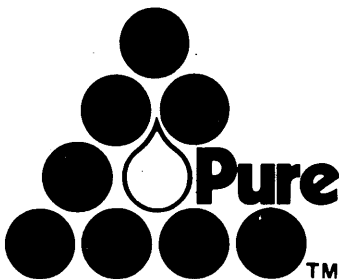
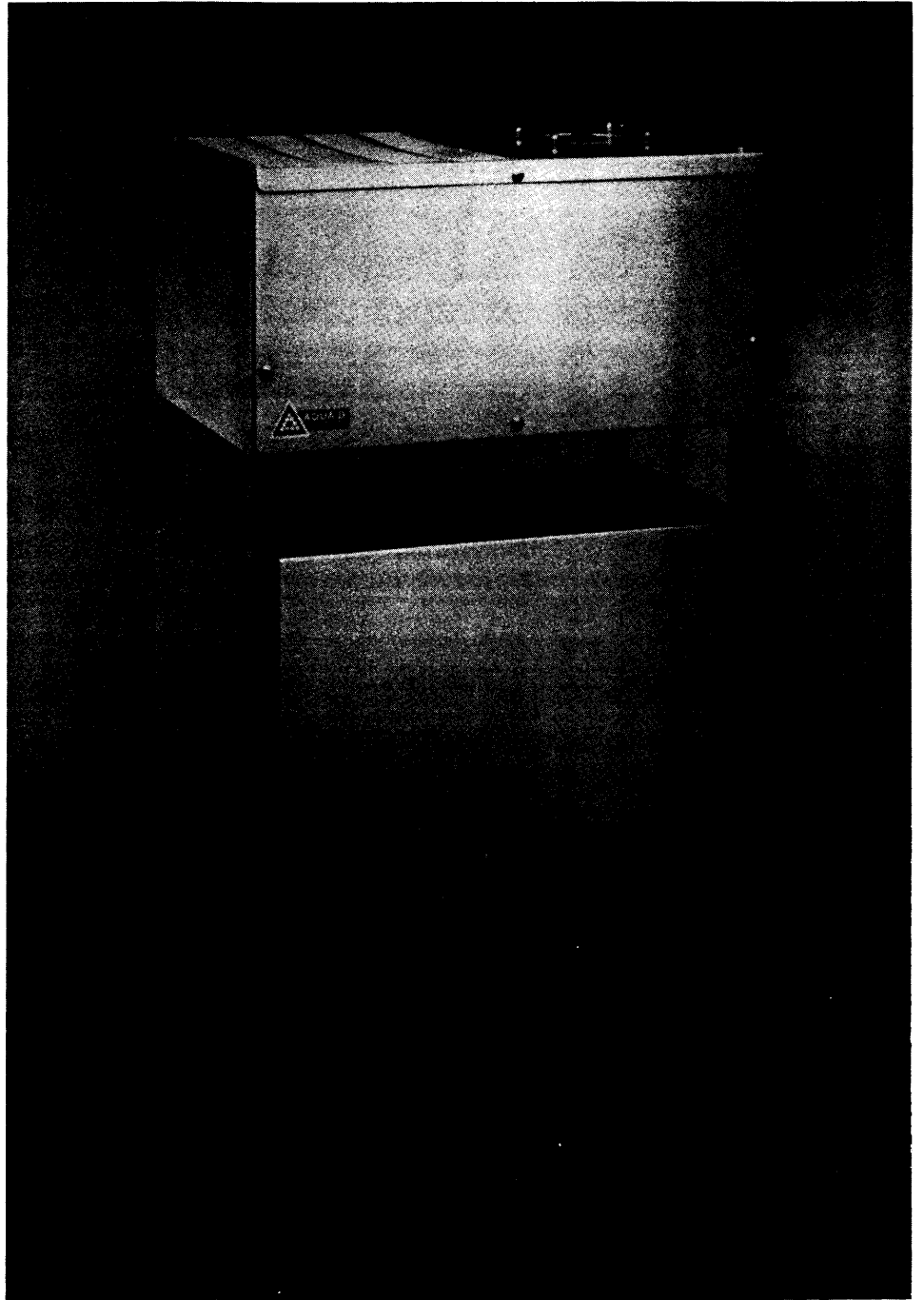


Aqua D Mark II™

INSTRUCTIONS FOR ASSEMBLY AND OPERATION



Pure Water Inc.

3725 TOUZALIN/BOX 83226/LINCOLN, NEBRASKA 68501/402-467-2577

DISTILLATION

Contaminated water in the boiling tank is turned into steam by the energy from the electrical heating element.

Contaminants remain in the tank while pure water vapour (steam) is driven off and condensed back into water by the condensing coils.

The contaminants become concentrated in the boiling tank and must be frequently dumped to drain. A good practice is to drain the residual from the tank at least once per week. This will ensure maximum purity of the distilled water and it will reduce the need to chemically clean the boiling tank.

Traces of some chemicals with structures similar to water can pass over with the steam. The two small holes in the condensing coil help remove this type of 'volatile'. The remainder are trapped in the activated carbon filter installed between the coil and the tank.

No single system is capable of removing all the contaminants that can occur in tap water. DISTILLATION, because it successfully removes the widest spectrum of potential contaminants, offers you and your family the best possible protection of any single system available.

Model and Serial Number may be
found on the back panel.

