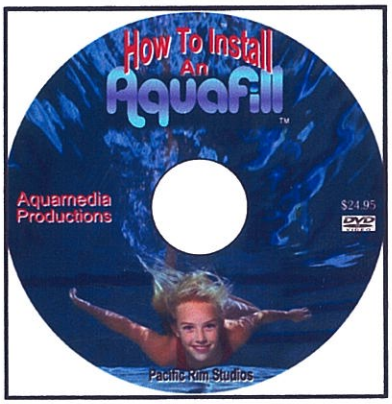
AQUAMEDIA CORP

Water Level control System

The AquaFill Water Level Control System was designed to be installed into any swimming pool skimmer for the sole purpose of providing a continuous precise water level in your pool. The AquaFill Fail-Safe ™ system will insure that you will never experience another pool overflow (possibly resulting in an insurance claim). In addition, there is no longer the possibility of a low pool water level resulting in air being drawn into the pump, and causing it to lose its prime, run dry, and become seriously or permanently damaged. AquaFill protects not only existing pools without auto fill systems, but will replace undependable ones quickly and easily. There is an AquaFill system designed for ponds and fountains of any style, shape or size. Every AquaFill comes with a limited five year warranty.



Available with every **AquaFill** .

Feel safe, be safe with AquaFill

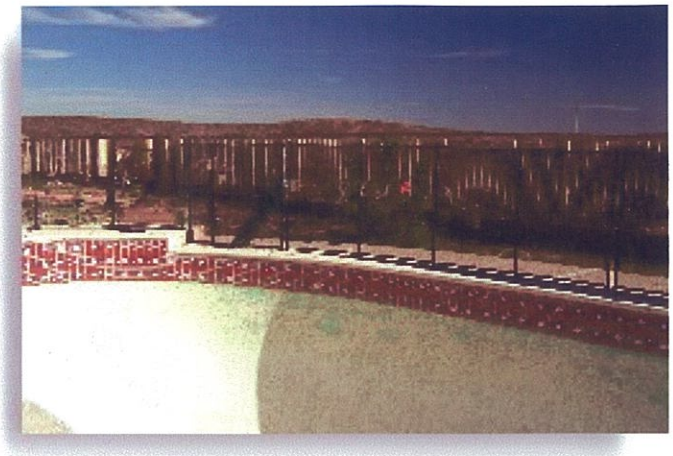
Contact us for a dealer near you.

Made in U.S.A.

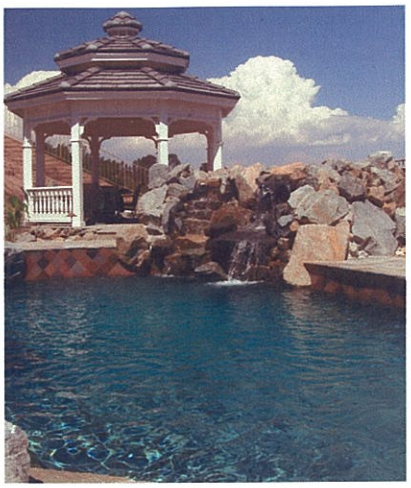
AUTO-FILL FAIL-SAFE ™
Auto-Fill Fail-Safe
TECHNOLOGIES

