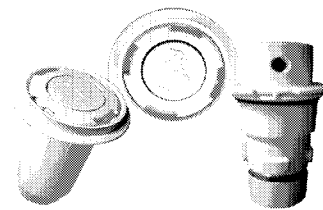
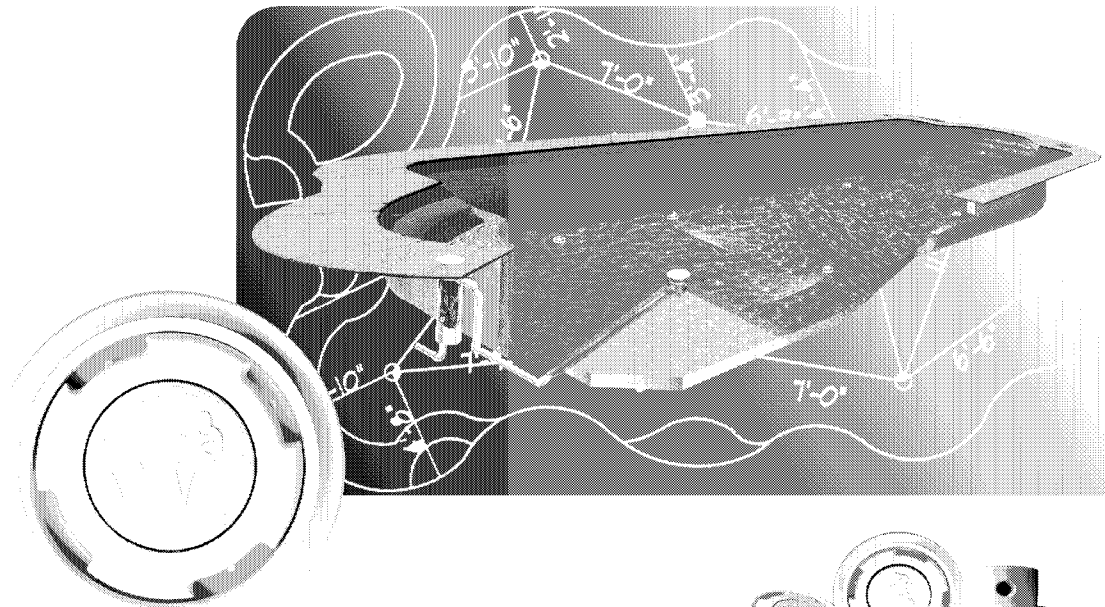


AUTOMATIC IN-FLOOR POOL CLEANING & CIRCULATION SYSTEM



ParamountTM
POOL & SPA SYSTEMS
"We make pool care automatic."

9025 South Kyrene, Suite 107, Tempe, AZ 85284 USA

P: 800•621•5886 480•893•7607

F: 480•893•7621

WWW.PARAMOUNTPOOLPRODUCTS.COM
004-999-3422

INSTALLATION MANUAL

FORWARD

The Paramount PV-3 IN-FLOOR CLEANING SYSTEM is the culmination of years of extensive testing and engineering which provides your customers with the most advanced and trouble-free system available. The information contained in this manual is intended to answer some of the most common questions associated with the installation of the System. We urge you to take time to review it thoroughly. Technical bulletins will be mailed out periodically which should be placed in the book for future reference. Do not hesitate to call if you have any questions. Call Toll Free 1-800-621-5886.

IMPORTANT NOTICE

The Paramount In-Floor Systems and the Paramount Automatic Active Main Drain/Debris Removal System are protected patented products and the "methods and installation" of said products are patented. An installer of these products must be trained and licensed by Paramount. This manual and documents contained within have been copyrighted and any reproductions are illegal without the written permission of Paramount.



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DESIGN & LAYOUT

Principle of Operation

The IN-FLOOR SYSTEM cleans by injecting pressurized water through a series of nozzles located throughout the pool. The pressurized water flow keeps dirt in suspension for removal by the pool filtration system, an active main drain, a skimmer, and an optional in-deck debris canister.

The water flow is directed to various cleaning nozzles in a sequential manner by Paramount's patented water-actuated distributor valve. The flow is constant and lasts for approximately 60 seconds. When the flow stops, the nozzle will retract and rotate slightly to a new position so that when it is energized again it will clean a different portion of the pool.

Benefits Of The System

- **Reduction in chemical costs due to water circulation**
- **Reduction of heating costs**
- **Elimination of unsightly devices**
- **Lifetime warranty and replacement under warranty conditions of cleaning nozzles**
- **Elimination of large leaves and debris with active main drain system**

If the SYSTEM is installed properly, it will clean approximately 99% of the pool. BRUSHING IS NOT COMPLETELY ELIMINATED. Although the system GREATLY reduces the time and cost of maintaining a pool, it DOES NOT ELIMINATE the need to:

- **Maintain a proper chemical balance**
- **Brush the pool periodically**
- **Clean baskets and filters on a regular basis**

In conclusion, the IN-FLOOR SYSTEM is not a 100% cleaner and should never be presented as such.

1992

PATENT NO.'S 5,265,631, 4,939,797, 4,592,379, 4,391,005, 4,212,088, 4,188,673
METHOD & SYSTEM U.S. PATENT NO. 5,135,579

DESIGN & LAYOUT

SURFACE RETURNS

Surface returns used in conjunction with the IN-FLOOR SYSTEM are a builder's option. If all six ports of the water valve are not required, the use of surface returns (particularly in areas with excessive surface debris) is highly recommended.

If all six ports of the water valve are utilized for the floor, steps and/or spa, and automatic surface returns are desired, we recommend a separate pump and filter. Another option is to oversize the pump and plumb a manual return. The flow through the manual return would have to be regulated in order to insure adequate flow through the floor system.

Surface returns are also advisable in shallow "game" pools. They would enable people to use the pool and have the filtration system operating without the possibility of stepping on the cleaning nozzles.

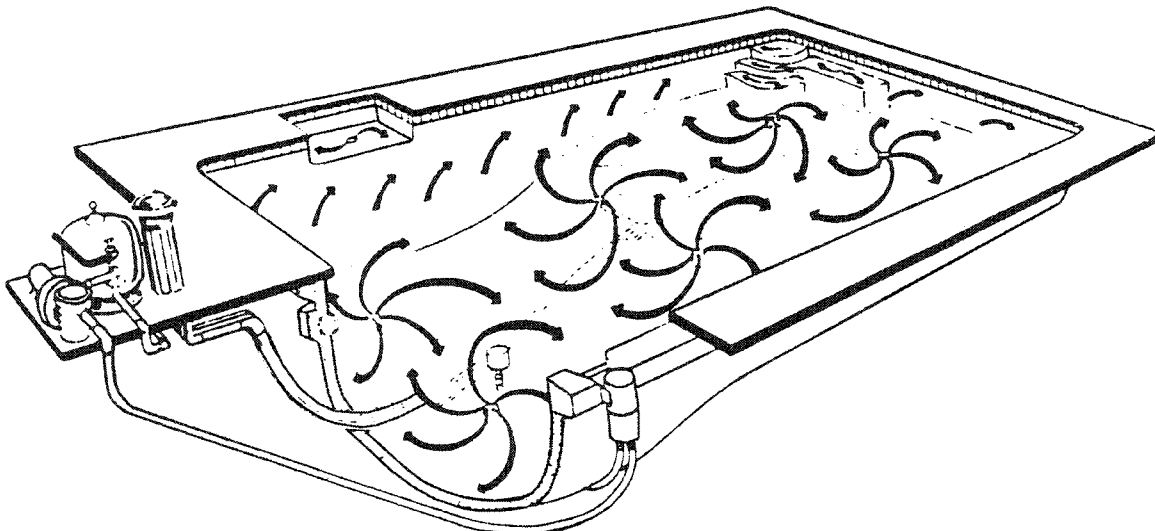
PROPER NOZZLE PLACEMENT

Proper nozzle placement is the single most important item in making the SYSTEM clean properly. As a general rule, one head is required for each 60 square feet of surface area (pebble 50 sq. ft.). Pools with breaks and free form pools will generally require two (2) additional nozzles. This formula does not include nozzles required for steps and benches. The exact total cannot be determined until a scaled drawing has been made and nozzles have been properly placed.

