amps when misting. Ensure total load of unit plus all other devices on circuit does not exceed breaker rating.
- 6. Run Inspection Cycle**
  - MAINTENANCE Menu, scroll to INS.
  - Depress Green ► button 5 seconds
  - Unit will fill and mist for 5 minutes or until stopped.
  - Confirm pump pressure (240 psi) and insert plastic plug into pump adjustment port.
  - Confirm no leaks in nozzle circuit
  - If zone valve installed, repeat for INS2.

**Section 3**  
**Setting Up the Unit**

**7. Install Insecticide and Program Dose Settings**

- a. Secure Cap on Bottle**
- Remove factory cap and seal from pour port.
  - Thread bottle cap onto pour port, ensuring it is not cross-threaded or too tight.
- b. Vent Opposite Port and Insert Bottle into Coupler**
- Remove seal on vent port so that bottle does not collapse as insecticide is pumped out.
  - Insert bottle into coupler (Pressing button on coupler will free bottle for removal.)
  - EMPCAR (empty cartridge) continues to appear in display.
- c. Set Dose Settings**
- MAINTENANCE Menu, scroll to REFILL
  - Depress Green ► button 5 seconds to enter routine.
  - Set MIX ratio (parts water to 1 part concentrate) to target. Default is 108:1 See Section 5, Managing Insecticide for guidance
  - Push Green ► button to advance
  - Set bottle size (BOT) in ounces. Default is 64 oz. Range is 2 to 256 oz.
  - Push Green ► button to advance
  - Set LEVEL in the bottle. Eight bars indicates a full bottle of the size entered in previous step. Four bars indicates bottle is ½ full.
  - Push Green ► button
  - DONE will be displayed.
  - VENT will be displayed. Confirm VENT by pushing Green ► button.

**Section 3**  
**Setting Up the Unit**

**8. Program System Setup**

- a. Set Daylight Savings Time switch**
- DAY/TIME Menu.
  - Set to ON if daylight savings in effect, OFF if not.
  - Press Green ► to advance.
- b. Set Day and Time**
- Set Day and Time. (note AM and PM)
  - Exit by pressing Menu button.
- c. Set REMOTE MIST Duration**
- SET-UP Menu, REM.
  - Set duration in seconds.
- d. Orient Remote Transmitter**
- Set dip switches in remote transmitter. (see Section 4, Using the Remote)
  - SET-UP Menu, LRN.
  - Depress Green ► button 5 secs, until LRN On and countdown starts.
  - Depress Remote Transmitter button until DONE is displayed.
- e. Set MANUAL MIST Duration**
- SET-UP Menu, MAN.
  - Set duration in seconds.
- f. Set # of nozzles**
- SET-UP Menu, NOZ.
  - If zone valve installed, repeat for NZ2.
- g. Set Agitation Parameters**
- SET-UP Menu, AGT.
  - Set duration of agitation that occurs prior to each mist. Default is 15 seconds.
  - Set time of once-daily agitation. Default is 3:00 pm.
- h. Establish optional Wind Sensor**
- SET-UP Menu, SEN.
  - If sensor installed, ON. Otherwise OFF.
- i. Set Max Wind Speed (wind sensor required)**
- SET-UP Menu, WND.
  - Set max wind speed.

**Section 3**  
**Setting Up the Unit**

**j. Establish optional External Alarm**

- SET-UP Menu, ALT.
- If sensor installed, set time (in seconds) that alarm will sound prior to each scheduled and remote mist.

**9. Set Misting Schedule**

**a. Set AUTO MIST Cycles**

- CYCLES Menu.
- 2 – 3 scheduled mists of 30 – 60 seconds in duration is common.
- See Section 5, Managing Insecticide for field standard frequency, duration and mist times.
- Blinking C# identifies each automatic mist cycle with current mist duration and mist time. Limit is 24 cycles per day.
- Set mist duration and time (note AM/PM) for each desired scheduled mist.

**b. Set AUTO MIST Days**

- If you don't want to schedule mists for every day.
- CUSTOM PGM Menu.
- Set selected days to ON or OFF.
- System Mode must be set to AUTO Custom.

**10. Charge Insecticide**

- MAINTENANCE Menu, scroll to CHG.
- Depress Green ► button 5 seconds.
- DOSE will flash for extended period as batch tank of fresh water is brought to target concentration.

**Section 3**  
**Setting Up the Unit**

**11. Set System Mode**

- With the display showing day, time and level, press Green ► button to position the ▲ at top of display pointing to the active System Mode:
- OFF - daily agitation cycle only
- ON – remote and manual, but no programmed mist
- AUTO Everyday – program runs daily. This is the usual mode.
- AUTO Custom – program runs on days configured in CUSTOM PGM

**12. Test by Activating Remote Mist**

- Clear area
- Pres MIST button on transmitter
- Unit will FILL, DOSE, insecticide, Agitate (AGT) and MIST.

**13. Determine Nozzle Flow Rate of Circuit**

- DATA Menu, read AFR (average flow rate) value
- Enter that value as the nozzle flow rate, NFR, to be used in system error calculations
- DATA Menu, NFR. Press Green ► button for 5 seconds, then use the ▲ or ▼ buttons to adjust value to be the same as read in AFR.

**14. Close Lid and Lock**

- Secure key in a safe location.

### Section 3 Setting Up the Unit

#### Disabling ERRor Codes

- The Gen III+ is designed to recognize problems with its operation and display error messages that facilitate quick troubleshooting.
- These error conditions suspend the operation of the unit until error is cleared by pressing the Red MENU/Stop button for 5 seconds.