AQUAMEDIA CORP SAN DIEGO, CA 858-715-8442 WWW.AQUAFILL.COM WWW.AQUAMEDIACORP.COM

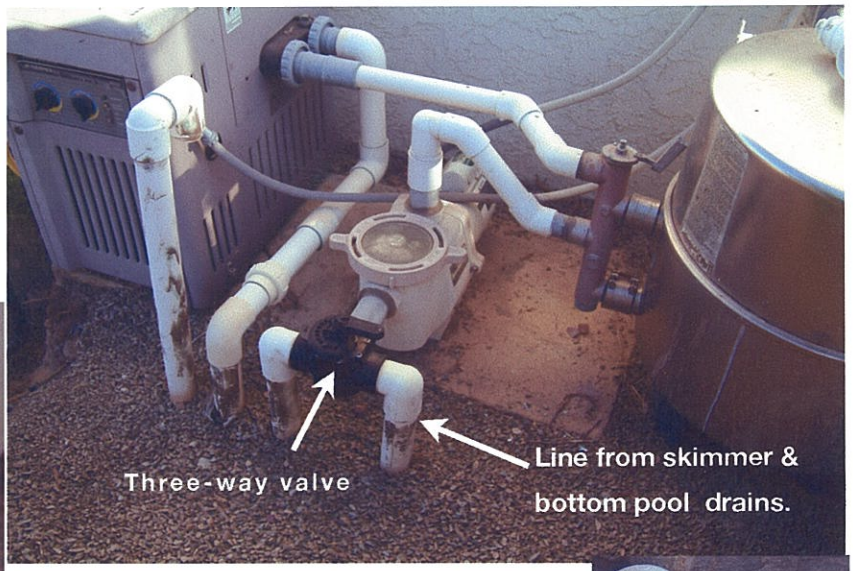
AquaFill Installation Instructions

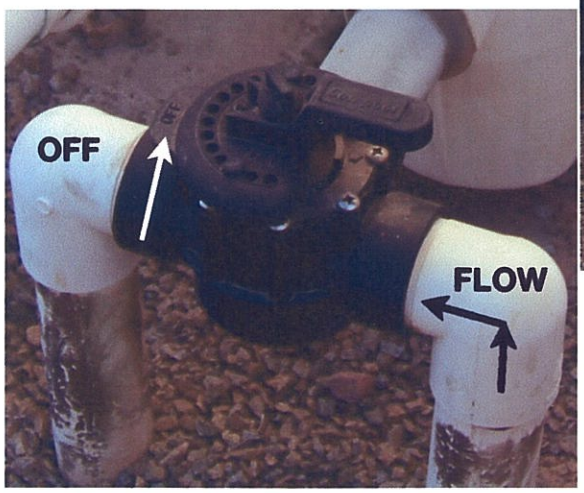


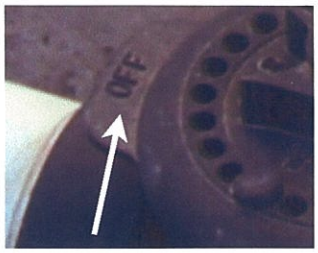
This is an existing pool that was remodeled. The owner was not given the option to have an auto-fill installed. They opted not to purchase new pool equipment when told that the existing heater, filter and pump would be adequate.



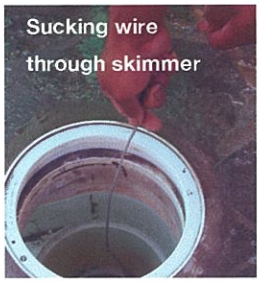
★ **Step One:** Examine the equipment to determine which pipe is coming from the pool skimmer. In most cases, you simply rotate the three-way valve to close off one of the two pipes to stop the flow. Then by checking the skimmer it is easy to determine whether it was shut off. If the skimmer is still sucking water, you know it is the pipe on the right.







★ **Step Two:** Remove the cover from the skimmer and tie a small piece of plastic bag (5"x5") on the end of the 22 ga. three conductor wire. Slowly lower it to the bottom of the skimmer until it is sucked into the return pipe. If you are working alone, you can tie off the wire and periodically check to see if the wire has arrived at the leaf basket. It only takes a few seconds for this to take place. If by some unlikely chance the pump does not have a leaf basket (priming pot), you will need to install one first. You do not want to suck the wire into the pump impeller, or you will be buying a new pump for sure.



★ **Step Three:** Hold the Tee fitting against the pipe, using a felt marking pen. Place a mark on the portion of the pipe that needs to be removed. **Figure 1**. The other pipe will also need to be cut in order to lift the pipe to insert the 2" Tee. When the Tee is installed, The other pipe coming from the pool's bottom drains will be reconnected using a 2" coupling. [Note: *It was discovered that the other pipe was originally connected to a built-in spa in the pool which had been eliminated, so this pipe will simply be capped off. The other pipe on the right serves as suction for both the bottom drains and the skimmer.]* In addition to cutting both suction lines for the purpose of lifting the pump to allow for the insertion of the 2" Tee, you may also need to cut one or two other pipes for the same reasons. While installing the Tee, couplings can be used to reconnect the cut lines. **Figure A** shows pump's return line being cut, and **Figure B** shows the simple repair using a 1-1/2" coupling. **Important : When cutting pipe with wire enclosed, cut in a circular motion around the pipe, barely cutting through the surface, taking care not to cut the wire. Carefully inspect the wire after cutting the pipe to assure there are no cuts. If so, pull additional wire through from the skimmer and cut off damaged portion.**

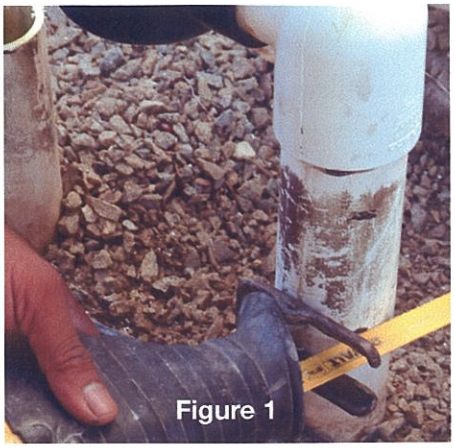


Figure 1

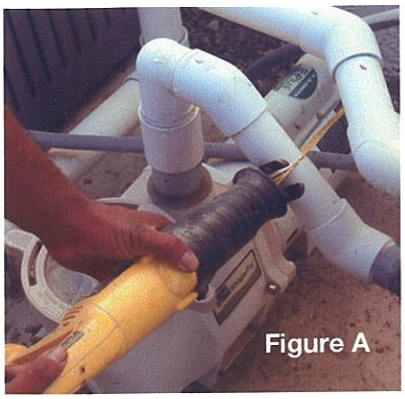


Figure A

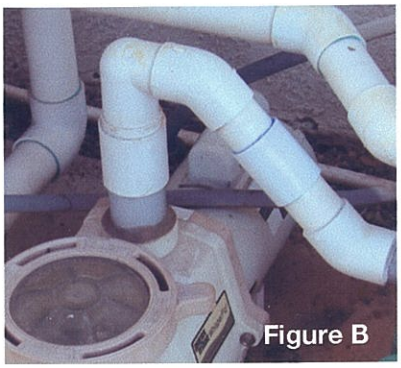


Figure B


Figure C

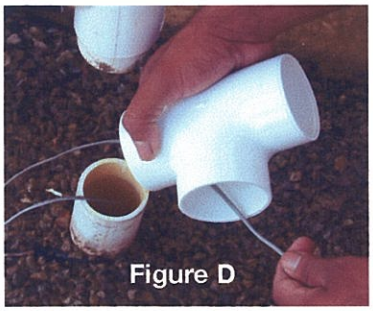


Figure D

★ **Step Four:** After cutting the necessary pipes, use fine sandpaper and lightly strike the rough edges to remove all the burrs. **Figure C.**