You should record both model and
Serial Number below for future reference.

MODEL _____

SERIAL NUMBER _____

PLEASE READ ALL INSTRUCTIONS THOROUGHLY BEFORE OPERATING YOUR NEW UNIT.

- 1) It is important to fill out and return the Warranty Card. This information is helpful to us should you ever need parts or repairs for your unit.
- 2) Your distiller has been checked at the factory for leaks, proper working procedure, etc. It may therefore have traces of a water ring around the boiling tank.
- 3) The tank has been Heliarc welded, and as you distill water the mineral contaminants may be precipitated preferentially on the weld and have the appearance of rust. The tank is fabricated from 304 stainless steel and the appearance of the seams should not be a matter for concern.
- 4) **DO NOT** subject your unit to misuse or abuse. Regular cleaning of the boiling tank is very important (see Section: CLEANING INSTRUCTIONS).
- 5) Because distilled water has had chemical contaminants removed it will taste 'different' to the tap water to which your taste buds have become accustomed. After a short time they will accept this new taste as normal.

ELECTRICAL-GENERAL

This appliance uses electricity to heat the water in the boiling tank and to drive the cooling fan which helps steam condense in the finned condensing coils.

Sensible precautions should be observed:

- a) NEVER immerse the unit in water or any other liquid.
- b) NEVER operate the appliance with a damaged cord. Do not let the cord be exposed to hot surfaces.
- c) DO NOT use an extension cord.
- d) The unit is designed to be operated indoors.
- e) The unit should be unplugged from the wall outlet before either the front or back panels are removed.

ELECTRICAL-INSTALLATION

The distiller comes wired with a three-prong plug that incorporates a ground wire for operator protection.

THIS PLUG MUST BE PLUGGED DIRECTLY INTO A COMPATIBLE WALL OUTLET SUPPLYING 120 VOLTS AC WITH A PROPER GROUNDING.

The circuit should be protected by a 20-amp time delay or circuit saver, or a 20-amp circuit breaker.

IF YOU ARE NOT SURE THAT YOUR OUTLET IS PROPERLY GROUNDED OR THAT THE CIRCUIT PROTECTION IS CORRECT, HAVE IT CHECKED BY A QUALIFIED ELECTRICIAN.

THE INSTRUCTIONS WHICH ARE GIVEN BELOW AND ON THE FOLLOWING PAGES SHOULD BE FOLLOWED CLOSELY IN ASSEMBLING AND PREPARING THE UNIT FOR OPERATION.

ASSEMBLY

The Aqua D Still will be shipped in two (2) separate boxes. One box contains the top "Distiller Portion" of the unit. The other box contains the "Storage Tank and Stand". When unpacking the boxes, save everything until the unit is in operation. NOTE: Save the boxes in the unlikely event your distiller should require returning to the factory for repair.

ASSEMBLING THE UNIT

- 1) Start with the box containing the Storage Tank and Stand. This box contains:
 - One storage tank (5- or 10-gallon)
 - Two leg assemblies
 - A parts kit comprising:
 - 1 Storage Tank Drain Faucet
 - 2 Screws
 - 1 Nut
 - 1 Gasket
 - 8 Washer Base Closed End Cap Screws

1 Filter Cup Assembly/1 Activated Carbon Filter Bag
4 Castors

- 2) Place one end assembly on the end of the tank and secure using four of the washer base closed end cap nuts. repeat with the other leg assembly.
- 3) Install storage tank drain faucet (Fig 1). Turn unit back in upright position. Install the drain faucet using the following procedure:
 - a. Place gasket on threaded section of the faucet.
 - b. Insert the threaded section through the hole in the bottom front of the tank.
 - c. Reaching through the access hole, while holding the faucet in position with other hand, install the nut.
 - d. To tighten the nut, offset the faucet on a few degrees counterclockwise; finger tighten the nut on the inside of the tank; then, while holding the nut, turn the faucet clockwise to tighten.

NOTE: WASH STORAGE TANK WITH CLOTH, USING HOT, SOAPY WATER AND RINSE THOROUGHLY BEFORE USING.

- 4) It is a requirement of safety codes that when two assemblies are electrically interconnected, they must be mechanically joined to prevent them from accidentally separating. In the parts bag you will find two self-tapping screws. These are to be screwed into the small holes in the legs of the stand. The holes are located 7/16 inch from the top of the leg, on the inside corners of two diagonally opposite legs. It is recommended that the screws be started before placing the distiller on the stand to avoid having to work in cramped quarters.

NOTE: DO NOT OMIT THESE SCREWS OR MACHINE WILL NOT BE IN COMPLIANCE WITH SAFETY CODES.

