

## MATERIAL LIST

A DIY Mosquito System will include:

- pump/motor assembly (sizes vary)
- timer enclosure
- reservoir (sizes vary)
- nozzles (different types depending on project)
- tubing (mostly 1/4", 3/8" may be needed on some larger systems)
- assorted fittings (unions, union tees, plugs, etc)
- 3/8" suction line with filter
- 3/8" relief line with check valve
- low-level float switch
- weather resistant cover

Tools normally required for installation:

- T25 stapler with 14mm staples
- nylon tube cutters
- ladder
- drill

## **CAUTION:**

**BEFORE USING ANY CHEMICAL OR PESTICIDE, READ THE LABEL FIRST. USE ONLY ACCORDING TO THE LABEL. USE PROPER EYE AND SKIN PROTECTION ACCORDING TO THE LABEL WHEN FILLING RESERVOIR.**

**ALWAYS UNPLUG SYSTEM WHEN FILLING THE RESERVOIR. USE ONLY A PROPERLY GROUNDED OUTLET FOR SUPPLYING POWER TO THE SYSTEM.**

**READ THE INSTALLATION MANUAL COMPLETELY BEFORE ATTEMPTING TO INSTALL OR OPERATE THE SYSTEM.**

## **RESERVOIR SETUP**

1. Set reservoir and control assembly in desired location. Standard locations are near HVAC or pool equipment. A 110 volt grounded outlet is needed for operation. Do not plug-in system. A cement pad, or other type of pad may be needed if ground is not stable.
2. Locate the 3/8" suction line with filter (approx. 38"). From beneath the lid, insert the open end of this line securely into the suction elbow of the pump and tighten with a 5/8" end wrench. Do not over tighten. Some models may have a push-to-fit connection in which case no wrench is required.
3. Locate the 3/8" relief line with check valve (approx. 16"). From beneath the lid, insert the open end of this line securely into the end of the needle valve portion of the pump and tighten with a 5/8" end wrench. Do not over tighten. Some models may have a push-to-fit connection in which case no wrench is required. This line is located in front of the suction line. Position the overflow from this

- line so that relief flow is toward the front portion of the reservoir. This is to prevent overflow from hitting the low-level float switch.
4. The low-level float switch is pre-attached to the time assembly. It will hang approximately 2 ½” from the bottom of the reservoir. This float switch will indicate when the reservoir needs refilling by turning on the red light inside the timer enclosure. It will also disconnect power to the system automatically.

## **NYLON TUBING AND NOZZLE SETUP**

All nozzles and fittings are push-to-connect. Simply push the nylon tubing firmly into the nozzle or fitting. Use only black tubing when there is possible exposure to the sun.

It is very important to consider, before starting your installation, where and how you will place your nylon tubing and spray nozzles. Each nozzle is designed to turn 360 degrees for easy adjustment of desired spray direction.

1. Take into account how you use your home or facility.
2. When possible, place nozzles and tubing out of reach of children and animals.
3. Do not place nozzles to spray directly onto light fixtures or other electrical equipment.
4. Consider location of patio furniture, grills and plants before placing nozzles.
5. Consider the prevailing wind direction. Try to minimize drift when possible, but also use it to your advantage.
6. Do not place nozzles higher than 12-13 feet.
7. Nozzles should be placed approximately every 10-12 feet around the perimeter of the desired area to be covered. Consider placing nozzles in the center of the covered area if it is wider than 40 feet.

### **Installation on eaves:**

Nozzles, in most cases, should be attached to the soffit where it meets the fascia board. Leave slack in tubing when it fits around a corner or obstacle.

1. If you have cement-board, aluminum or vinyl siding, consider using ¾” hex head screws with ¼” cable clamps every 15” or so to attach the nylon tubing to the eave. Place one cable clamp on each side of the nozzle to prevent sagging.
2. For wood soffits, use a T25 stapler with 14mm staples every 10-12 inches.
3. If attaching to brick, use ¾” hex head screws into plastic anchors.

### **Installation on fences:**

There are a number of ways to attach nozzles to fences depending on the type of fence. Use only black tubing on fences since there is potential exposure to the sun. Leave slack in tubing when it fits around a corner or obstacle.

1. When attaching to a cedar fence with planks facing inward, drill a 7/8” hole for the nozzle and attach the nylon tubing on the back side of the plank.
2. If planks are facing inward and have trim cap, you can run the nylon tubing under the trim cap on the inside of the fence.
3. Many fences have a treated bottom 2 X to attach to in some cases.

4. When attaching to a cedar fence with planks facing outward, attach the nylon tubing to the bottom of a cross member and drill through or go around supporting posts.
5. When attaching to wrought iron fences, use zip ties to connect to a cross member.