NOZZLE PLACEMENT CRITERIA

1. 6' RADIUS CLEANING IN PLASTER, 5'6" IN PEBBLE
2. DISTANCE FROM VERTICAL SURFACES (WALL OR STEP)
MINIMUM 2' - MAXIMUM 3'.
3. MAXIMUM DISTANCE FROM CORNER (5 FEET).
4. ALL AREAS MUST INTERSECT OR OVERLAP.

NOTE: Calculations based on a 1' radius dig in the shallow end and a 5' radius in the deep end (assuming maximum depth of 4' shallow and 9' deep.)



DESIGN & LAYOUT

NOZZLE PLACEMENT

STEP 1 - DRAW POOL SHAPE (FIG. 1.1 - FIG. 1.4)

A scaled drawing of the pool must be made including the following details:

- A.** Outline of pool shape
- B.** All steps, benches, offsets, etc.
- C.** Normal main drain location
- D.** Break or transition point between shallow and deep end (if applicable)
- E.** Any other items that may affect the water flow from the nozzles - i.e., in-pool umbrella or tables

Use either 1/8 in. = 1 ft. scale or 1/4 in. = 1 ft scale

Fill out a cover sheet and fax with drawing to
Paramount and we will lay out your pool.

DESIGN & LAYOUT



DRAWING COVER SHEET

PLEASE ALLOW TWO WEEKDAYS FOR LAYOUT



E-Mail cad@e-psss.com FAX NUMBER 480-893-7621

Pool Builder Information

Pool Owner Information

Company _____
 City _____
 State _____
 Contact _____
 Customer Name _____
 Tel () _____
 Fax() _____
 E-Mail _____

Salesman _____
 Customer _____
 Address _____
 City _____
 State _____ Zip _____
 Tel () _____
 Fax() _____
 E-Mail _____

Drawing Program Used _____ Drawing ext. (.dwg, .dxf, etc.) _____

MUST BE FILLED OUT TO RECEIVE POINTS FOR INCENTIVE TRIP

White River Yes _____ NO _____ Quantity _____	Heat Pump Yes _____ NO _____ Quantity _____	Niagara Waterfalls Yes _____ NO _____ Quantity _____
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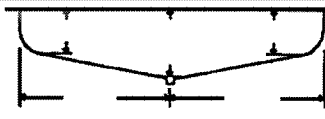
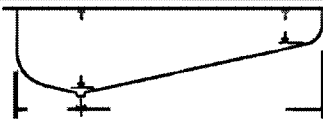
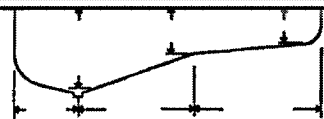
Pool Dimensions

Square Feet

Pool Depths

Size _____ X _____ _____ X _____

BREAKLINE MUST BE SHOWN ON YOUR DRAWING



Plaster Pebble Tech

Other _____

Will the pool have a screen enclosure? Yes _____ No _____
 Number of skimmers on pool: # _____
 (More than one skimmer will require an additional pump)
 Active Main Drain Canister? Yes _____ No _____
 Separate Pump on Cleaner? Yes _____ No _____
 Nozzles on Steps? Yes _____ No _____
 Nozzles on Benches? Yes _____ No _____
 Nozzles in Spa? Yes _____ No _____
 Spa Raised? Yes _____ No _____
 Is there a constant running spillway? Yes _____ No _____
 What is the length of the spillway _____
 Solar Heated? Yes _____ No _____
 (Solar Heated Pools may require booster pump)

Filter Brand: _____
 Cartridge (size) _____
 D.E. (size) _____
 Sand (size) _____
 Pump Brand: _____
 Model _____
 Horsepower _____
 Chlorinator Brand: _____



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www.paramountpoolproducts.com

REVISION: YES _____ NO _____ OLD DRAWING # _____

NOTES:

DESIGN & LAYOUT

DIMENSIONED NOZZLE PLACEMENT DRAWING

After the nozzle placement has been determined, a scaled drawing will be made with dimensions clearly indicated. The dimensioned drawing should be the plumber's guide and a part of the superintendent's check sheet to insure proper placement.

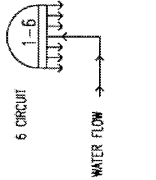
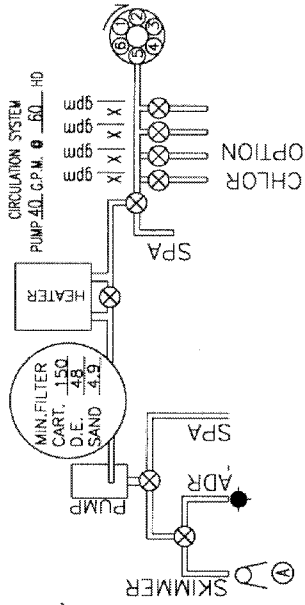
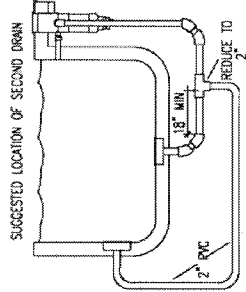
As stated earlier, proper nozzle location is critical. **Should the pool's configuration change** (i.e., step location, break location, overall dimension) the nozzle placement must also change. **A revised plan must be drawn.** Choose one nozzle to use as a starting point and indicate dimensions to outer walls. This will enable the plumbers to find location of first nozzle and then use triangulation to locate the remaining ones.

The sequencing order, from a cleaning aspect, is immaterial. Since the cleaning nozzles operate on a random principle, the need for sequencing is eliminated. However, sequencing from shallow to deep is recommended for ease of plumbing, installation and trouble-shooting.