- 5) Unpack the top portion of the Aqua-D Still. You will find the following parts in the parts bag (Fig 2):
 - 1 Drain Valve Extension Tube
 - 1 Inlet Gasket 1 Stainless Steel Washer
 - 3 1/4" Plastic Nuts
 - 1 Strainer
 - 1 Water Line Tubing 1/4" OD
 - 1 Saddle Tapping Valve Kit
 - 1 Condensing Coil Extension Tube
- 6) INSTALLATION OF TOP PORTION OF DISTILLER TO STORAGE TANK.
 - a. The base of the distiller has one short round leg at each corner. These round legs are to be inserted into the square tube legs at each corner of the stand. Put back legs in first. If necessary push on the distiller unit to set the legs of the top unit into the stand legs and tighten the two screws into the grooves of the legs of the top unit.
 - b. Connect the electrical lead from the tank float control into the socket on the base of the distiller (Fig 3). The plug is designed to fit only one way and it should be pushed in firmly until it is retained by the plastic clips.
- 7) The Boiling Tank Lid will not be used until instructed to do later in directions. You may note that by loosening the black knob on top and then tipping the lid, the bar at the bottom slips under the opening in the top of the unit. Center the lid over the opening and tighten the black knob. This lid will need to be removed each time the unit is cleaned.
- 8) INSTALLATION OF BOILING TANK DRAIN EXTENSION TUBE. The boiling tank drain extension tube will allow the user to drain the boiling tank more conveniently. To assemble, remove the compression nut and brass sleeve from the boiling tank drain valve; take the end of the tube with the 90 degree bend and do the following:
 - a. Slip the compression nut over the tube, small opening first; then, slip on the brass sleeve.
 - b. Push the tube into the opening of the drain valve.
 - c. Next, thread the nut onto the boiling tank drain valve and tighten.
- 9) INSTALLATION OF FILTER CUP See insert "Installation of Post Filter".