★ **Step Five:** Next pull the wire through the Tee, **Figure D,** and then apply PVC primer to both ends of the Tee and pipe. **Figures E & F.**

★ **Step Six:**Apply PVC glue to one end of Tee, couplings and pipe fitting them to one end of the pipe. Then apply glue to the other ends of the Tee and coupling and join them all together simultaneously.


Figure E

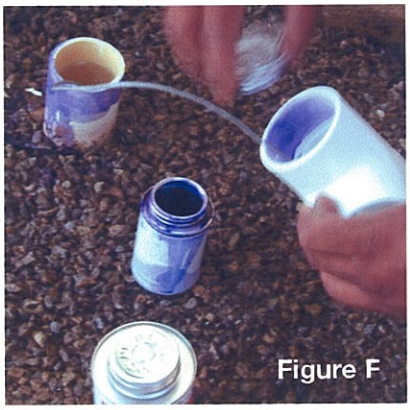


Figure F

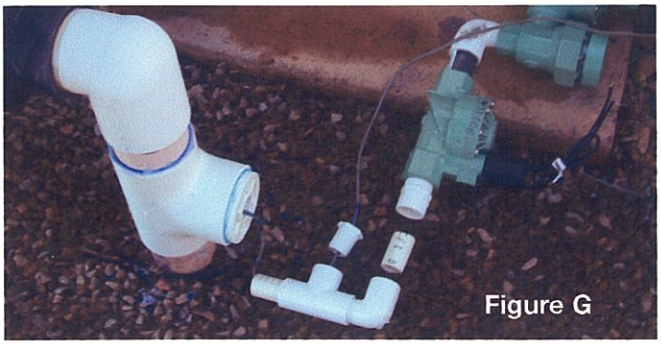


Figure G

★ **Step Seven:** Feed the wire through and glue the 2-1/2" x 1/2" reducer into the Tee. **Figure G**