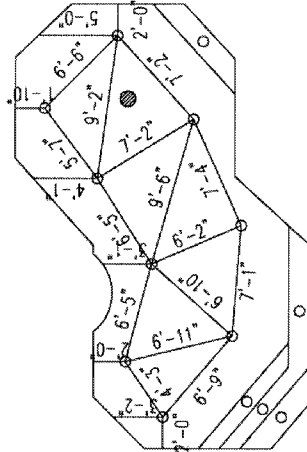
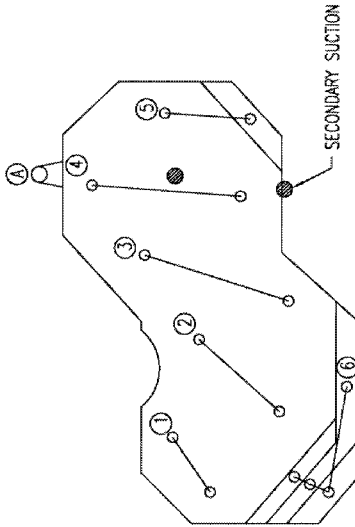
DESIGN & LAYOUT

DRAWING NUMBER

PACK NO.: _____ CONTACT: _____
 COMPANY: _____ CITY: _____ STATE: _____ ZIP: _____
 ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____
 DATE REC'D: _____ DATE RET'D: _____ SHEET: _____
 FINISH: _____ FAX # _____



NOZZLE	1/4"	3/8"	5/8"
1	2	2	0
2	2	2	0
3	2	2	14
4	2	2	0
5	2	2	0
6	4	4	0



- ROTATING NOZZLE
- FIXED NOZZLE
- PCC DOWN JET
- ⊕ SKRIMMER
- ⊙ CANISTER
- ⊗ GATE VALVE
- BREAK LINE

NOTE:
 LOCATION OF CANISTER AND SKRIMMER OPTIONAL.
 ALL PERIMETER DIMENSIONS ARE FROM FINISHED WALL.
 1" RADIUS SHALLOW END
 5" RADIUS DEEP END

*Only one skimmer to be used on a single pump system.
 *Heater must have bypass.
 *No multipoint backwash valves.
 *Check valve is required on all raised features using the PV3.

DRAWN BY:
M. MURRAY
 APPROVED BY:

PARAMOUNT POOL AND SPA SYSTEMS
 LOCAL: 480-893-7607
 TOLL FREE: 1-800-621-5886
 FAX: 480-893-7621

PV3 LAYOUT

DESIGN & LAYOUT

FILTER REQUIREMENTS Selecting Proper Filter Size

When selecting filter sizes, if the filter requirements fall in between available sizes, select the next larger filter. Refer to Equipment Spec. Chart for required rate.

Diatomaceous Earth (D.E.)

D.E. filters are rated at 2 GPM per square foot of filter area.

Example:

Flow rate required - 96 GPM

To determine size of filter - $\frac{\text{required flow rate}}{2\text{GPM}} = \text{sq. ft. filter area size}$

96 divided by 2 = 48 sq. ft.

D.E. filters are available in 24, 36, 48, 60, and 72 SQ. FT.

Sand

Sand filters are rated at 20 GPM per square foot.

Example:

Flow rate required - 96 GPM

To determine size of filter - $\frac{\text{required flow rate}}{20\text{ GPM}} = \text{sq. ft. filter area size}$

96 divided by 20 = 4.8 sq. ft.

Sand filters are available in 3.1, 4.9, and 6.9 SQ. FT.

1-1/2" MULTI-PORT VALVES ARE NOT RECOMMENDED BECAUSE HEAD LOSS IS GREATLY INCREASED. PARAMOUNT RECOMMENDS THE USE OF 2" PUSH/PULL OR 2" MULTI-PORT VALVES ON SINGLE PUMP SYSTEMS.

NOTE: Filter rates in excess of 20 GPM per sq. ft. can cause channeling of the filter bed.

Cartridge

Cartridge filters are rated at .50 GPM per square foot of filter area.

Example:

Flow rate required - 96 GPM

To determine size of filter - $\frac{\text{required flow rate}}{.50\text{GPM}} = \text{sq. ft. filter area size}$

96 divided by .50 = 192 sq. ft.

Cartridge sizes vary and range from 30 to 600 sq. ft.

NOTE: Excess flow rates can cause the fibers of a cartridge to become impacted.

Due to the continuous flow variations during the water/value cycle changes, we have experienced premature failures of the following types of filter vessels on single pump systems:

FIBERGLASS WOUND TANKS
VERTICAL WELD S/S TANKS

1-1/2" MULTI-PORT VALVES ARE NOT RECOMMENDED BECAUSE HEAD LOSS IS GREATLY INCREASED. PARAMOUNT RECOMMENDS THE USE OF 2" PUSH/PULL OR 2" MULTI-PORT VALVES ON SINGLE PUMP SYSTEMS.

DESIGN & LAYOUT

IMPORTANT TECHNICAL NOTICE REGARDING MULTIPLE SKIMMERS

The usage of more than one skimmer with the Paramount In-Floor systems may create conditions where the main drain and skimmers are not effective. This is particularly true with Paramount's ADR System with the active main drain.

When the pool incorporates a single pump design with up to a 2 hp (2-1/2 hp up rated) pump and an In-Floor system, the maximum flow of water through the hydraulic system is only 60-75 GPM.

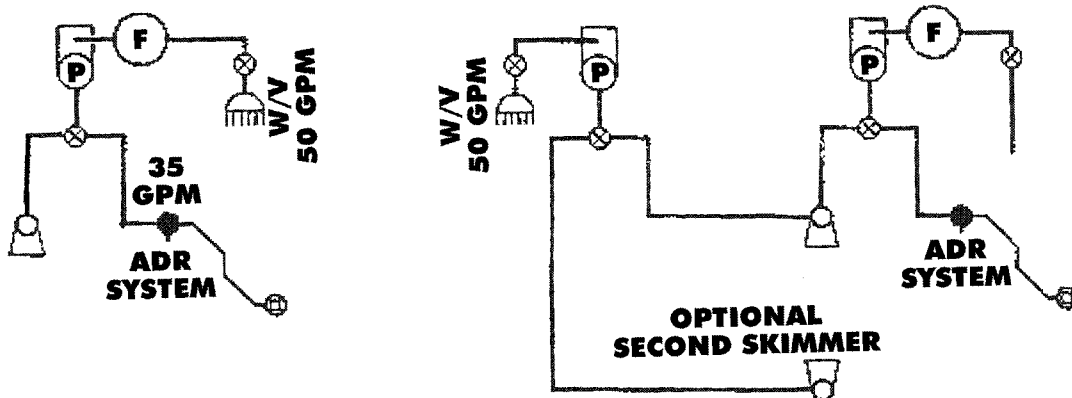
The Paramount Active Main Drain System requires 35 GPM to operate properly. The remaining suction flow is through the skimmer.

When a second skimmer is added, the flow then becomes reduced. Having only 17-20 GPM over a skimmer weir is not effective. Traditionally, consumers adjust the skimmers to effectively pull water and surface debris and thus reduce the suction upon the main drain.

We have found that with an In-Floor system the best rule of thumb is "One skimmer and one main drain with a one pump system".

On pools over 550 sq. ft., we recommend the design include a two-pump system. Because of the energy savings, faster clean up and less stringent equipment requirements, multiple skimmers may be incorporated.

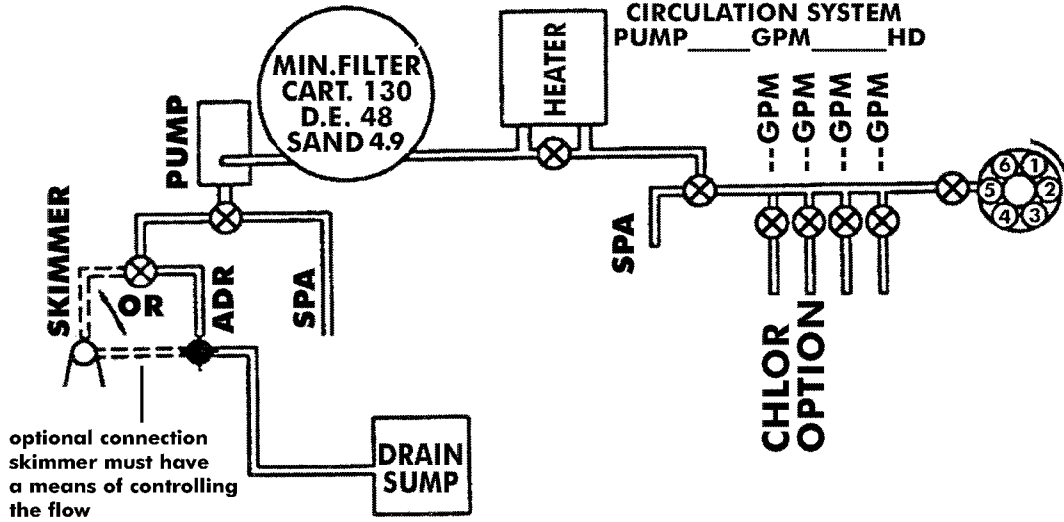
The second pump may be plumbed with the filter pump to share a single skimmer which, in effect, super-charges the skimmer. Alternatively, the second pump may be plumbed to a second skimmer. This design allows both skimmers to separately draw a minimum 35 GPM and the main drain to effectively operate as designed.