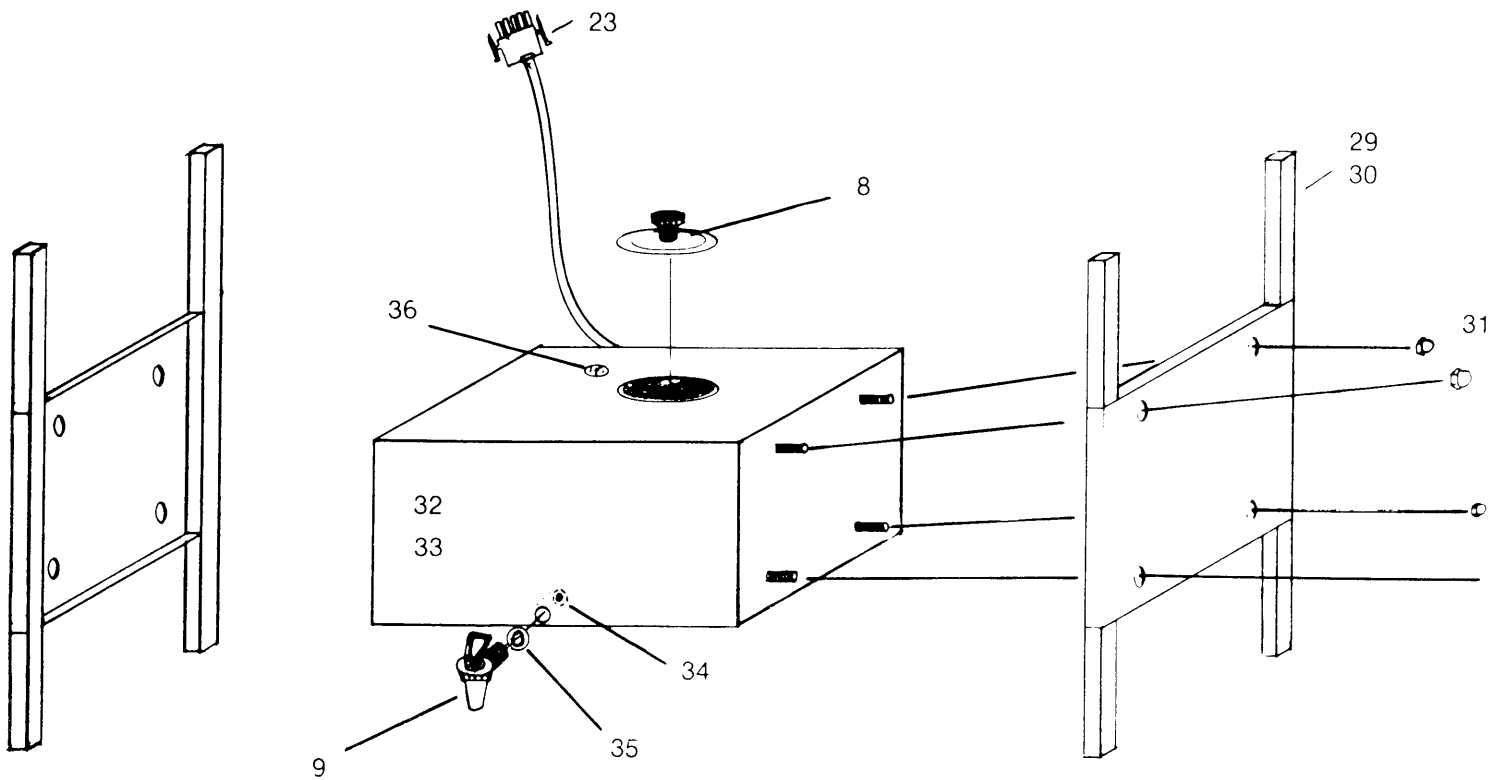


Figure 1

See parts list for current part numbers

No.	Part No.	Description	No.	Part No.	Description
1	409	Boiling Tank Lid Assembly	21	7039	Reset
2	7228	Heater Switch	22	7070	Heating Element
3	7227	Momentary Water Switch	23	7129	5-PIN Connector
4	7228	Fan Switch	24		Strain Relief
5	9508	Drain Valve	25	4584	Power Cord
6	4591	Condensing Coil Extension Tube	26	7201	Holding Tank Micro Switches
7	518	Drain Valve Extension Tube	27	7011	Accessory Receptacle
8	408	Holding Tank Lid Assembly	28		Junction Box
9	9555	Faucet Storage Tank	29	4508-P	5-Gallon Side Panel
10	4583	Demand Pump (Optional Accessory)	30	4546-P	10-Gallon Side Panel
11	7232	Main Switch	31	9079	Cap Nuts (washer based)
12	7212	Neutral Terminal Connector w/7213-3	32	4507	5-Gallon Holding Tank
(7206) 13	7204	Heater Relay — could be sub w/7205	33	4545	10-Gallon Holding Tank
(7208) 14	7203	Level Control Relay	34	145	Nut
15	9513	Condensing Coil	35	144	Gasket
16	7010	Fan Blade	36	411	Vent Plug
17	4566	Fan Motor	37	9550	1/4" Plastic Compression Nut
18	9082	Actuator Block	38	9526	Water Line Tubing 1/4" OD
19	7202	Micro Switch	39	9550	Compression Sleeve
20	7222	Water Solenoid	40	9550	Gripper

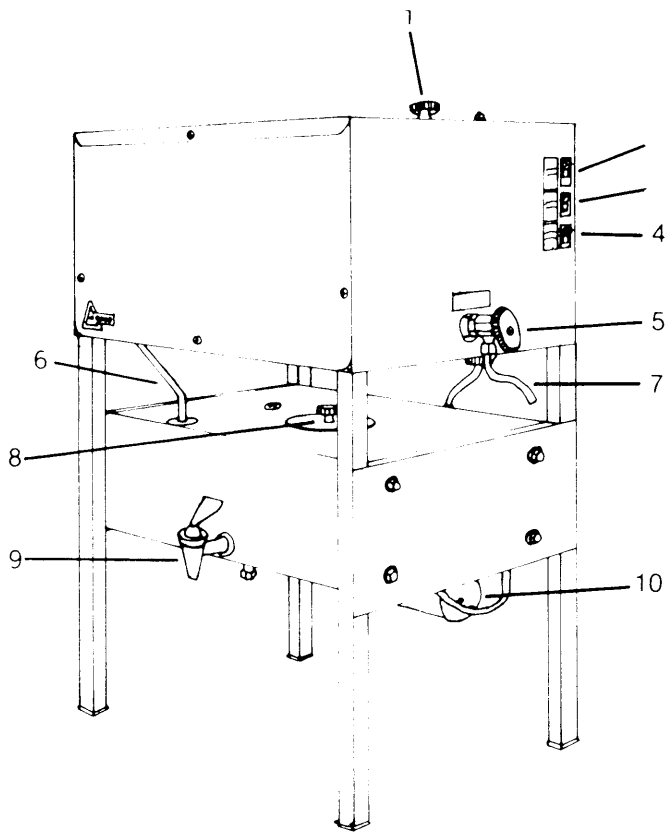


Figure 2

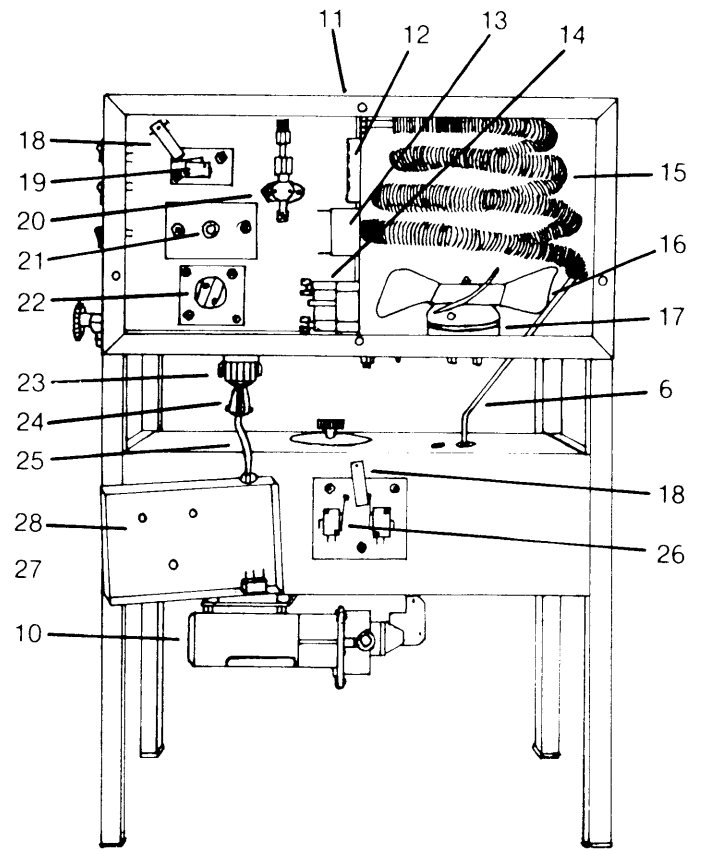
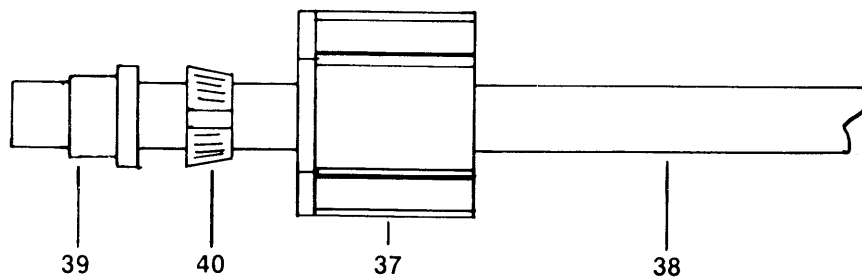