#### Set Error Code Switches (Refer to Section 7, Troubleshooting)

- ERR 0 – ON or OFF**
- Generally results from unit not misting
  - SET-UP Menu, ER0
  - Default is ON (if uncertain, leave ON)

#### ERR 1 – Not Used

- ERR 2 – ON or OFF**
- Generally results from unit not misting as much volume as expected
  - SET-UP Menu, ER2
  - Default is OFF (if uncertain, leave OFF)

- ERR 3 – ON or OFF**
- Usually results from a significant leak in the nozzle circuit
  - SET-UP Menu, ER3
  - Default is ON (if uncertain, leave ON)

- ERR 4 – Always ON**
- Usually results from water to the unit being shut off.
  - Will clear itself and return unit to preset System Mode if water supply is turned back on.

- ERR 5 – Always ON**
- Usually results from unit overfilling batch tank.

- ERR 6 – ON or OFF**
- Results from failure in flowmeter that controls batch makeup logic. If failure occurs when disabled, unit will not add insecticide
  - SET-UP Menu, ER6
  - Default is ON (if uncertain, leave ON)

### Section 3 Setting Up the Unit

#### Adjusting ERRor Tolerance

- You can adjust the tolerance for leak detection (and detection of a clogged nozzle circuit) to be either more or less forgiving in recognizing a problem.
- The default tolerance is 75%. That is, Gen III+ will not detect and annunciate a leak until the Actual Volume is more than 175% of the Calculated Volume.
- Setting the TOL value in the DATA Menu to a higher number makes the unit more tolerant of a leak. Setting the TOL value lower makes the unit more sensitive. 100 is the allowed maximum.
- To change the value, go to the DATA Menu, TOL. Press Green ► button for 5 seconds, then use the arrow keys to adjust the value.



## Section 4 Using the Remote

### MIST Button

- Activates a REMOTE MIST for the duration defined in the SET-UP menu.
- An agitation cycle will precede the REMOTE MIST.
- If a Zone Kit is installed, the unit will mist in Zone 1, make up a new batch, and then mist in Zone 2.

### STOP MIST Button

- The STOP MIST button stops the current operation of the unit. It will not change the System Mode from ON or AUTO to OFF.

### SKIP NEXT MIST Button

- The SKIP NEXT MIST button enables the next programmed AUTO MIST to be skipped. The controller will display "SKIP."
- While the unit is flashing SKIP, it will still respond to a Remote or MANUAL MIST.
- When an AUTO MIST has been skipped, the unit will return to the normal display, with a flashing "sunshine" icon in the lower right corner of the display.
- You may only skip one mist at a time. That is, pushing the SKIP NEXT MIST button multiple times will not cause multiple AUTO MIST cycles to be skipped.
- Clear skip by holding down the ▲ and ▼ buttons on the controller simultaneously.

## Section 4 Using the Remote

### Orienting the Remote Transmitter

- The unit must be programmed to recognize a specific remote transmitter.
- Prior to this step, the DIP Switches on the transmitter should be repositioned (from factory setting) to ensure that another transmitter will not activate unit.
- In the LRN Menu, under SET-UP, hold down Green ► button for 5 seconds and wait for countdown to begin. Press and hold any button on the remote transmitter. When DONE flashes in the display, the transmitter is programmed.

#### Set DIP Switches on Remote Antenna



Switches are located on back side of transmitter, on side opposite the antenna, under a small plastic cover. Use the end of a pen to change the position of 2-3 of the switches.

## Section 5 Managing the Insecticide

### Conventional Insecticide Formulations

- **Use only insecticides that are labeled for use in automated misting systems and use only as described on the label. Insecticides that state “Not for use in outdoor residential misting systems” may not be used under any circumstances.**
- As of 2010, there are only a few insecticide formulations that contain label language specific for use in automated misting systems.
- The active ingredients found in these formulations are either natural pyrethrins or permethrin, which is a closely related synthetic. They also contain a synergist, piperonyl butoxide, which makes them more effective than they would otherwise be.
- These formulations have been designed for misting and are suitable in MistAway’s systems because 1) they are water-based and contain only trace amounts of hydrocarbons, 2) they have been engineered to disperse evenly throughout the batch tank or drum when diluted with water, and 3) they have been formulated to avoid or minimize plant burn.

### Exempt or “Green” Insecticide Formulations

- There are also a small number of insecticide formulations that are applied in misting systems that are exempt from registration with the U.S. EPA.
- Generally, the ingredients found in these formulations are essential oils from plants. In order to dilute and disperse them in a volume of water, an emulsifying agent must be added.
- Be aware that these concentrates are very chemically aggressive, particularly to plastics. Their use in misting systems significantly increase maintenance requirements and maintenance frequency.

Visit [www.mistaway.com](http://www.mistaway.com) for a list of approved insecticides and mixing guidance.

## Section 5 Managing the Insecticide

### Dosing Insecticide in Gen III+

- MistAway’s Tankless Gen III+ precisely mixes water from a faucet and insecticide from a bottle of concentrate to achieve a target concentration of active ingredient in the mist.
- The REFILL routine in the MAINTENANCE Menu of the controller prompts the user to input the target MIX of water and insecticide, expressed in Parts Water to 1 Part Concentrate.
- This value must be calculated from the mixing instructions found on the insecticide label:

$$\frac{\text{Ounces of Water}}{\text{Ounces of Concentrate}} = \frac{\text{Target}}{\text{MIX}}$$

- **Example 1:** A 5% pyrethrin formulation, contains label language for use in Residential Backyards to “Mix 64 fl. Oz of concentrate in 55 gallons of water to yield a solution of 0.046% Pyrethrins and 0.23% Piperonyl Butoxide.”
- The Target MIX calculation is:

$$\frac{55 \text{ gal water} \times 128 \text{ oz/gal}}{64 \text{ oz concentrate}} = 110 \text{ Pts Water: 1 Pt Conc}$$

- **Example 2:** A 3% pyrethrin formulation contains Directions for Use in Outdoor Residential Misting Systems to mix 2.33 fl oz of concentrate per gallon of water to achieve 0.057% pyrethrins solution.
- The Target MIX calculation is:

$$\frac{1 \text{ gal water} \times 128 \text{ oz/gal}}{2.33 \text{ oz concentrate}} = 55 \text{ Pts Water: 1 Pt Conc}$$

### Important Note Regarding Dosing

- The insecticide label will contain both recommended and maximum concentrations. It is against regulations to mix the insecticide to a concentration that exceeds the stated limit.
- Concentrations less than recommended on the label are permissible, although there is a threshold below which the material will not be effective.