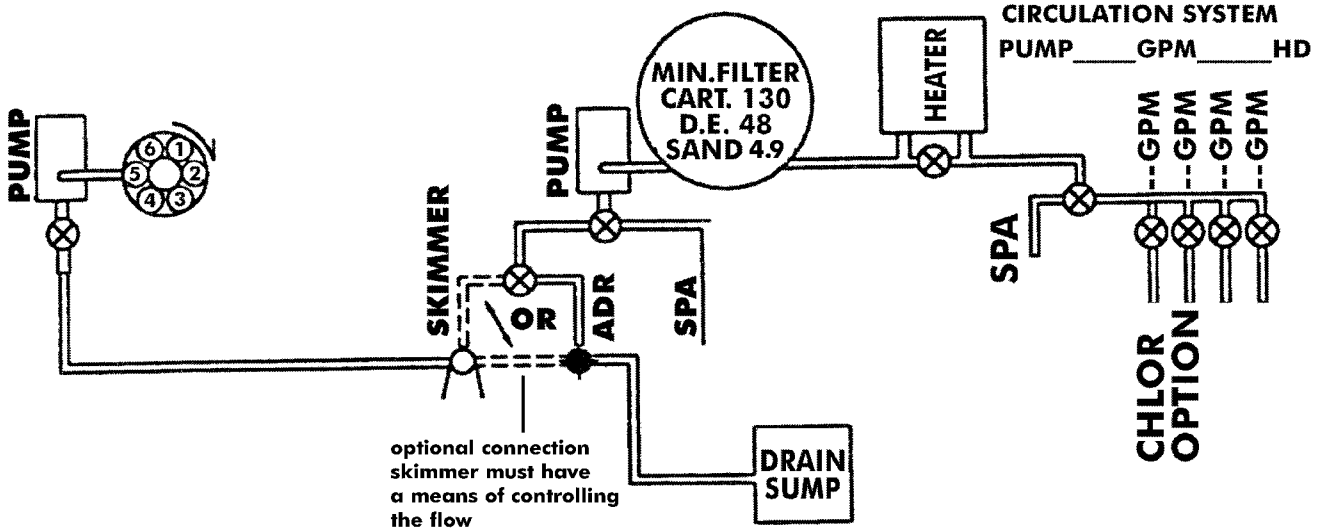
DESIGN & LAYOUT

EQUIPMENT LAYOUT

Single Pump



Dual Pump

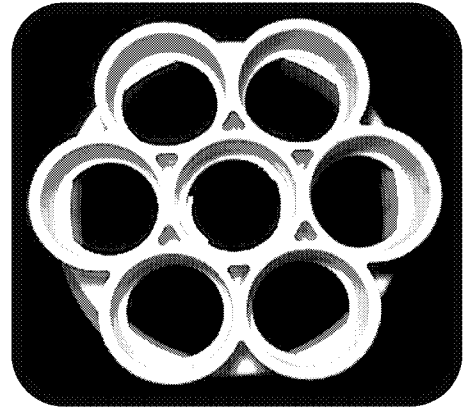
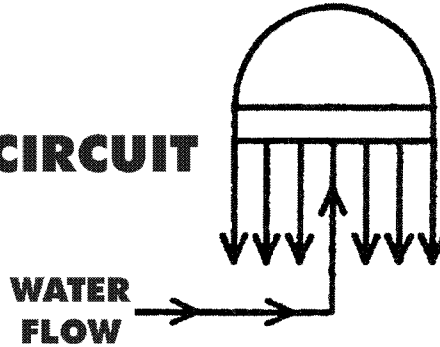