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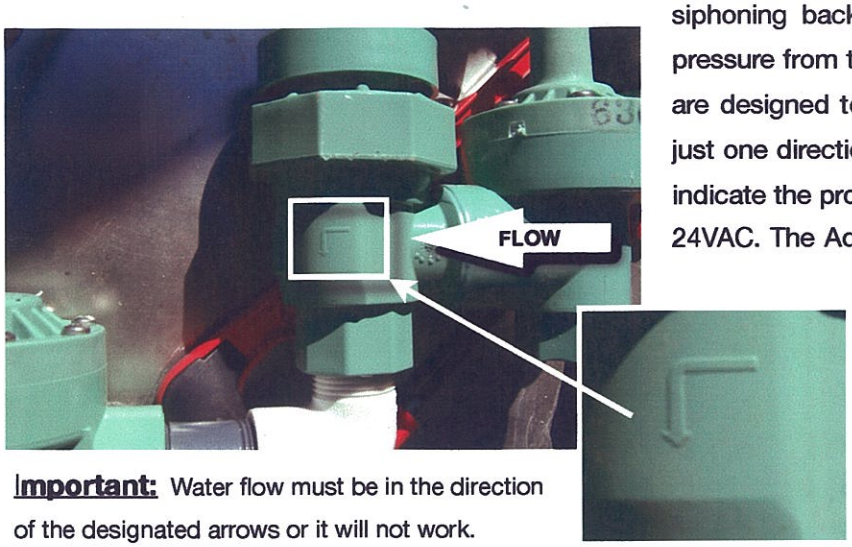
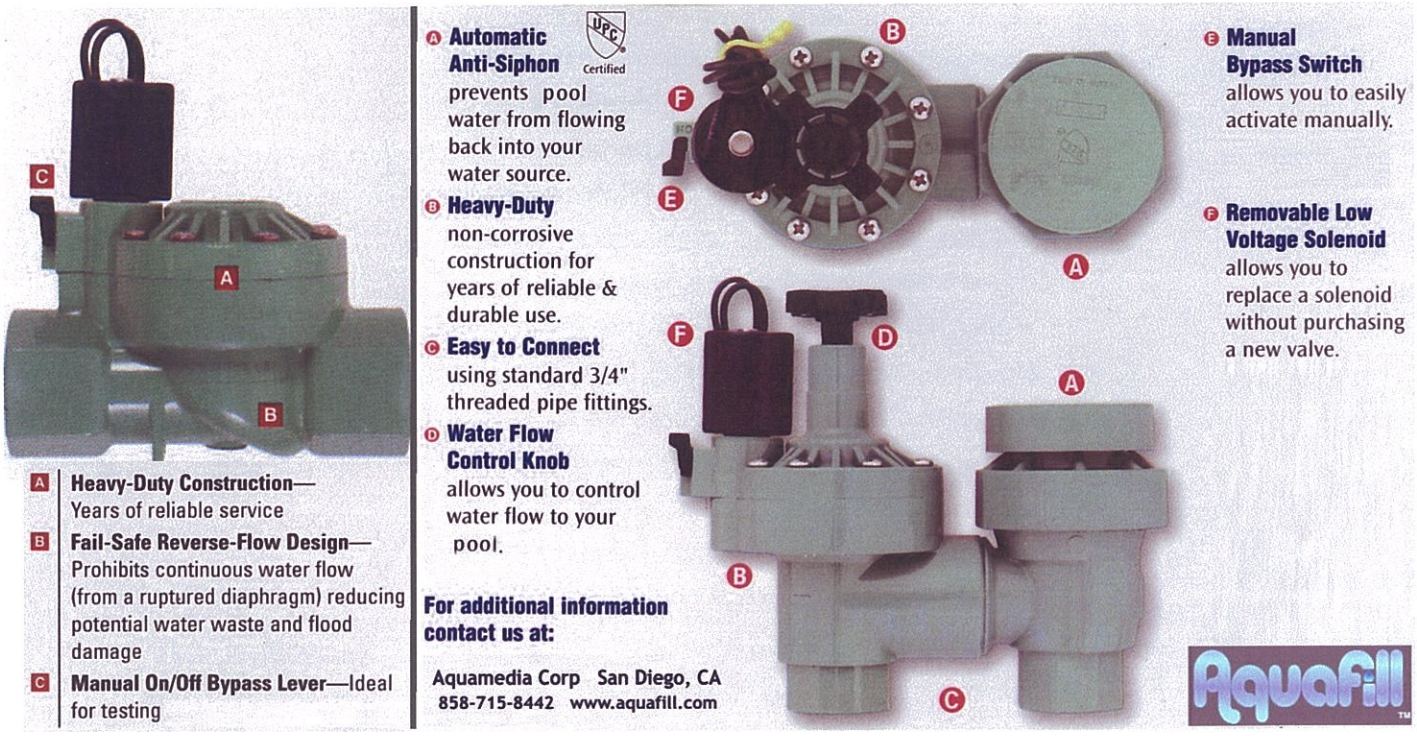
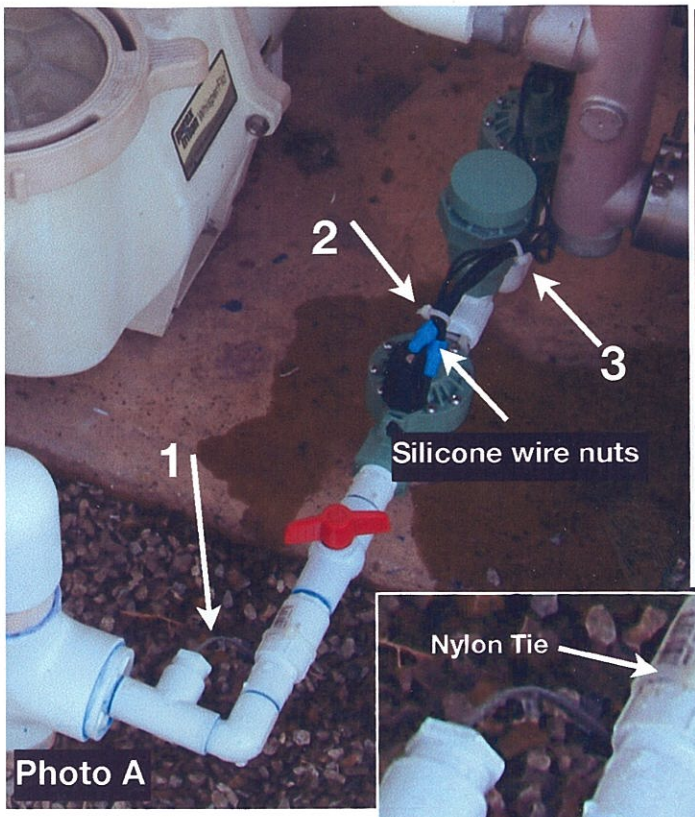
The AquaFill uses two solenoid valves to insure the dependability of the system. Both solenoids are wired in parallel so that in case one valve sticks open, the second one will respond. The anti-siphon valve prevents pool water from siphoning back into the house plumbing, in the event water pressure from the city were to drop. Important: Solenoid valves are designed to have the flow of water through them travel in just one direction. An arrow is marked on the side or bottom to indicate the proper direction of flow. Solenoid valves operate on 24VAC. The AquaFill float, however, uses only 6VDC, making it safe to be in the pool. The 6Volt transformer has a 1Amp fuse protection as a back-up. The 6Volts from the electronic float activates a relay which engages the 24VAC for the two solenoids. Note: Since both solenoid valves normally would be closed when not energized, they both can be easily tested to determine if they are operating properly. By opening the manual switch on each separately, if water were to start flowing, it would indicate that the other valve was stuck open (and vice versa). ***This test should be performed twice a year.***