Figure 3

Figure 4



Key No.	Part Name
37	1/4" plastic compression nut
38	Water Line Tubing 1/4" OD
39	Compression sleeve
40	Gripper

10) INSTALLATION OF WATERLINE TO UNIT FOR DIRECT WATERLINE HOOKUP.

- a. To connect the 1/4 " water line to the water solenoid, remove the plastic nut from the solenoid and insert the tubing through the small end of the plastic nut. Let it protrude about 1/4 ".

NOTE: The compression nut comes in 3 parts; the nut, compression sleeve, and gripper. If the compression sleeve or gripper comes out while installing the water line, insert them back into the nut or on tubing. The gripper has a split in it so it will compress onto the tubing when you tighten the nut. See Figure 4.

- b. Install plastic nut on fitting about 1/4" turn, push the water line as far as it will go and then tighten nut.
- c. Install the strainer by cutting the water line approximately 6" from the solenoid and use the procedure in a.
- d. Connect the saddle tapping valve to home cold water supply, DO NOT USE HOT WATER LINE. See instructions on saddle tapping valve kit for saddle tapping valve assembly.

NOTE: If you have a soft water unit in your home, you can use the cold water line from the water softener unit.

NOTE: MAKE SURE THE BOILING TANK DRAIN VALVE IS CLOSED BEFORE PROCEEDING.

- e. Turn existing water supply on and open saddle tapping valve completely.

NOTE: Should any leaks occur in step e, tighten all connections. Some areas where leaks may occur are: where the saddle tapping valve attaches to existing water line; where tubing attaches to strainer and/or where tubing attaches to saddle tapping valve.

11) OPERATION

- a) With the boiling tank lid removed, place the heater switch in the "off" position. Plug the unit into the wall outlet. Place the fan switch to the "DISTILL" position.
- b) When the main switch is turned to the "ON" position (the light inside the switch will glow) water will start entering the tank and the fan will start to rotate.
- c) The boiling tank will stop filling when the water level is approximately 1 1/2" above the heating element.
- d) To check operation of the automatic filling system hold a container under the drain valve. open the drain valve SLOWLY, and as the water level lowers to approximately 1" over the heating element — the unit should again allow water to enter the boiling tank until the operating level (see c) is reached.

12) STEAM STERILIZATION

The unit has been run at the factory to ensure it operates correctly. We encourage the owner to run the unit through a steam sterilization cycle, prior to distilling water for consumption, to ensure complete cleanliness and sterility of the stainless steel components that will be in contact with the distilled water.

- a) Remove the filter cup and bag.
- b) With the main switch in the "OFF" position and the boiling lid secure turn the heating element switch to the "ON" position and the fan switch to "STERILIZE". In this position the fan will not operate so allowing steam to pass through the coils without condensing.
- c) Open the storage tank drain faucet and place a container under the opening. Although mostly steam is produced, some condensation will occur. **THE SURFACES OF THE HOLDING TANK WILL BECOME VERY HOT DURING STERILIZATION.**
- d) Allow the machine to run for approximately 20 minutes after steam is observed coming from the faucet.

Turn "OFF" the main switch, return fan switch to "DISTIL" and close the storage tank drain faucet.

- e) Replace the filter cup and filter bag.

13) DISTILLATION

Check the heater switch is on the "ON" position and the fan switch on "DISTIL". Turn the main switch to the "ON" position.

The unit will run until the storage tank is full and automatically turn "OFF". The lighted main switch will still glow but the heating element and fan will be internally shut down. When approximately two gallons of water drains from the storage tank the distillation cycle will automatically turn on.

NOTE: To help prevent a concentration of chemicals, pollutants and other materials from building up in the bottom of the boiling tank, drain the boiling tank after approximately every third distillation cycle or at least once a week. See cleaning instructions.

CLEANING INSTRUCTIONS

PROPER CLEANING IS IMPORTANT. Improper cleaning may shorten the life of the unit and particularly that of the heating element. We recommend draining the boiling tank of your unit after approximately every third distillation cycle. This will help prevent a concentration of chemicals, pollutants and other materials from building up in the bottom of the boiling tank.

Your unit should be cleaned whenever there is a noticeable amount of minerals build up around the outside of the heating element. The frequency of cleaning will vary from one area to another, depending upon the mineral content in that area and how much water has been distilled.

For cleaning we suggest that you use a solution of our industrial grade cleaner called Lumen No. 2 which may be purchased through your distributor. DO NOT USE AN ABRASIVE CLEANER OR STEEL WOOL CLEANING PADS.