DESIGN & LAYOUT

VALVE CIRCUIT LAYOUT

PART# 4-9-2204

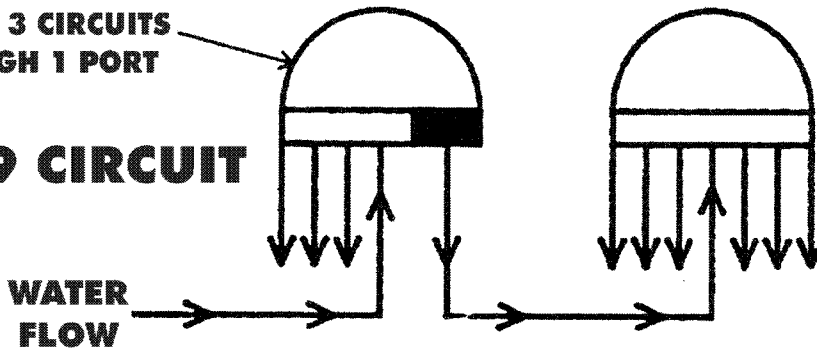
6 CIRCUIT



3 + 1 PORT
SPECIAL VALVE
PORTED INTERNALLY
TO FEED 3 CIRCUITS
THROUGH 1 PORT

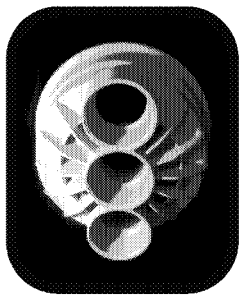
PART# 6-9-2206

9 CIRCUIT

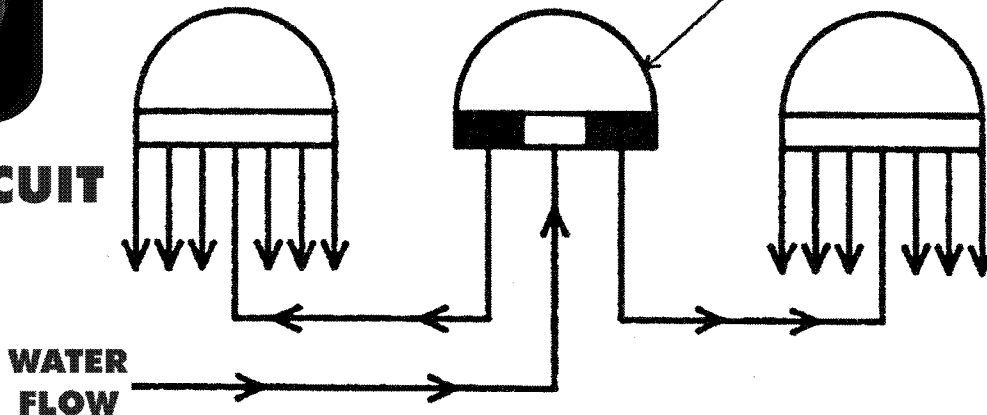


1+1 PORT
SPECIAL VALVE
PORTED INTERNALLY
TO FEED 3 CIRCUITS
THROUGH 1 PORT

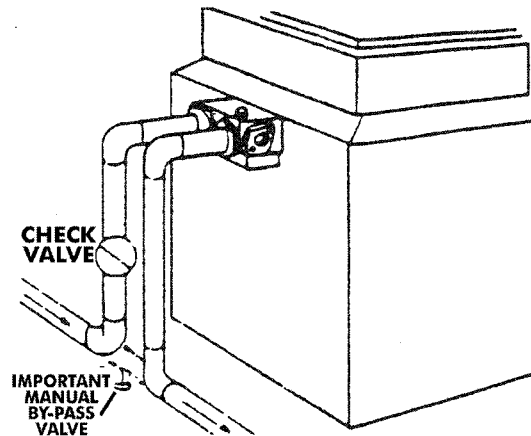
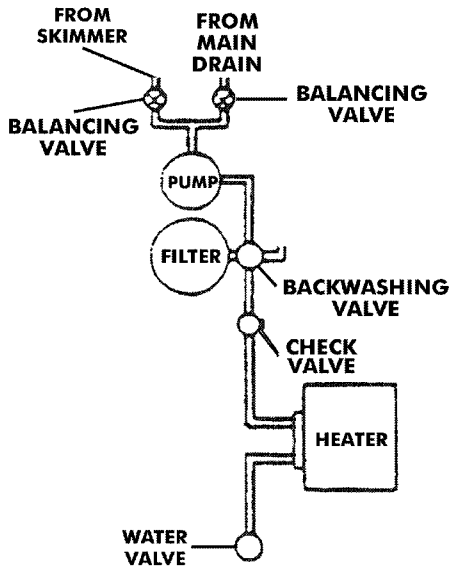
PART# 6-9-2198



12 CIRCUIT



DESIGN & LAYOUT



HEATERS

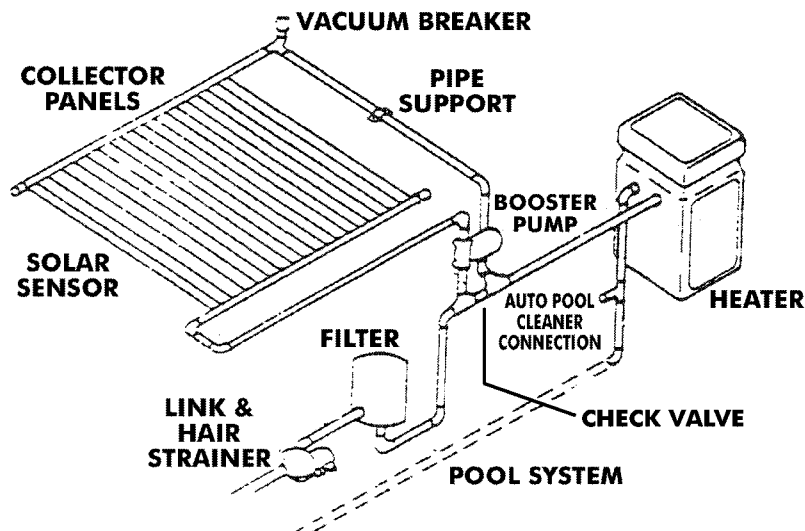
When installing a heater on the pool, a 1 1/2" by-pass to partially direct water around the heater is necessary. This allows part of the water through the heater for heating but limits the head loss created when all the water is directed through the heater. The System will not function properly without this bypass.

ANTI-VORTEX MAIN DRAIN

Paramount recommends the use of an anti-vortex main drain cover.

SOLAR SYSTEMS

Paramount recommends solar systems be operated independently with a booster pump, separate suction, and returns, or as shown below with a secondary booster pump, and the in-floor system valve installed after the solar and heater pack.

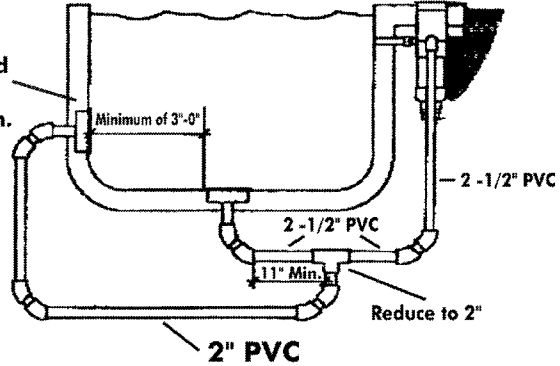


DESIGN & LAYOUT

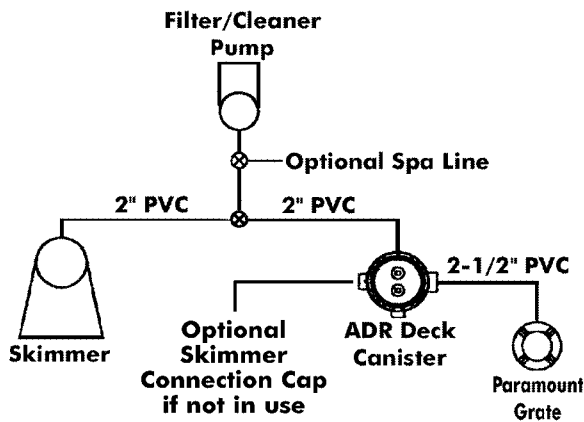
IN-DECK CANISTER REQUIREMENTS

Dual Main Drain

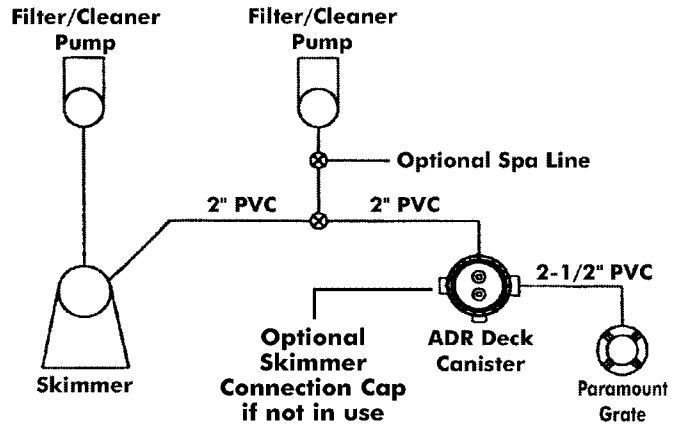
Note: Suggested location of second drain should be on the wall of the pool and a minimum of 3 feet from the active main drain.