### **Installation of ground nozzles:**

In some instances, there is a need to use ground nozzles when there is nothing else to attach to or in order to avoid certain plants or other obstacles. Ground nozzles are just as effective as nozzles placed on an eave or fence. We recommend that they be placed closer together by 1-2 feet. It is important not to place nozzles so that spray will settle on the leaves of a few plants. Azaleas, oleanders and most annual flowers are the most noticeable. In these instances, use ground nozzles to spray at the base of these plants to avoid foliage. While most plants are not affected by pyrethrum, we recommend placing nozzles to avoid direct contact to save from making a later adjustment.

1. When placing nylon tubing across an unprotected traffic area, such as under a gate or through a lawn, run tubing in plastic or PVC conduit for added protection from lawn or other equipment.
2. When setting ground nozzles, dig a small trench 2 or 3 inches deep. Set the nylon tubing in the trench and partially backfill to secure. Cut tubing at each desired interval to place a ground nozzle and insert a union tee. Connect the ground nozzle to the union tee and set ground nozzle.
3. Ground nozzles spray three ways: parallel to the ground (90 degrees), at a 45 degree angle to the ground, or straight up. The desired nozzle depends on the particular application.
4. Each ground nozzle is designed to turn 360 degrees for easy adjustment of desired spray direction.

### **SYSTEM TESTING AND STARTUP**

1. Start with the system UNPLUGGED. Fill the reservoir about half way with water. Always unplug system when filling with water to prevent risk of electric shock.
2. Plug the power cord into a properly grounded 110 volt outlet.
3. Turn pressure control knob counter-clockwise approximately one full turn to prevent from over-pressurizing the pump.
4. Open the gray lid of the timer box and turn the system to "Test". This turns the system on. It will run indefinitely in the "Test" position.
5. Allow the system to run for 30-45 seconds while adjusting the pressure control knob to set the pressure at a 170 p.s.i.
6. While system is running, observe all fittings and spray nozzles to make sure there that are no leaks and that the system is operating properly. Check spray direction of nozzles to assure proper placement. Adjust as necessary. The time it takes to check the fitting, line and nozzles will allow the system to bleed trapped air from the line.
7. If a problem persists, turn system "Off", unplug, correct the problem, and repeat the above steps.
8. Once satisfied that the system is operating properly, unplug, and continue to fill the reservoir with water. Add chemical (natural pyrethrum) solution to reservoir as well. **BEFORE USING ANY CHEMICAL OR PESTICIDE, READ THE LABEL FIRST. USE ONLY ACCORDING TO THE LABEL. USE PROPER**

- EYE AND SKIN PROTECTION ACCORDING TO THE LABEL WHEN FILLING RESERVOIR. Fill the 55 gallon reservoir approximately two inches from the top.
9. Once full, turn off water and plug-in system. "Test" again to affirm pressure is at desired reading.
  10. Set the timer according to the directions in the next section. Set the system in the "Auto" position. Close timer box cover. Place weatherproof cover over system. Make sure that the cover is properly seated in the groove around the top of the reservoir to assure that it will not blow off.
  11. If desired, you can put locks on each of the timer box and the ring around the reservoir to help prevent tampering or unauthorized entrance.

## **SETTING THE TIMER**

1. When setting the time of day, be sure to turn the timer clockwise only.
2. Align the current time of day with the "Time Arrow" in the center of the timer. It is pointing at a normal "12 o'clock" position. Make sure to observe the proper "daytime" (white portion of timer dial) versus "nighttime" (black portion of timer dial) when setting the current time and operating cycles.
3. For each desired "on" position, push in one peg at the appropriate time on the timer dial. As the dial rotates automatically, the push-in peg will pass the "Time Arrow" at the top of the dial and turn on the system.
4. Set the "Interval Timer" (black knob located on right side of panel) to 35 seconds. This determines how long each cycle sprays.
5. Observe the "Red Light" under timer dial. If this light is on, the system will automatically turn itself off. This means that the reservoir is too low for correct operation and needs to be refilled with water and the proper chemical solution.

## **REMOTE CONTROL OPERATION**

The remote control can be operated while the system is in one of two positions.

With the system in "Auto" position:

The remote control can be operated by depressing, and holding, the gray button on the remote transmitter. The system will run as long as the button is depressed and will automatically stop after the interval timer has completed its timed cycle.

With the system in "Off" position:

The remote control can be operated by depressing, and holding, the gray button on the remote transmitter. The system will run as long as the button is depressed. It will not stop until the button on the remote transmitter is released.