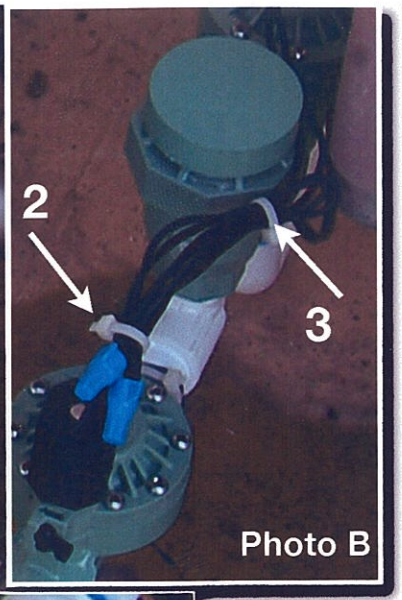


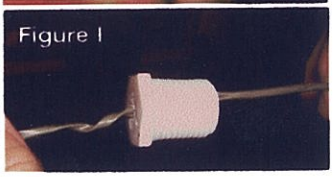
Important: Water flow must be in the direction of the designated arrows or it will not work.

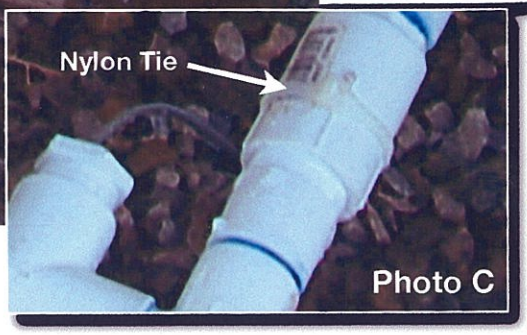


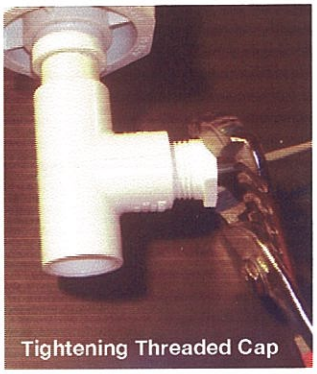
★ **Step Eight:** The reason a gate valve is used in line with the solenoid valves is to regulate the flow-rate of water being discharged into the pool and to allow for the isolation of the solenoid valves, in the event one of them needs replacing. After installing the gate valve and solenoids, open both manual switches on the solenoids and adjust the flow using the









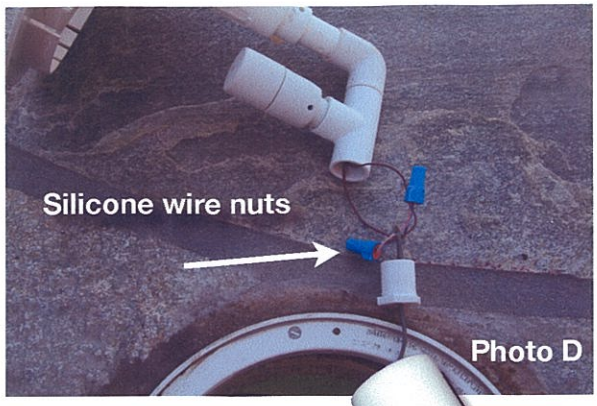


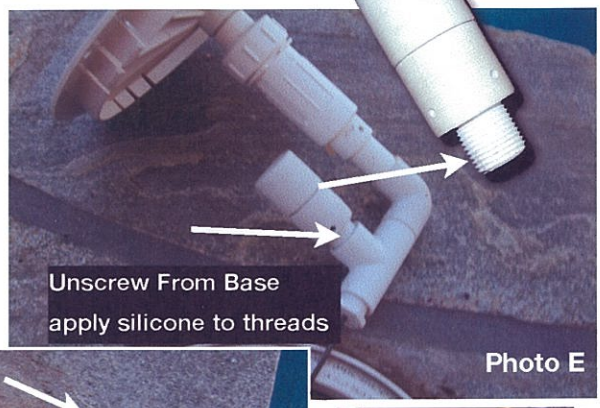
gate valve to just a little more than a drizzle. If you set the flow too low, the valves will not have enough pressure to close.

★ **Step Nine:** To insure the customer receives a quality product we provide the electrical components that operate the equipment, including the junction box to house them (page 7). Also included are the silicone-filled wire nuts, heat shrink tubing, splice connectors, spade connectors, 75 ft. of #22-4 wire, 24 volt transformer, 6 volt transformer, 6 volt relay, 2-fuse holders w/ 1Amp fuses, nylon ties for mounting wires in groups (**Photo A #3**), and even the epoxy for sealing the 1/2" wire cap. When sealing the cap, before mixing the epoxy and pouring it into the cap, take care that the wire rises straight out of the center of the cap. (*IF THE WIRE TOUCHES THE SIDES, THE WATER CAN THEN CHANNEL BETWEEN THE WIRE AND THE SIDE OF THE CAP.*) To assure the position and alignment of the wire, use a rubber band to hold the wire in place while applying the epoxy as shown in **Figure H.** Remember, the epoxy included with the kit sets up in 90 seconds, so work fast, and pour epoxy into cap immediately after mixing. (**Prepare the cap prior to mixing the epoxy.**) To allow for extra time for the epoxy to cure prior to threading cap into the Tee, you can apply the epoxy to the cap right after cutting the two inch pipe. Feed the wire through the Tee, the 2'X1/2" reducer, short nipple, 1/2" threaded Tee and threaded cap with hole. You can at that time prior to gluing all fittings together, pour the epoxy into the cap. By the time you glue and fit the fittings together, the epoxy will have had time time to set-up. Prior to screwing the cap into the Tee, hold the wire on either side of the cap and twist backwards several times. This will prevent the wire from twisting in the cap and breaking the seal. The ideal situation would be to allow 24 hrs. for the epoxy to fully cure. The float wire **#1** and the solenoid wires should be neatly gathered together andtied to the PVC pipe using nylon ties. (**Photos A & B / # 2 and 3.**) The float wire has been tied, out of sight to the