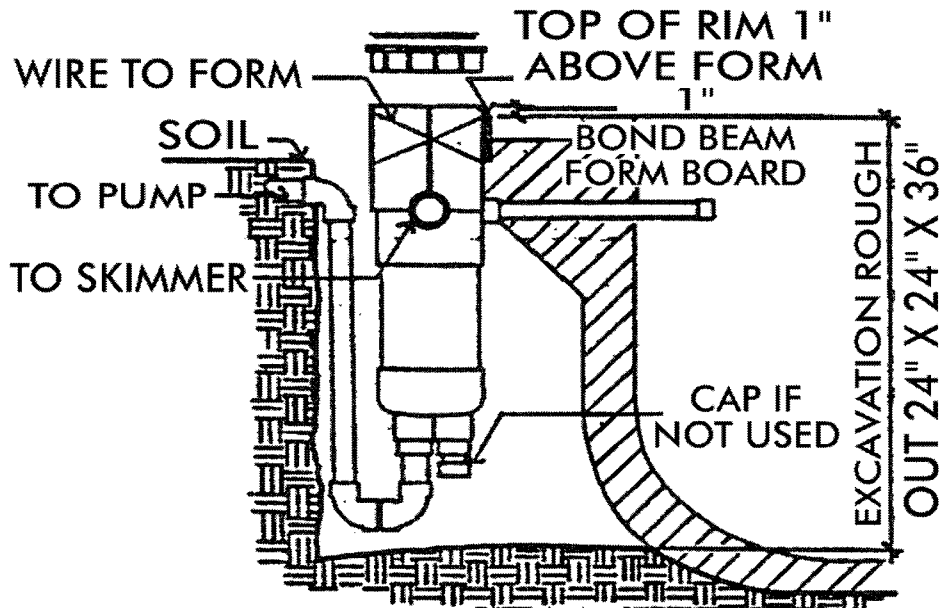
Single Pump System



Dual Pump System



In-deck Debris Trap



DESIGN & LAYOUT

RAISED SPAS

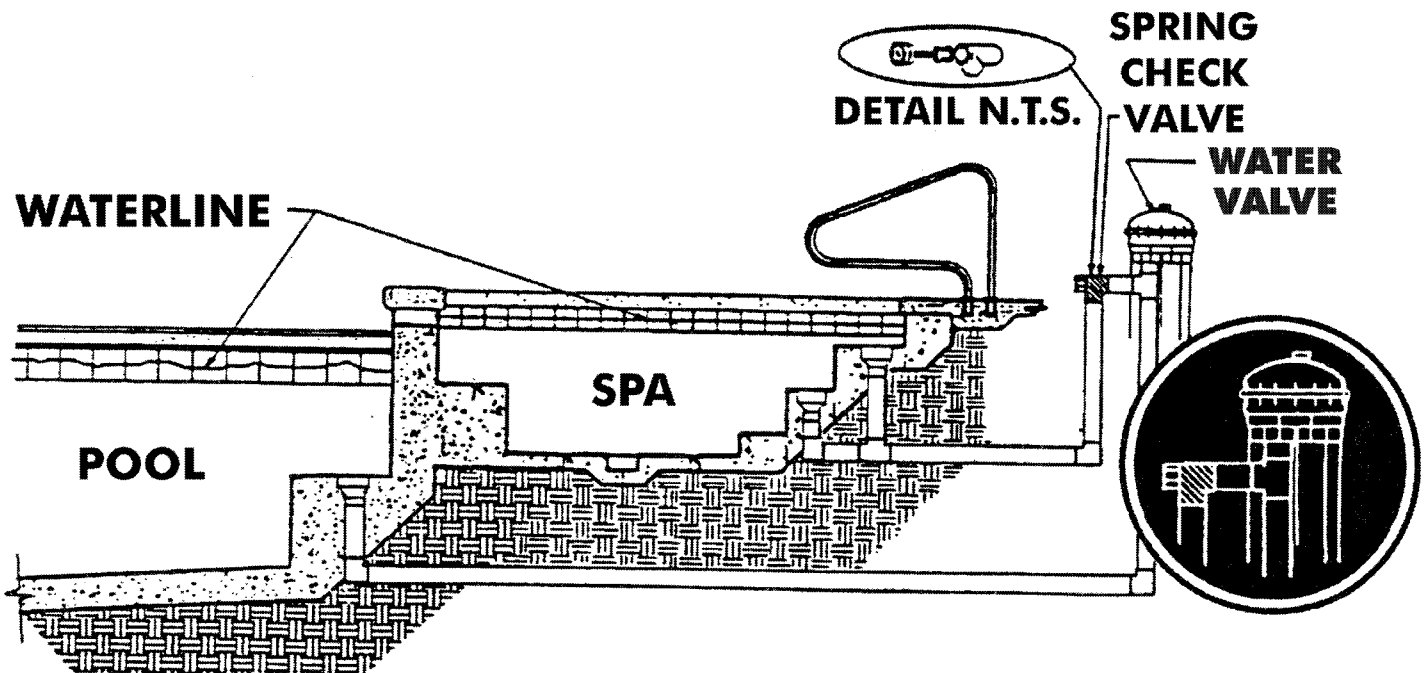
AN IN-LINE CHECK VALVE IS REQUIRED IN ALL RAISED SPAS. PLUMB THE CHECK VALVE ABOVE GROUND FOR EASE OF FUTURE MAINTENANCE.

NOZZLE PLACEMENT - SPAS

Cleaning nozzles in the spa should be located in accordance with the previously mentioned criteria.

Keep in mind that if cleaning nozzles in the spa are part of the cleaning cycle of the swimming pool, consideration must be given to the additional water being injected into the spa. This water must be removed via dam wall overflow, equalizer line, etc.

When plumbing a spa, it is recommended the nozzles be on a separate port of their own.

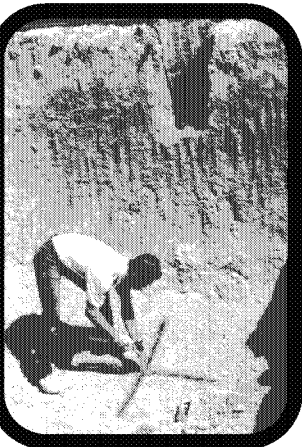
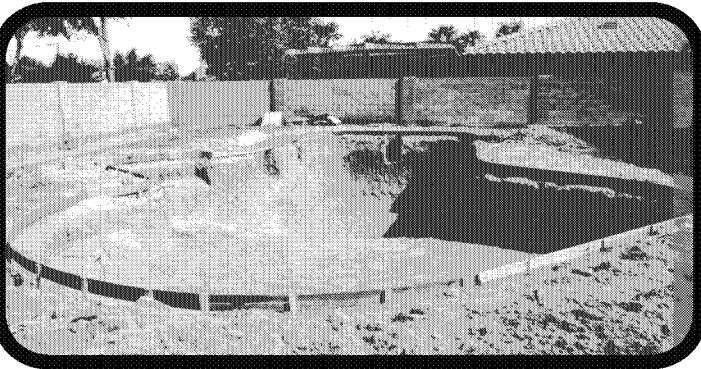