**Section 5**  
**Managing the Insecticide**

**Mist Schedule and Duration**

- It is important to note that there are differences of opinion among misting professionals as to what schedule and duration is optimal in any given circumstance. These reflect differences in factors such as relative mosquito pressure, species and activity, conducive conditions, etc.
- While these differences do exist, a common schedule is comprised of two scheduled mists per day:
  - A mist of 45 seconds in the hours around dawn (after the sprinkler system has finished).
  - Another mist of 45 seconds sometime in the hours between 9PM and 1:00 AM.
  - Use of a remote mist, with a duration of 45 seconds, just prior to spending time in the area in the early evening.
- In this common schedule, the automated mists are timed to occur when there is unlikely to be activity on the property. Their timing also avoids afternoon winds and the daylight activity of beneficial insects like bees and butterflies.

**Replenishing Insecticide Concentrate in Gen III+**

- The Gen III+ controller stores a “virtual volume” representing the amount of concentrate left in the bottle. Each time the unit doses insecticide from the bottle into the batch tank, the remaining “virtual volume” is reduced. When the “virtual volume” equals 0, EMPCAR (empty cartridge) is displayed, the LED on the unit will flash, and it is time to replenish the insecticide.
- **Remove the empty bottle from the unit:** Pressing the button on the coupler in the inside left of the unit will free the empty bottle for removal. Remove and retain the cap.
- **Dispose of the empty bottle:** Strictly follow label instructions regarding disposal of the empty bottle. Most will require triple rinsing and puncturing the bottle.
- **Replace with a new bottle and reset the “virtual volume” to Full.** Follow the instructions in Step 7, Install Insecticide and Program Dose Settings in Section 3, Setting Up the Unit.

**Section 5**  
**Managing the Insecticide**

**Replenishment Frequency**

- There are a number of factors that influence consumption of the insecticide and timing for replenishment:
  - Number of nozzles installed
  - Minutes of scheduled misting per day
  - Number and duration of remote mists
  - Size of the insecticide bottle
  - Programmed concentration of insecticide in the mist
- The replenishment frequency for a common misting program can be read from the table below. Locate the row that most closely corresponds to the number of nozzles that are installed and locate the column that most closely reflects the average daily mist duration (including remote activated mists.) The value in the table where the selected row and column intersects reflects the number of days the insecticide will last.
- By example, a 40 nozzle system misting an average of 2 minutes per day would consume the bottle in 57 days.
- To change assumptions about bottle size, insecticide concentration or other variables, please visit [www.mistaway.com](http://www.mistaway.com) and download the Replenishment Frequency Calculator.

**Replenishment Frequency Table**

Concentrate: 5% natural pyrethrins

Bottle: ½ gallon (64 ounces)

MIX Ratio: 108 to yield 0.046% pyrethrins

Nozzles	2 min per day	3 min per day
20	115	76
30	76	51
40	57	38
50	46	31
60	38	25
70	33	22

## Section 6

### Maintenance and Winterization

#### Maintenance Required with Each Refill

- If using a water-based insecticide in the unit, no maintenance to the unit should normally be required with each refill.
- If using an oil-based exempt insecticide, follow the instructions for Annual Maintenance Requirements with each refill.

#### Annual Maintenance Requirements

- **Clean inlet water supply filter.**
- **Drain the batch tank.** (MAINTENANCE Menu, DRN, Press Green ► button for 5 seconds.)
- **Access Batch Tank**
  - Remove fasteners securing controller to black plastic shroud. Feed controller into cavity inside unit.
  - Remove black plastic shroud. Lift off of posts and lean shroud (with pressure gauge tubing intact) to left
  - Remove lid from batch tank
- **Clean batch tank**, wiping out any residue
- **Clean float switch and post** - Remove residue and confirm easy travel of float.
- **Clean or replace filter** on pump intake line in the batch tank.
- **Replace batch tank lid, shroud and controller**
- If preparing for operation, **execute a MANUAL MIST**. Unit will FILL, go through an extended DOSE step , AGITATE and MIST.

## Section 6

### Maintenance and Winterization

#### Additional Winterization Requirements

- **Flush coupler, dosing pump and insecticide flow line.**
  - Thread cap onto a vented bottle filled with clean water. Execute a MANUAL CHARGE to flush dosing pump and line with clean water. MAINTENANCE Menu, scroll to CHG. Depress Green ► button 5 seconds. DOSE will flash for extended period
  - Remove cap from bottle and snap into coupler. Execute another MANUAL CHARGE to evacuate fluid from insecticide flow line. Remove the controller and lift to observe when the dosing pump is no longer discharging water.
- **Flush batch tank, pump and agitation valve with clean water.**
  - Drain the batch tank. (MAINTENANCE Menu, DRN, Press Green ► button for 5 seconds.) Press STOP when pressure falls.
  - Run Inspect to flush the batch tank and nozzle circuit (MAINTENANCE Menu, INS, Press Green ► button for 5 seconds.) If zone kit, run INS1 and INS2 to flush both nozzle circuits.
  - During the Inspect cycle, close the valve at the hose bib and disconnect the tubing to the faucet.
  - Allow the unit to run until the batch tank is empty.
- **Evacuate remaining fluid from inlet water line and pump discharge line.**
  - Disconnect nozzle circuit from unit.
  - Use WINT function to hold inlet supply valve and agitation valve open for 30 seconds to allow any remaining trapped fluid to drain. WINT in MAINTENANCE Menu. Hold Green ► button for 5 seconds to trigger.
  - Lift left side of unit about 4" to let water run out of valve.
- **Unplug unit**, coil power cord and stow under unit.
- **Purge fluid remaining in nozzle circuit** with compressed air.