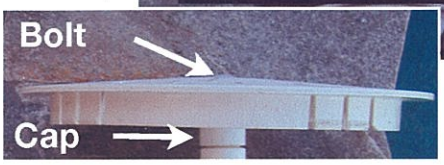
underside of the solenoid pipe assembly. **(Photo A #1 & Photo C.)** *Note: Unscrew float housing from float assembly base and apply silicone to the threads and then re-install to the assembly base.* ***(Photo F)***

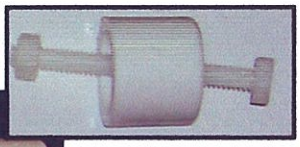
★ **Step Ten:** Feed the wire through the cover cap in the ***AquaFill*** assembly **Photo D**, strip and twist the wires together and secure with silicone-filled wire nuts. Then fill the cap with silicone and apply a thin layer to the surface of the cap prior to inserting it into the assembly as shown in (**Photo E**) above.



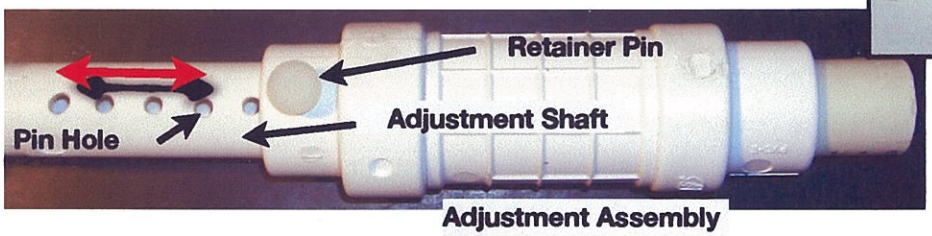


★ **Step Eleven:** Drill an eighth inch hole in the center of the skimmer cover and place the nylon bolt through the cover and the 1/2" cap and tighten down with nut. Glue **Adjustment Assembly** into cap. Using a tape measure, measure the distance from cover frame to the surface of the water. Remove the nylon adjustment **Retainer Pin** and slide the shaft to the correct position. You can reach through the skimmer opening and by peering through the opening in the skimmer cover, adjust the assembly **Adjustment Shaft** up and down in the pool water to find the right level. The ***AquaFill's*** float switch off-position is at the top of the stem, touching the retainer ring. Approximately one inch down from the top of the float cap.

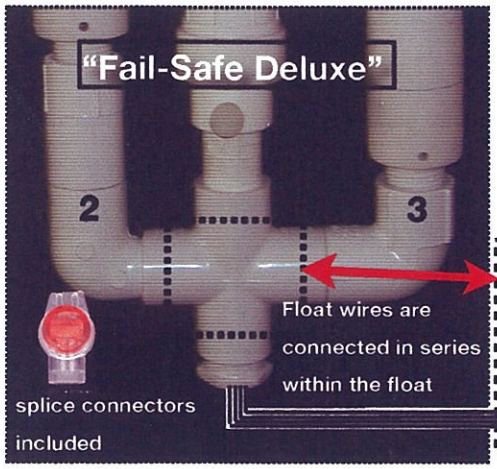


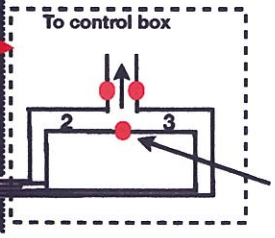


Upon finding the correct height, place the retainer pin back into the next closest pin hole in the Shaft Housing to secure the position of the float.



★ **Step Twelve:** The wiring diagram **(Page 7)** shows how to wire the float and the solenoids into the **Electrical Control Box. Pay special attention to the wiring procedures between the two different models.**





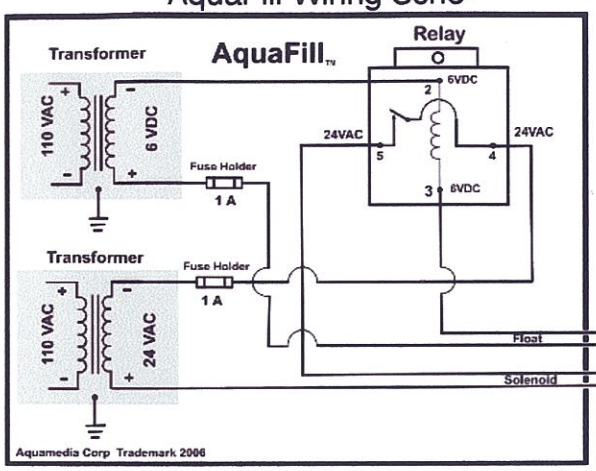
The "Fail-Safe Deluxe" floats are wired in series to allow for the "high water float" to *break the circuit, disabling the valves.*