PLUMBING DETAIL

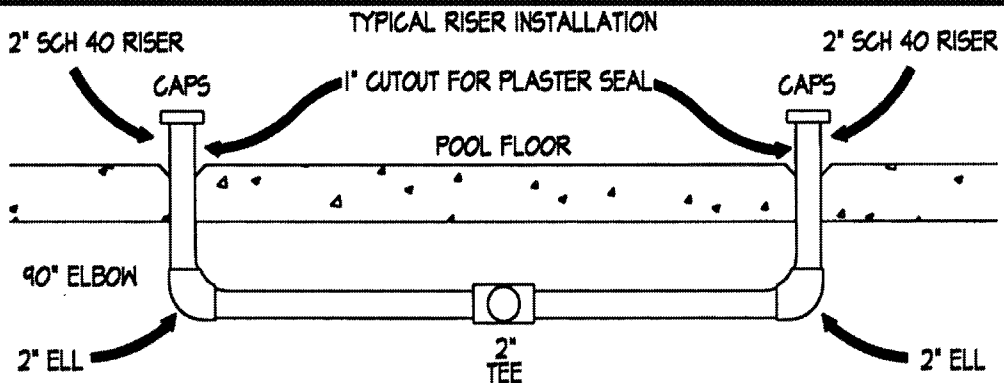
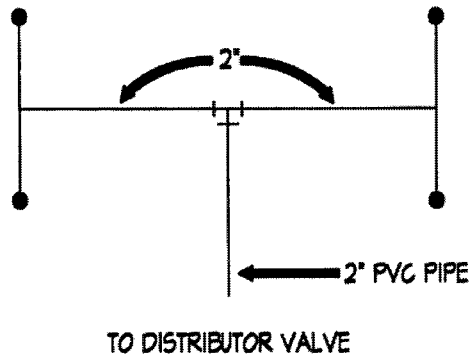
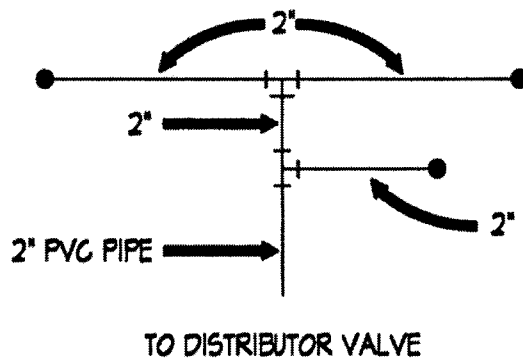
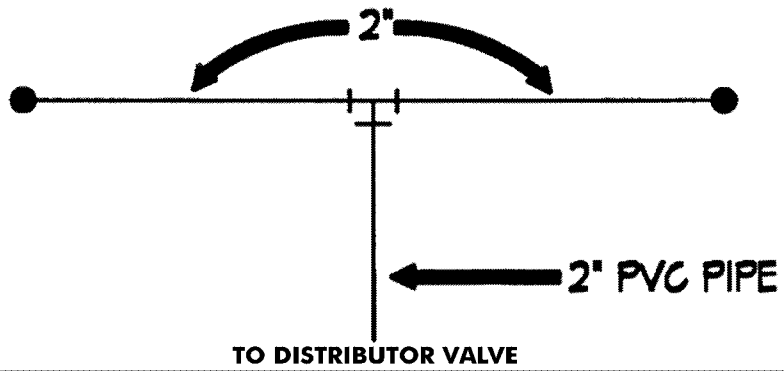
PLUMBING (FLOOR)

Install the SYSTEM with six feed lines from the water valve to banks of heads containing two or more nozzles each. The feed lines are 2" Schedule 40 PVC pipe. Paramount recommends that the lines enter at the center of length of pool. Excavate a niche to the bottom of the pool depth at that location. This large niche allows ample room for the six feed lines. Generally, this will provide for the least amount of pipe. There are occasions when it may be advantageous to feed part of the lines in places other than the center. At each nozzle location, install a 2" elbow with 2" Schedule 40 PVC stubbed up 12" above the finished pool floor (except for steps and benches). Step and bench nozzles should be on a separate port. The number of nozzles per port in the floor should be constant whenever possible. All pipes should have a minimum of 2" of cover. Trenches should be backfilled and raked smooth. Paramount recommends soaking and tamping the ground after backfilling the trenches. It is imperative that the stub-up angle is 90 degrees to the finished floor angle. This must be verified and adjusted prior to placing gunite or concrete shell. The stub-up pipes should NEVER be in a location in which the slope of the floor exceeds 45 degrees, the cleaning nozzles are weighted and will not retract. Paramount recommends use of the primer on all joints underground.

Cap all lines and pressure test to a minimum of 35 psi. Install the pressure-test stack at the equipment header or on one of the stub-up pipes in the pool floor. Pressure should remain on system throughout construction.



PLUMBING DETAIL



PLUMBING DETAIL

Plumbing (Equipment) 2" VALVE BASE PLUMBING GUIDE

NOTICE: All pipe fittings MUST be staggered. (See pictures on next page)

All plumbing should be 2".

The water valve is normally set 6" above water level in a convenient location poolside. This results in dramatic reduction in plumbing runs and increased cost savings.

The center port of the bottom housing is the inlet to the valve. Cut all pipes square, this allows maximum gluing surface to the bottom housing. USE PRIMER AND GLUE ON BOTTOM HOUSING AND ON PVC PIPES. (IPS WELDON 2943 PRIMER and 1007 GLUE or 4052 GLUE or EQUIVALENT)

Glue pipe all the way into the stop and allow at least 24 hours drying time before pressure test. To prevent glue damage to internal ribs always glue with the valve right side up.

If not all six (6) ports are required, use one of the ports twice to feed one return line. The common ports should not be plumbed next to each other, always skip a port when double firing. The pipes from the water valve should be connected together underground.

Gluing Instructions

- 1.** Remove Clamp
- 2.** Lift off dome (save O-ring)
- 3.** Remove pressure gauge and T-handle from inside valve housing assembly.
- 4.** Pipes and valve base should be treated with primer.
- 5.** Make sure pipes are glued all the way into the stop. Be careful not to allow glue to run into module area.*
- 6.** The center port is the inlet to the valve and should be approximately 3" longer than the perimeter pipes.
- 7.** Allow 24 hours before pressure testing.
- 8.** Reposition O-ring in groove in the valve base.
- 9.** Replace dome and V-Clamp and tighten until snug.
- 10.** Thread the pressure gauge to the top of the dome. DO NOT USE TEFLON TAPE. Use PTFE Paste.
- 11.** Pressurize with pool plumbing (do not exceed 35 psi.)
- 12.** Store the module assembly in a safe place and install after the pool has been started up.

* Pipes should be a minimum of 12" in length and should insure the valve be at least 6" above water level.

PLUMBING DETAIL

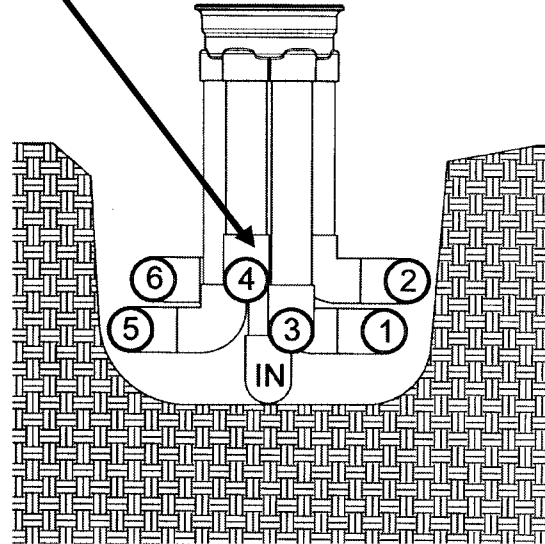
Plumbing (Equipment) 2" VALVE BASE PLUMBING GUIDE

NOTICE: All pipe fittings MUST be staggered.