## Section 7 Troubleshooting and Error Codes

### Unit displays flashing “EMP CAR” and the external LED is flashing

#### Cause

- The insecticide bottle is empty and must be replaced. Follow the instructions in Step 7, Install Insecticide and Program Dose Settings in Section 3, Setting Up the Unit.

### Unit not automatically misting

#### Potential Causes

- System Mode is set to OFF or ON and should be set to AUTO-EVERYDAY or AUTO-CUSTOM. See Section 3, Setting Up the Unit.
- No AUTO MIST cycles defined. See Section 3, Setting Up the Unit.
- Unit expecting input from wind sensor, but no wind sensor is installed. Set SEN to OFF. See Step 8h, in Section 3 Setting Up the Unit.

### Unit will not respond to remote

#### Potential Causes

- System Mode is set to OFF. Reset System Mode to an AUTO mode or ON. See Section 3, Setting Up the Unit.
- Remote mist duration is set to OFF. See Section 3, Setting Up the Unit
- Unit does not recognize remote transmitter. See Orient the Remote Transmitter in Section 3, Setting Up the Unit
- Remote antenna not installed. See Section 3, Setting Up the Unit.
- Dead batteries in remote transmitter. Replace batteries and retry.
- Other signals are interfering with reception. Change DIP switches in remote transmitter (see Section 4, Using the Remote.)
- Remote transmitter or receiver has failed. Replace.

### Unit displays NOZ00 and will not mist

#### Cause

- NOZzle count in SET-UP Menu not set. See Section 3, Setting Up the Unit.

## Section 7 Troubleshooting and Error Codes

### Troubleshooting ERRor Codes

- The following pages describe troubleshooting the Gen III+ when it is displaying one of several error codes.
- The diagnostic tests - for the float switch and flowmeter - facilitate troubleshooting and are referenced as appropriate.

### Float Switch Diagnostic

#### Confirm the current position of the float switch

- MAINTENANCE Menu, FLT
- “dn” indicates float switch is down. “UP” indicates float is up.

#### Confirm the float switch is working

- Remove controller from cavity so you can access float in batch tank.
- MAINTENANCE Menu, FLT
- With your hand, push the float down. Controller should display “dn.”

### Flowmeter Diagnostic

- MAINTENANCE Menu, FL tst
- Press Green ► button for 5 seconds. Unit will open inlet valve and water will flow for a few seconds.
- VL ### (in ml) will be displayed. Press Green ►
- One of four results displayed:
  - OK: flow is normal and flowmeter OK
  - Low: flow is low and flowmeter OK
  - High: flow is higher than normal and flowmeter OK
  - Fail: flow meter not working

## Section 7

### Troubleshooting and Error Codes

#### ERR0 – Float switch did not drop during MIST

##### Most Common Cause

- Float is stuck in up position due to buildup of residue on post that hinders travel up during refill and down during misting.

##### Other Potential Causes

- Nozzle circuit too small (less than 10 nozzles) and/or mist duration too short to reliably drop the level in the batch tank in each mist. Turn off the ERR0 switch in the SET-UP menu
- Agitation Valve: 1) stuck in the closed position (due to swollen seal), 2) inadequate voltage to open, 3) controller relay failure
- Pump: 1) intake filter completely clogged, 2) poor connection of pump intake line, 3) pump failure
- Motor: 1) power issue, 2) controller relay failure, 3) motor failure
- Auto Drain Valve: no longer attached to bypass line in batch tank.

##### Diagnostic Steps

- Run Float Switch Diagnostic (Section 7, Troubleshooting) to ensure float switch is working.
- Run manual mist and observe the following:
  - **Listen for the motor.** If no motor sound, problem is motor or power to it. Further diagnostics required.
  - **Listen for agitation valve to click, observe pressure gauge, and observe mist volume** during MIST routine.
    - If pressure is 240 psi and mist pattern is OK, problem is stuck float switch. Clean switch and post.
    - If no agitation click and/or pressure <50 psi with no mist, problem is with agitation valve. Further diagnostics required.
    - If agitation valve clicks, and pressure <50 psi with no mist, problem is with pump or auto drain valve. Ensure auto drain valve is attached to bypass and intake filter is clean, and pump intake well connected. Otherwise, probable pump failure.

## Section 7

### Troubleshooting and Error Codes

#### ERR2 – Batch Tank fill volume less than expected

##### Most Common Cause

- Clogged pump intake filter reduces flow through the pump and nozzle circuit and will eventually result in pump failure.

##### Other Potential Causes

- System Setup does not reflect installed system – 1) fewer nozzles installed than entered, 2) actual nozzle flow rate is much less than estimated nozzle flow rate in the controller 3) the tolerance in the error calculation is too small. Disable ERR2.
- Nozzle Circuit: 1) nozzle tips are clogged, 2) nozzle circuit tubing is blocked or kinked
- Flowmeter: 1) not working properly, 2) flow of water from the faucet too low for flowmeter to work properly

##### Diagnostic Steps

- Confirm system setup: nozzle count (NOZ in SETUP Menu) equals nozzles installed, nozzle flow rate (NFR in DATA Menu) is reasonable (35 – 50 ml/min) and tolerance (TOL in DATA Menu) is 75% or greater.
- Run Flowmeter Diagnostic. (Section 7, Troubleshooting) to confirm adequate water flow to unit and that flowmeter is working properly.
- Run manual mist and observe the pressure gauge and mist volume:
  - If pressure gauge is oscillating, intake filter is clogged. Clean filter (and float switch).
  - If pressure is 240 psi, but mist volume is small, tips are clogged or nozzle circuit is partially blocked. Clean or replace tips and/or locate blockage.

**Section 7**  
**Troubleshooting and Error Codes**

**ERR3 – Batch Tank fill volume greater than expected**

**Most Common Cause**

- Leak in nozzle circuit.