USE THE FOLLOWING PROCEDURE FOR CLEANING:

- a) Turn "OFF" the heating element switch and remove the boiling tank lid. Turn "OFF" the main switch.
- b) Drain the boiling tank.
- c) Turn the main switch to the "ON" position. If the holding tank is full you will need to use the momentary water switch to rinse the tank. Otherwise water will flow as soon as the main is turned "ON".
- d) Close the drain valve and fill the boiling tank half full.
- e) Add Lumen No. 2 following the directions on the package. (The amount of cleaner may need to be increased depending upon the land and type of mineral deposits in your boiling tank.)
- f) Mix well.
- g) Add additional water until the level is to the bottom of the water level gauge. Turn the main switch to the "OFF" position.
- h) Let solution stand overnight or until the mineral content softens. UNDER NO CIRCUMSTANCES SHOULD THE CLEANING SOLUTION BE HEATED AND RUN THROUGH A STEAM STERILIZATION OR DISTILLATION CYCLE
- i) Next morning drain and rinse the boiling tank thoroughly.
- j) Replace the boiling tank lid.
- k) Turn "ON" the heating element switch, return the fan switch to "DISTILL" and turn the main switch to the "ON" position.

TROUBLESHOOTING

Your Aqua D Mark II is a fully automatic distiller that with regular cleaning should give years of trouble free performance.

Any machine fault will normally be detected as a loss of water from the sink faucet.

Should this occur check to see if:

- a) The power cord is properly plugged into the wall outlet.
- b) The main switch is turned on and its light is glowing.

If this is not the case, check the outlet using a portable electric appliance you know is working (e.g. a lamp) to ensure electricity is present at the wall outlet.

OVERTEMPERATURE PROTECTION

The most likely cause of machine failure is that makeup water to the boiling tank has been interrupted and the resulting element over-temperature has caused the protection thermostat to open. This needs to be reset before the unit, including the demand pump, will operate.

The following conditions indicate the "reset" has opened due to over-temperature.

- a) The fan will not operate.
- b) The heating element will not operate.
- c) The demand pump will not operate.
- d) The momentary water switch will not add water to the boiling tank.

ALL FOUR CONDITIONS AT THE SAME TIME INDICATE THE RESET HAS 'POPPED'.

NOTE: IT IS NOT NORMAL FOR THIS TO OCCUR. FREQUENT 'POPPING' OF THE RESET SUGGESTS A MACHINE MALFUNCTION THAT SHOULD BE CHECKED BY A SERVICE CENTER.

CAUSE OF RESET 'POPPING'

The reset opens due to over-temperature caused by insufficient water in the boiling tank. Unless the cause is established and fixed the reset will again operate and stop the machine.

- a) Using your hand try raising and lowering the float mechanism. When lowered a click should be heard when the solenoid valve is activated and water will be added to the boiling tank. Ensure the float mechanism is not sticking.
- b) If there is no water entering when the solenoid clicks, check the water line to the machine. Ensure the plastic tubing is not kinked or twisted.
- c) If the float movement does not cause the solenoid valve to 'click', try using the momentary water switch. If this works, but a low float does not cause water to be added, it is likely the momentary water switch is faulty.

Consult your Distributor, Service Center, or Pure Water Customer Service Department for further assistance. (402) 467-2567.

HEATING ELEMENT FAILURE

The heating element can fail for a number of reasons. Repeated overheating due to a lack of water is the most common cause. Build up of scale caused by insufficient cleaning will decrease element life.

The following conditions indicate the heating element has failed:

- a) The fan will operate.
- b) There is little or no water in the holding tank.
- c) The demand pump runs, but does not pump water and will not shut off automatically.

If all three symptoms are present, turn the machine off at the main switch and consult your Distributor, Service Center or Pure Water Inc.'s Customer Service Department.

MARK II W/10 GAL TANK-120V (#4995-2) REPAIR PARTS LIST

ITEM NUMBER	ITEM DESCRIPTION	ITEM QUANTITY
609	Actuating arm w/set screws	2
4037	Back plate	1
4586	Base assembly	1
68	Bib washer	1
4590	Boiling tank	1
6010	Boiling tank cover gasket	1
636	Cap nuts (pak of 4)	1
641	Castors w/inserts(4)	1
9530	Comp nut ring 3/8" SS	2
9510	Comp. nut 3/8" SS	2
9550	Comp. nuts 1/4" plastic	2
9517	Comp. ring, coupler	1
606	Condensing coil w/fittings	1
7015	Cord restraint - power cord	1
7029	Cord restraint - S.T. control box	1
9535	Delrin sleeve	1
611	Drain ext tube w/fittings	1
9508	Drain valve, boiling tank	1
9518	Extension tube coupler	1
639	Fan blade w/push nut fastener	1
653	Fan motor kit w/blade & conn.	1
642	Fan/heating element switch	2
650	Faucet mount nut & washer, storage tank	1
9555	Faucet, storage tank	1
502	Filter cup lid, SS	1
505	Filter cup, SS	1
9590	Filter, storage tank, (pak of 4)	1
604	Float bushing & o/ring kit	2
645	Float kit long w/act arm & o/ring kit, BT	1
644	Float kit short w/act arm & o/ring kit, ST	1
4036	Front plate	1
6009	Gasket, inlet, storage tank	1
4546	H-frame 10 gallon, 1 side	2
6005	Heating element gasket	1
634	Heating element kit w/gasket & u-clamp	1
6031	Insulation, bottom	1
6030	Insulation, side	1
6022	Lid "O" ring	2
409	Lid complete, boiling tank	1
408	Lid complete, storage tank	1
6049	Lid crossbar gasket	2
402	Lid crossbar w/stud	2
9009	Lid crossbar washer	2
519	Lid disc	2
610	Lid knob w/gasket, washer & o/ring	2
9085	Lid spring	1
648	Main switch, lighted	1