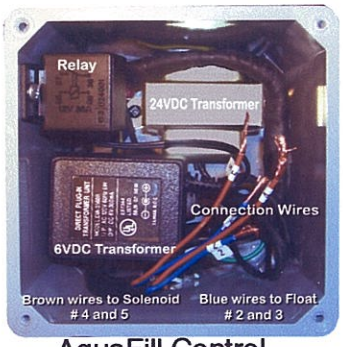
2. Two wires coming from low-level float

3. Two wires coming from high-level float

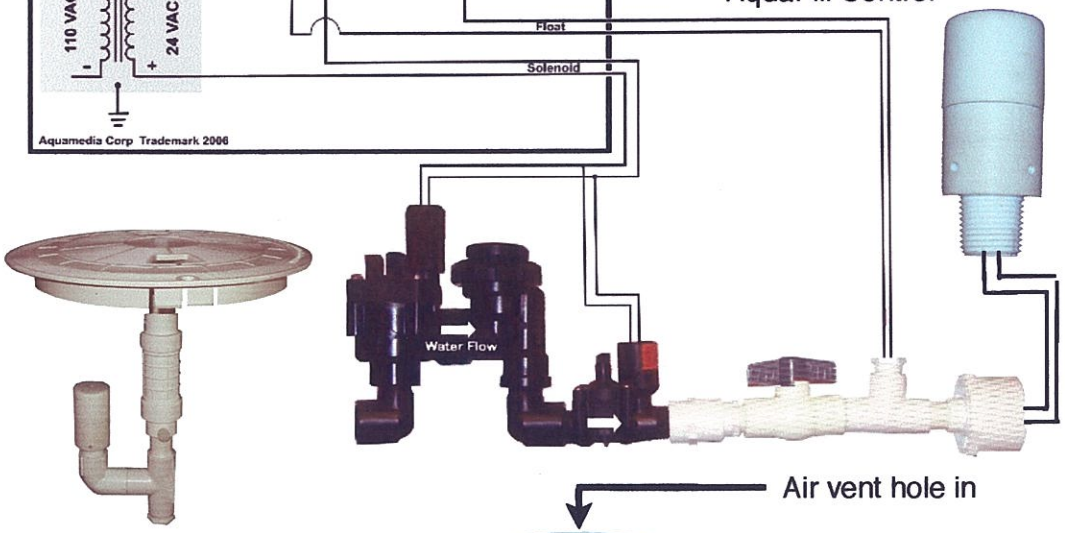
Splice connectors

AquaFill Wiring Sche-



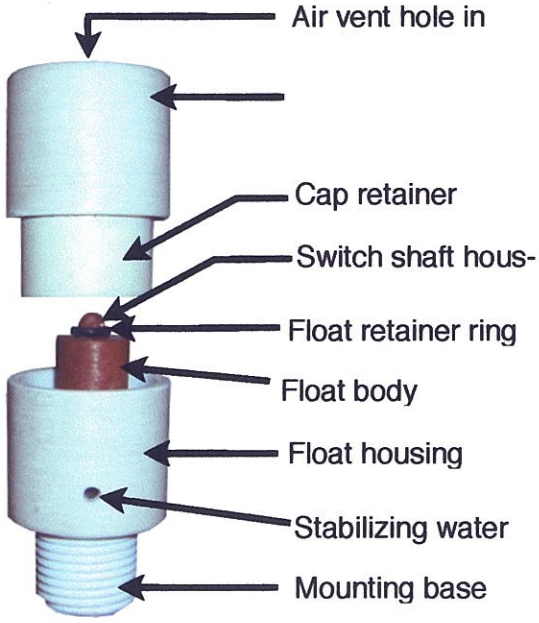


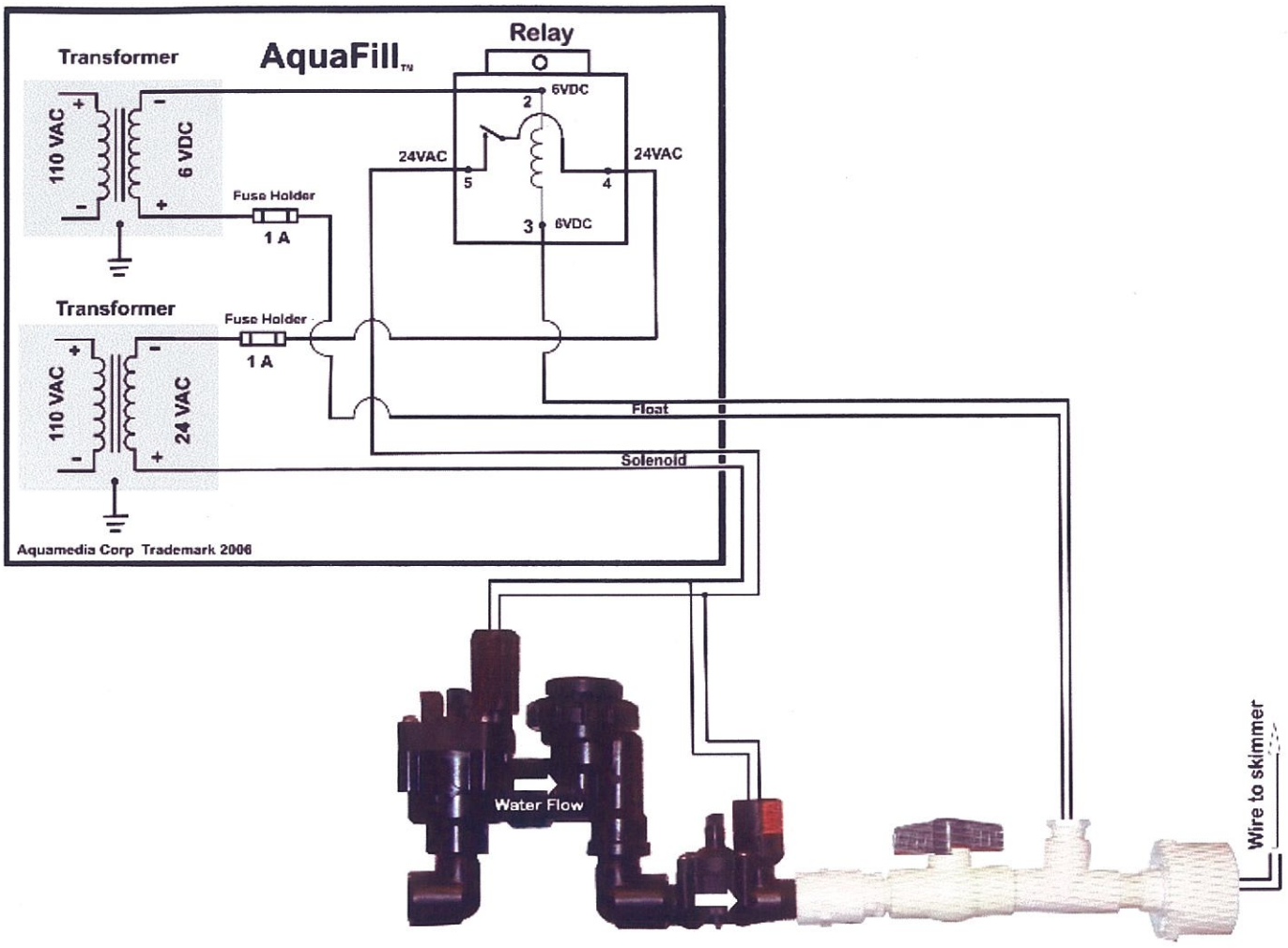
AquaFill Control

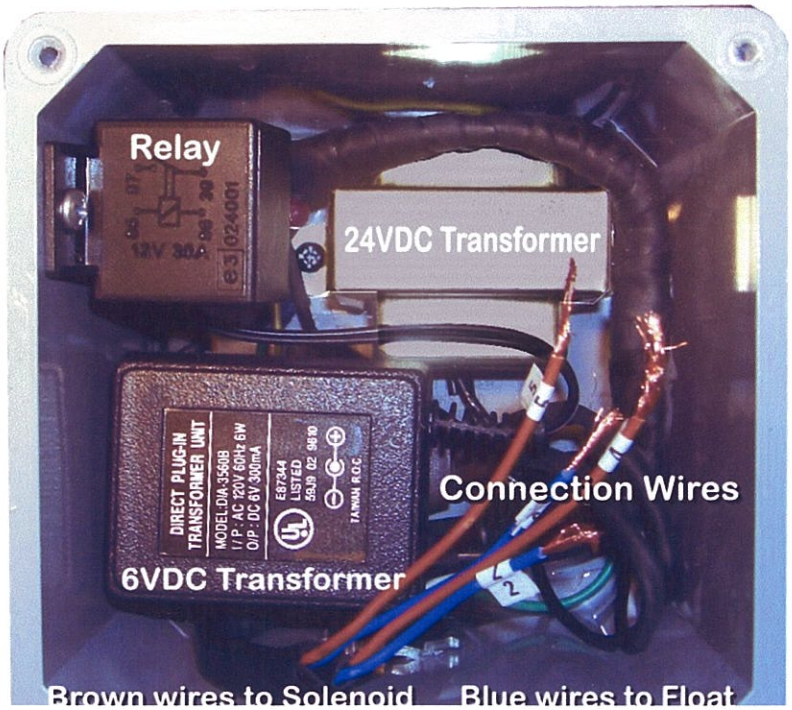


AquaFill Fail-Safe "Stan-

AquaFill Fail-Safe "De-




Transformer
AquaFill™
Relay
110 VAC
6 VDC
6VDC
2
24VAC
5
4
24VAC
3
6VDC
Fuse Holder
1 A
Transformer
Fuse Holder
1 A
110 VAC
24 VAC
Float
Solenoid
Aquamedia Corp Trademark 2006
Water Flow
Wire to skimmer


Relay
24VDC Transformer
Connection Wires
6VDC Transformer
Brown wires to Solenoid
Blue wires to Float

AquaFill Deluxe Float System Schematic