**Other Potential Causes**

- System Setup does not reflect installed system – 1) more nozzles installed than entered, 2) actual nozzle flow rate is much greater than estimated nozzle flow rate in the controller 3) the tolerance in the error calculation is too small.
- Flowmeter: 1) not working properly, 2) flow of water from the faucet too high or turbulent for flowmeter to work properly

**Diagnostic Steps**

- Confirm system setup: nozzle count (NOZ in SETUP Menu) equals nozzles installed, nozzle flow rate (NFR in DATA Menu) is reasonable (35 – 50 ml/min) and tolerance (TOL in DATA Menu) is 75% or greater.
- Run Flowmeter Diagnostic. (Section 7, Troubleshooting) to confirm adequate water flow to unit and that flowmeter is working properly.
- Look for leaks in the nozzle circuit.
- Note about Slow/Small Leaks: During the hours between mists, fluid can leak out of a fitting, that is potentially buried underground, and drain the nozzle circuit. The next time the unit mists, the nozzle circuit must be refilled completely and this may be a large enough additional volume to cause ERR3. Small leaks are notoriously difficult to troubleshoot because it takes an extended period for the nozzle circuit to drain and cause ERR3 to be displayed. That is, the error condition does not occur while the user is on site troubleshooting the issue.

**Section 7**  
**Troubleshooting and Error Codes**

**ERR4 – Batch tank took too much time to fill**

**Most Common Cause**

- Faucet supplying water to the unit has been shut off.
- Note: if faucet is shut off - causing ERR4 - and then turned back on, Gen III+ will automatically clear the error and resume normal operation during the next scheduled mist.

**Other Potential Causes**

- Float Switch: stuck in down position. During the FILL routine, water will run out of the unit until the controller recognizes the issue and closes the inlet solenoid valve.
- Flow Regulator: clogged, reducing flow to batch tank
- Water Supply: 1) inadequate flow, 2) inlet water filter is clogged.
- Batch Tank: Leak caused by hole or tear. Water will run out of the unit.

**Diagnostic Steps**

- Ensure faucet supplying water to unit turned on.
- Run Float Switch Diagnostic (Section 7, Troubleshooting) to ensure float switch is working.
- Run Flowmeter Diagnostic (Section 7, Troubleshooting) to confirm adequate water flow to unit and that flowmeter is working properly. Clean inlet water filter.
- If water is running out of unit, problem is float switch or leak in batch tank. Clean float switch (and intake filter). Otherwise, look for leaks in batch tank.

## Section 7

### Troubleshooting and Error Codes

#### ERR5 – Batch tank fill volume exceeds maximum

##### Most Common Cause

- Float is stuck in down position due to buildup of residue on post that hinders travel up during refill and down during misting.
- During the FILL routine, water will run out of the unit until the controller recognizes the issue and closes the inlet solenoid valve.

##### Other Potential Causes

- Flowmeter: 1) not working properly, 2) flow of water from the faucet too high or turbulent for flowmeter to work properly
- Batch Tank: Leak caused by hole or tear. Water will run out of the unit.

##### Diagnostic Steps

- Ensure faucet supplying water to unit turned on.
- Run Float Switch Diagnostic. (Section 7, Troubleshooting) to ensure float switch is working.
- Run Flowmeter Diagnostic. (Section 7, Troubleshooting) to confirm adequate water flow to unit and that flowmeter is working properly.
- If water is running out of unit, problem is float switch or leak in Batch Tank. Clean float switch (and intake filter). Otherwise, look for leaks in batch tank.

## Section 7

### Troubleshooting and Error Codes

#### ERR6 – Flowmeter value is zero after FILL routine

##### Most Common Cause

- Flowmeter is either clogged or has failed.

##### Diagnostic Steps

- Run flowmeter test. (Section 7, Troubleshooting) to confirm adequate water flow to unit and that flowmeter is working properly.
- If not, remove flowmeter and clear sediment and replace. Run flowmeter test again. If it fails, replace.
- Note: Ensure inlet water filter is installed and clean.

**Display indicates bottle is empty, but bottle is full.**

**or**

**Display indicates bottle is full, but bottle is empty.**

##### Most Common Cause

- The dosing pump that pumps insecticide out of the bottle and into the mixing tank requires maintenance or has failed.

##### Other Potential Causes

- During the routine to virtually REFILL the bottle, the bottle size or level was improperly set.

##### Diagnostic Steps

- Remove fasteners securing controller to black plastic shroud. Lift the controller to a position where you can observe the clear tubing on the right side of the dosing pump. Navigate to the MAINTENANCE Menu and run a manual charge (CHG). If the dosing pump is working, you will observe a pulsing flow of insecticide in the clear tubing.
- If there is no flow, replace the duckbill valves in the pump head.



## Section 7 Troubleshooting and Error Codes

### Water is running out of the unit.

#### Most Common Cause

- Float is stuck in down position due to buildup of residue on post that hinders travel up during refill and down during misting.
- During the FILL routine, water will run out of the unit until the controller recognizes the issue and closes the inlet solenoid valve.

#### Other Potential Causes

- Inlet Solenoid Valve: jammed in open position
- Flow Meter: cracked
- Batch Tank: Leak caused by hole or tear. Water will run out of the unit.

#### Diagnostic Steps

- Turn off power to the unit. If water continues to run out of the unit, the inlet solenoid valve is stuck in the open position. Remove valve, disassemble and clean, then replace.
- If turning off power stops the flow of water, the issue is with a stuck float switch, a cracked flow meter or leaky batch tank.
- Run Float Switch Diagnostic. (Section 7, Troubleshooting) to ensure float switch is working.
- If float switch is working properly, remove controller and shroud and observe flowmeter for cracks and batch tank for leaks.

## Section 8 Frequently Asked Questions

### Why does this machine have to be plugged into a GFI circuit?

- As an outdoor electrical appliance that is often exposed to the elements, for protection of both the installer and end-user it is required that the unit is plugged into an electrical outlet that has Ground Fault Interrupt (GFI or GFCI) protection.