MARK II W/10 GAL TANK-120V (#4995-2) REPAIR PARTS LIST

6551	Manual, operators	1
647	Microswitch, boiling tank	2
654	Microswitch, storage tank	2
643	Momentary water switch	1
89	Nipple, Faucet-storage tank	1
4593	Nygal transfer sleeve	1
9528A	Plated elbow w/sleeve & nut	1
7011	Plug recepticle, storage tank	1
4584	Power cord	1
7208	Relay (large)	1
7206	Relay (small)	1
7039	Reset	1
638	Screws, sheetmetal (pak of 12)	1
67	Solenoid body, plastic only	1
635	Solenoid complete w/comp nuts	1
637	Speed clips, (pak of 12)	1
9021	SS nut, coupler	1
4534	Switch cover w/28" cord	1
418	Terminal block	1
4035	Top plate	1
400	U-clamp, heating element	1
411	Vent plug, storage tank	1
9099	Washer, inlet, storage tank	1
515	Waterline, solenoid inlet, SS	1

MARK II SERVICE GUIDE

PROBLEM

DIAGNOSIS

SOLUTION

No Power to Unit:

No element, no fan, no pump?

Reset button popped.
(If the reset button is popped, the main switch will stay lit.)

No element, no fan, pump runs.

Storage tank is full.

Reset button not popped.

Check main switch, if not lit check outlet.

If outlet is ok, check power cord.

If power cord is ok, test reset button with volt-ohm meter.

NOTE: Make sure the electrical connection between the boiling tank and storage tank are hooked together properly. This can cause the fan, element and pump not to run.

Unit won't heat up:

Is the fan motor turning?

Check heating element

Check heating element switch.

Fan motor won't operate:

Is heating element operating?

Check fan switch.

Check fan blade, make sure it is not slipping on shaft of motor.

Check fan motor.

No water enters boiling tank:

Is the fan motor turning?

Check boiling tank float, make sure the float is going down.

Check water supply to the unit.

Check momentary water switch.

Check solenoid.

PROBLEM

DIAGNOSIS

SOLUTION

No water enters boiling tank:

Reset button is popped.

Check float system.

Check micro switch.

Check solenoid.

Boiling tank is overfilling:

Storage tank full of raw water.

Check float position in boiling tank, make sure it is not staying down.

Check solenoid.

Check micro switch.

Storage tank is overfilling:

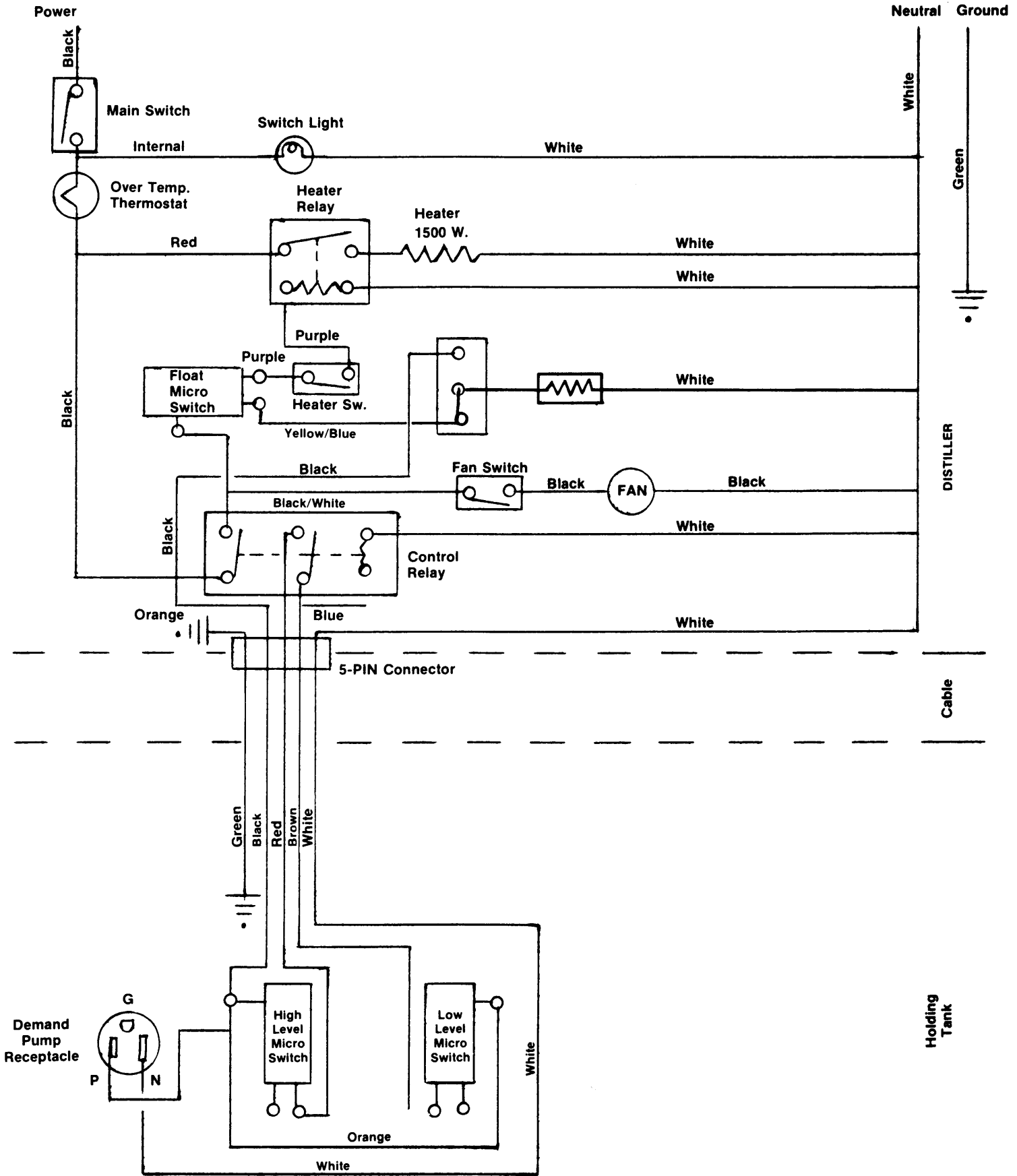
Water is going everywhere-
FLOOD.