### Does installation require that a backflow preventer be installed on the water faucet?

- To eliminate the possibility of insecticide back-contaminating the water supply, the unit has a built-in 2" air-gap in the inlet water supply circuit that is generally recognized to be double the minimum code requirement for back-flow prevention.
- Refer to your local municipal plumbing code. It is possible that if the unit will be connected to a faucet equipped with a vacuum-breaker, you may be required to plumb an alternate dedicated connection.

### What happens if the power to the unit is turned off and back on?

- When electrical power is restored to the unit, the digital controller will return into the same mode the unit was operating in prior to the power being turned off.
- For example, if the unit was in AUTO-EVERYDAY mode prior to the power being powered off, it will return to AUTO-EVERYDAY mode when the power is restored.
- The controller features a "Super Capacitor" that stores enough electrical power to run the internal clock for up to six weeks in the event power to the unit is turned off. There is no battery for the clock.
- All programmed settings are maintained regardless of how long the unit has gone without power.

## Section 8

### Frequently Asked Questions

#### What happens if the water supply to the unit is accidentally turned off?

- When the unit attempts to build the next batch, it will display an ERR 4 indication.
- Once water supply is restored, Gen III+ will automatically clear the error and resume normal operation during the next scheduled mist.

#### Can I set unique AUTO MIST times/durations for each day of the week?

- No. While you may use the CUSTOM-PGM menu to turn specific days of the week ON or OFF, each day set to ON will mist according to the AUTO MIST cycles defined under the CYCLES menu. You cannot customize mist times for each day.

#### If I press "STOP MIST" on the remote, does that set the system Mode to OFF?

- No. When STOP MIST is pressed on the remote, or the STOP button is pressed on the controller, the unit simply halts whatever current activity it is executing, be it misting, agitating, etc. The System Mode remains unchanged.

#### When should I set the Daylight Savings Time switch (DST) to ON or OFF?

- DST, which is found under the DAY/TIME menu, is a feature added for convenience of the user.
- If DST is changed from OFF to ON, two events happen automatically:
  1. The clock is advanced forward one hour
  2. The time for each mist cycle, as defined in the CYCLES menu, is advanced forward one hour.
- The reverse of the above occurs when DST is changed from ON to OFF.
- DST ON is the setting that would be used in the summer months.

## Section 8

### Frequently Asked Questions

#### The manual mentions a zone kit. What is a zone kit, and how do I know if I have one?

- A zone kit is primarily composed of a solenoid valve attached to the unit that enables the system to sequentially mist through two different nozzle circuits, effectively doubling the capacity of the unit.
- Units with zone kits may be visually identified by the presence of a small separate housing mounted on the back side of the unit.
- For units with zone kits, the controller is also slightly different in the SET-UP menu.
- The number of nozzles setting "NOZ" is replaced by "NZ1" and "NZ2", representing the number of nozzles in Zone 1 and Zone 2 respectively.

#### I have the optional zone kit installed. Can I use the remote to trigger each zone individually?

- No. When the Remote is used to trigger a mist, and a zone kit is installed, the unit will mist according to which zones are set to "ON" in the controller.
- If you wish to suspend one zone for a period of time, navigate to the SET-UP menu and set ZN1 or ZN2 to OFF, depending on your needs.

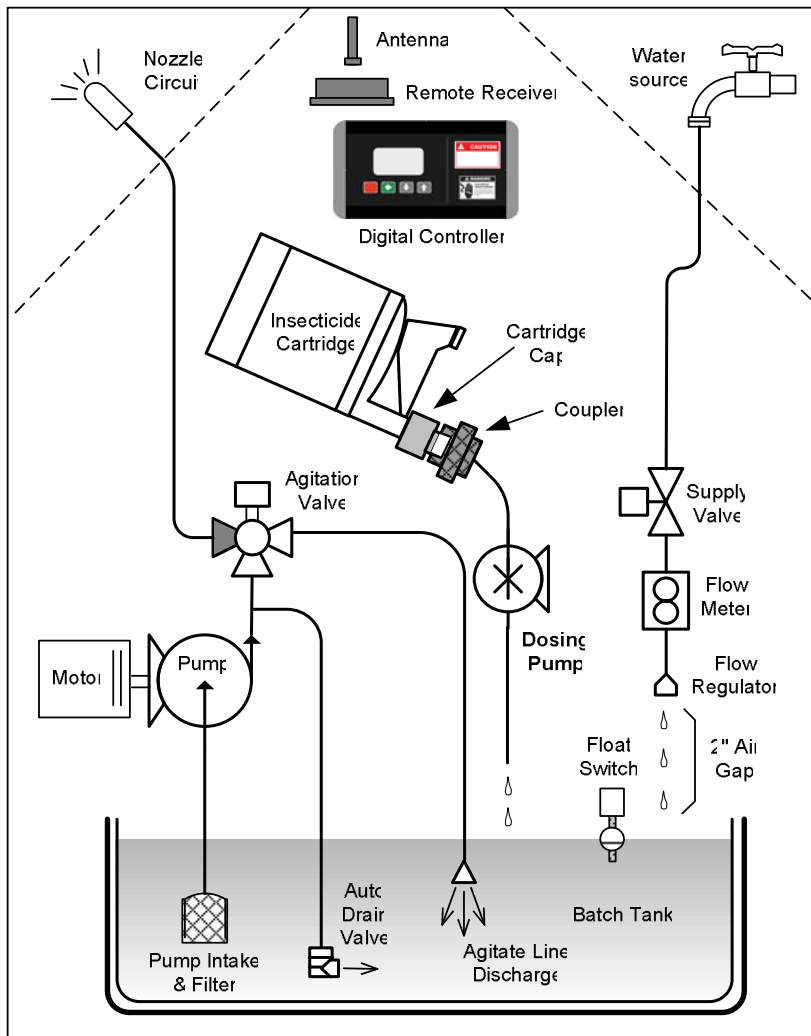
#### What is the symbol that looks like a "sunshine" flashing in the lower right corner of the display?

- The small "sunshine" indicates that the previous mist was skipped for one of three reasons:
  1. The user triggered a SKIP NEXT MIST with the remote, and the most recent AUTO MIST was skipped. The next AUTO MIST will be executed as programmed.
  2. The Maximum Daily Mist time has been reached.
  3. The (optional) wind sensor blocked the previous AUTO MIST

## Appendix A Unit Component Description

### Batch Control

The operations of the Gen III+ are managed by a digital controller and a number of electro-mechanical components. Information about mist schedules, duration, dosing and agitating the insecticide are entered into the controller by the user.



## Appendix A Unit Component Description

### Components – Interface and Controls

- **Digital Controller** – accepts user input, displays unit operating mode and status, controls electromechanical components.
- **Remote Receiver & Antenna** – receives signal from handheld remote transmitter. Receiver located on underside of enclosure lid.
- **LED warning light** – annunciates unit status – warning, misting, suspended due to error or empty cartridge. Located on top of enclosure lid.

### Components – Fresh Water Flow Control

- **Supply Valve** – opens to allow water to flow from faucet into batch tank.
- **Flow Meter** – on inlet water line, measures flow into the batch tank. Used to control insecticide dosing and error condition calculations.
- **Float Switch** – closes supply valve when batch tank is full.
- **Flow Regulator** – ensures smooth flow of water into batch tank. Positioned to ensure 2" air gap between water supply and batch tank contents.

### Components – Insecticide Flow Control

- **Insecticide Cartridge** – vented two-chamber bottle containing one of a number of botanical insecticides. This manual uses the word "bottle" interchangeably with "cartridge."
- **Bottle Cap** – enables secure connection to snap-in coupler.
- **Coupler** – accepts snap-in cap.
- **Dosing Pump** – precisely meters insecticide concentrate from the cartridge into the batch tank.

## Appendix A

### Unit Component Description

#### Components – Agitation and Atomization

- **Batch Tank** – 2 gallon plastic tank with enough capacity to enable a 120 nozzle circuit to mist for 120 seconds.
- **Pump & Motor** – atomizes batch tank contents through nozzle circuit. Pump pressure typically set to 240 psi.
- **Agitation Valve** – One path through the valve routes fluid to the nozzle circuit. The other path recirculates fluid in the batch tank through the agitation line. Each mist (including REMOTE MISTs) will be preceded by an agitation cycle that will ensure thorough mixing of the batch tank contents prior to misting. In addition, there is a once daily agitation that is independent of any AUTO or REMOTE MIST. The agitating valve also eliminates the possibility of a siphon emptying the batch tank contents.
- **Pump Intake Line and Filter** – Pump intake positioned near bottom of batch tank. Filter ensures debris is not drawn into pump and nozzle circuit.
- **Agitation Line** – during agitation, batch tank contents are recirculated to ensure thorough mixing prior to misting.
- **Auto-Drain Valve** – ensures rapid increase in nozzle circuit pressure on pump startup and rapid decrease on shutdown.

#### Components - Structural

- **Enclosure and Lid** – sturdy powder-coated galvanealed metal walls, locking lid, and aluminum chassis and feet.
- **Shroud** – black plastic inner shelf with well for snap-in insecticide cartridge. Supports recessed controller and pressure gauge.

#### Other Components

- **Remote Transmitter** – 3-button remote enables the user to start a mist, stop a mist and skip the next scheduled mist.
- **Key** – for lock that is located on top front wall of enclosure.

## Appendix B

### Controller Menus

#### DAY/TIME Menu

Set the Day of the Week and the Time of Day and Daylight Savings Time switch.

#### CYCLES Menu

Configure the mist time and duration of each of the twelve possible AUTO MIST Cycles (Each with unique duration and time of day.)

#### CUSTOM PGM Menu

Configures the days of the week for AUTO MISTing in the AUTO-CUSTOM PGM mode. (Turn each day OFF or ON.)

#### SET-UP Menu

##### REM

Set the duration for mists triggered by the remote transmitter. (Values from OFF to 120 seconds)

##### LRN

Program unit to recognize a specific remote transmitter. Hold down Green ► button for 5 seconds and wait for countdown to begin. Press and hold any button on the remote transmitter. When DONE flashes in the display, the transmitter is programmed.

##### MAN

Set the duration for mists triggered by a MANUAL MIST

##### NOZ

Set the Number of nozzles in the circuit attached to the unit. If Zone Kit installed, there are separate displays for NZ1 and NZ2.

##### AGT

Set duration for agitation sequence prior to each mist. Set time of once daily off-cycle agitation.

##### SEN

Turn (optional) wind sensor ON or OFF

##### WND

Set max wind speed (above which wind sensor reading inhibits mist.)

##### ALT

Set time (in seconds) that (optional) external alarm will sound prior to each scheduled and remote mist