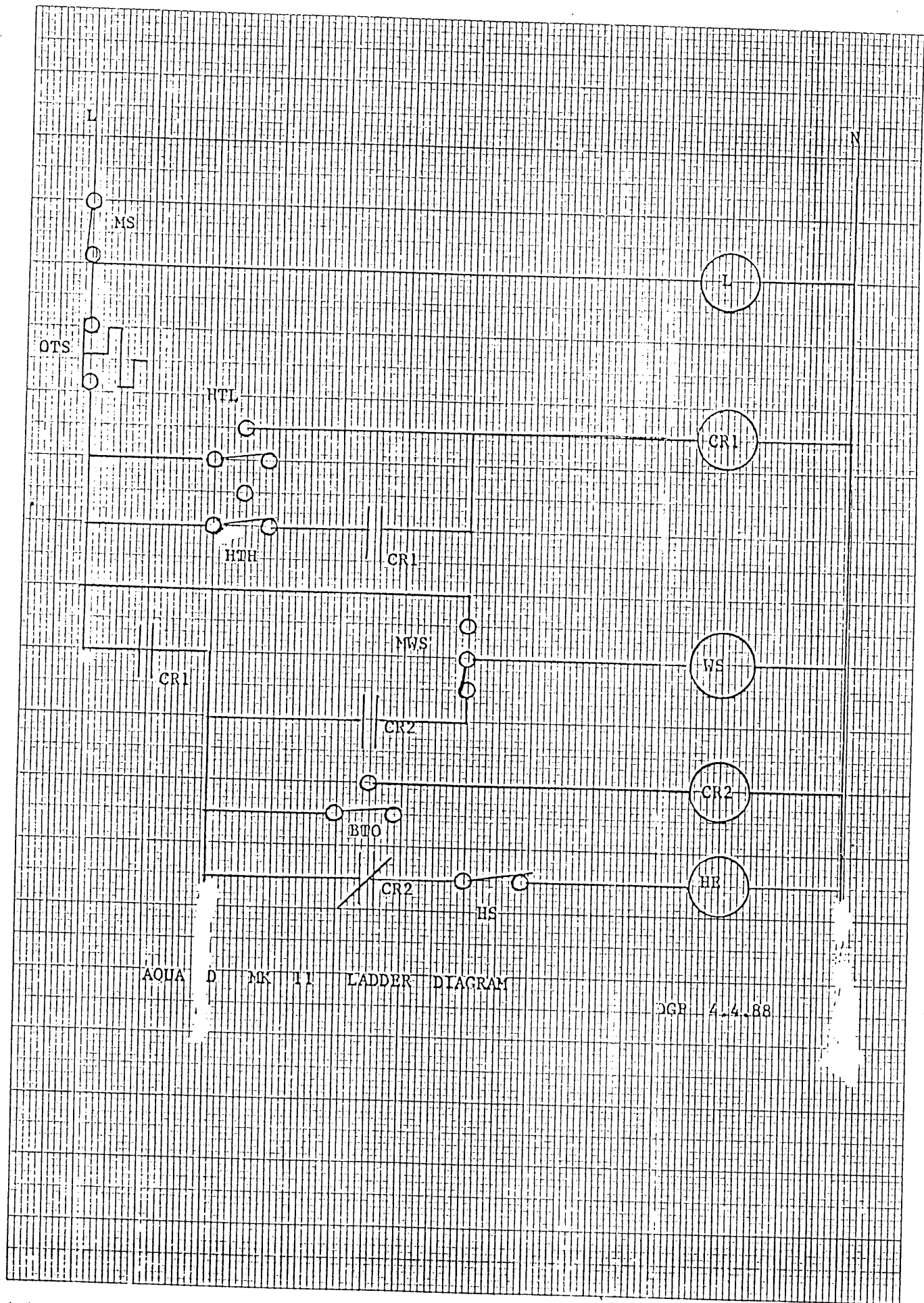
Check float system in storage tank.

Check high level micro switch.

Check solenoid.

Aqua D Mark II™ Wiring Schematic





AQUA D MK II LADDER DIAGRAM

DGR 4.4.88

AQUA D MARK II