**ZN1/ZN2** Enable or disable misting in Zone 1 and (optional) Zone 2.

##### ER0

Enable or disable ERRor Code 0. Default is ON

##### ER2

Enable or disable ERRor Code 2. Default is OFF

##### ER3

Enable or disable ERRor Code 3. Default is ON

##### ER6

Enable or disable ERRor Code 6. Default is ON

**Appendix B**  
**Controller Menus**

**MAINTENANCE Menu**

- REFILL** “Virtually” fill the insecticide bottle. Holding Green ► button for 5 seconds triggers routine that prompts user for insecticide/water MIX ratio, bottle size (in ounces), LEVEL of concentrate in bottle.
- DRN** Drain. Unit will mist until batch tank is empty and pressure falls. Hold Green ► button for 5 seconds to trigger.
- INS** Unit is in Inspection Mode. Unit will fill with water and then mist for 5 minutes (refilling as necessary) without adding insecticide. Hold Green ► button for 5 seconds to trigger. If a Zone Kit is installed, there are separate inspection menus, INS1 and INS2.
- CHG** Adds a full charge of concentrate to the batch tank. Holding Green ► button for 5 seconds initiates an extended DOSE routine which brings the full batch of fresh water to its target MIX ratio.
- WINT** Winterizing step which holds inlet supply valve and agitation valve open for 30 seconds to allow any remaining trapped fluid to drain. Hold Green ► button for 5 seconds to trigger. See Section 6, Maintenance and Winterization for more detail about winterizing the unit.
- FLT** Float switch diagnostic. Displays “dn” if float switch is not positioned at top of travel. Displays “UP” if it is. See Section 7, Troubleshooting and Error Codes.
- FL tst** Flowmeter Diagnostic. Holding Green ► button for 5 seconds to triggers routine that determines whether flow of water to the unit is normal and whether flowmeter is working as it should. See Section 7, Troubleshooting and Error Codes.


**Appendix B**  
**Controller Menus**

**DATA Menu**

- DM** Daily Mist time (cumulative, in seconds)
- MX** Maximum Daily Mist allowed (in seconds)
- TMC** Total Mist Cycles since last reset\* (\*Reset by pressing Green ► button until value shows zero.)
- TMM** Total Mist Minutes since last reset\*
- MMC** MANUAL MIST Cycles since last reset\*
- RMC** REMOTE MIST Cycles since last reset\*
- TMH** Total Mist Hours on unit. May not be reset.
- PRH** Cumulative dosing pump run time in hours. May not be reset.
- SPD** Wind speed as read by sensor
- FL** Batch tank fill volume (in milliliters) following last mist
- AFR** Average flow rate per nozzle in last zone misted (ml/min)
- TF** Target fill volume (in milliliters)
- NFR** Flow rate of average nozzle in circuit (in ml/min). Used in error condition calculations. Default is 45 ml/min. Set by pressing Green ► button for 5 seconds, then ▲ and ▼ arrows, then Green ► button to save.
- NOZ** Number of nozzles in zone last misted
- TOL** Error tolerance in nozzle circuit flow rate. Default is 80%. Used in error condition calculations.
- CF** Full cartridge volume (in milliliters)
- CR** Remaining cartridge volume (in milliliters)
- DS** Dose volume (in milliliters)
- MIX** Current insecticide MIX ratio, expressed in Parts Water:Parts Insecticide
- DUE** Days Until Empty. Remaining volume in cartridge, expressed in days of use until empty (Based on 14 day moving average consumption. DUE reflecting first 14 days use will be inaccurate.)
- HLD** Time (in 0.1 seconds) that agitation valve is held open at end of mist cycle to allow pressure to decrease. May be changed by pressing Green ► button for 5 seconds, then ▲ and ▼ arrows, then Green ► button to save.

## Appendix C Operating Displays

### Controller Displays

<b>AGT</b>	Unit is agitating contents of batch tank.
<b>DOSE</b>	Unit is adding insecticide to batch tank through dosing pump.
<b>DRN</b>	Drain. Unit will mist until batch tank is empty and pressure falls.
<b>FILL</b>	Inlet supply valve is open and filling batch tank with water.
<b>HOLD</b>	Agitation valve is being held open at end of mist cycle to allow pressure in nozzle circuit to decay and close nozzles quickly.
<b>INS</b>	Unit is in Inspection Mode. Unit will mist for 5 minutes or until stopped, refilling as necessary and without adding insecticide.
<b>MIST</b>	Unit is misting.
<b>SKIP</b>	Unit will skip next programmed mist, having received signal from remote transmitter to SKIP NEXT MIST. Clear by pressing ▲ and ▼ arrows simultaneously for 2 seconds.
<b>SUS</b>	During 5 minute period following AUTO MIST, wind sensor is reading higher than user-set max and unit is suspending AUTO MIST.
<b>VENT</b>	Prompt for user to vent the insecticide bottle by removing the cap from the top port and penetrating the bottle seal. Loosely replace vent port cap. Press Green ► button to continue.
<b>WRN</b>	Unit is in warning period before misting.
	The previous mist was skipped because SKIP NEXT MIST was triggered by the remote or the wind sensor blocked an AUTO MIST.

### External LED Indications

<b>NO LIGHT</b>	Unit is idle.
<b>RAPID FLASH</b>	Unit is about to mist and is either in the warning or agitate stage of the cycle.
<b>SOLID LIGHT</b>	Unit is misting.
<b>SLOW FLASH</b>	Either the cartridge is empty, a SKIP MIST has been triggered by the remote transmitter, or there is an error condition.

## Appendix D Manual Operations

There are a number of operations that can be performed while standing at the unit:

- **STOP** - Pressing Red MENU/STOP button will immediately stop any current operation of the unit, but will not change the System Mode from AUTO to OFF. (To change the System Mode to OFF, use the Green ► Auto/On/OFF button to cycle through each of four System Modes. The ▲ at the top of the display points to the active System Mode.
- **MANUAL MIST** - Pressing the ▲ and ▼ arrows simultaneously (2 seconds) will activate a mist cycle for the duration programmed in the SET-UP menu.
- **INSPECT** - Unit will mist for 5 minutes or until stopped, refilling as necessary and without adding insecticide. Navigate to INS in the MAINTENANCE Menu. Press the Green ► button for 5 seconds.
- **DRAIN** - Unit will mist until batch tank is empty and pressure falls. Press Green ► button for 5 seconds to trigger.
- **MANUAL CHARGE** – In startup, after inspecting the nozzle circuit, when the batch tank is filled with fresh water, it is necessary to dose enough insecticide to bring the contents to the desired concentration. Navigate to MAINTENANCE Menu, CHG. Holding Green ► button for 5 seconds initiates an extended DOSE routine which brings the full batch of fresh water to its target MIX ratio.