PARTS NEED FOR ASSEMBLY

OPTION ONE

- 3-2"X12" PVC PIPE (port 2,4,6)
- 3-2"X15" PVC PIPE (port 1,3,5)
- 1-2"X18" PVC PIPE (port inlet)
- 4-2"X2 1/4" PVC PIPE (port 1,2,5,6)
- 11-2" SLIP 90° ELBOWS
- Optional: replace 4-90° elbows and 4-2"x2 1/4" pipes with 4-spigot 90° elbows
- Set in trench 15" deep x 19" wide

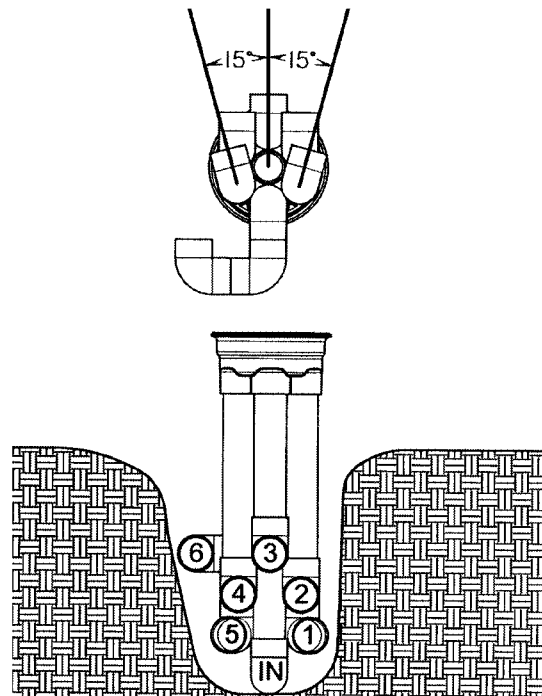


IMPORTANT:

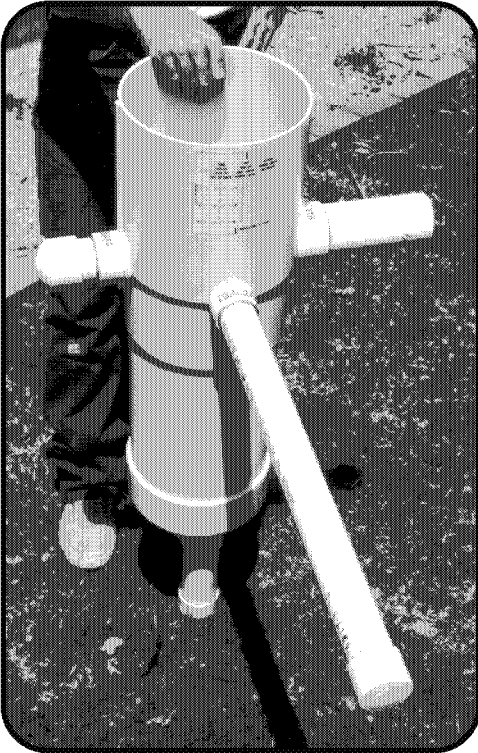
PORT 1 AND 5
MUST BE SET AT 15°
OFF CENTERLINE IN
ORDER TO CLEAR

OPTION TWO

- 2-2"X12" PVC PIPE (port 3,6)
- 2-2"X15" PVC PIPE (port 2,4)
- 2-2"X18" PVC PIPE (port 1,5)
- 1-2"X21" PVC PIPE (port inlet)
- 2-2"X2 1/4" PVC PIPE (port 6)
- 8-2" SLIP 90° elbows
- Optional: replace 2-90° elbows and 2-2"x pipes with 2-spigot 90° elbows (port 6)
- Set in trench 19" deep x 12" wide

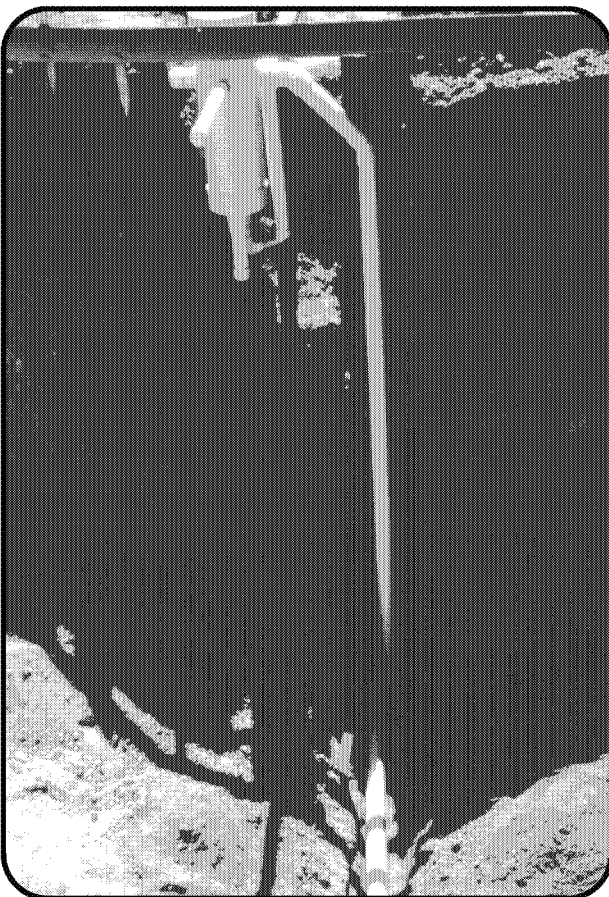
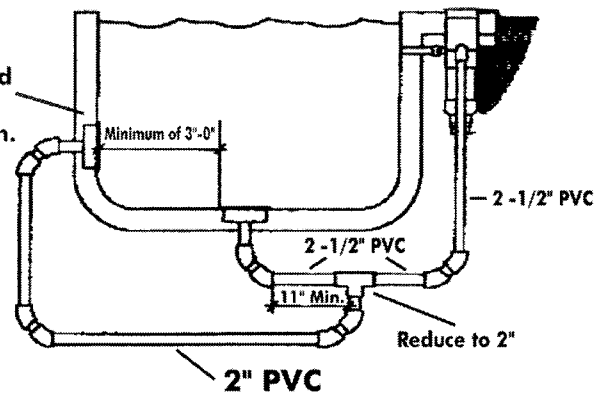


PLUMBING DETAIL



Dual Main Drain

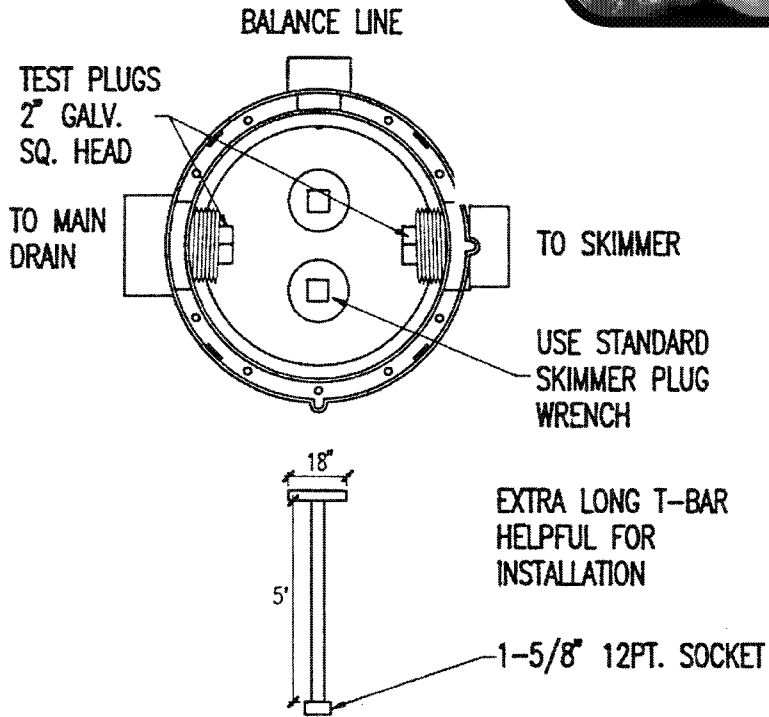
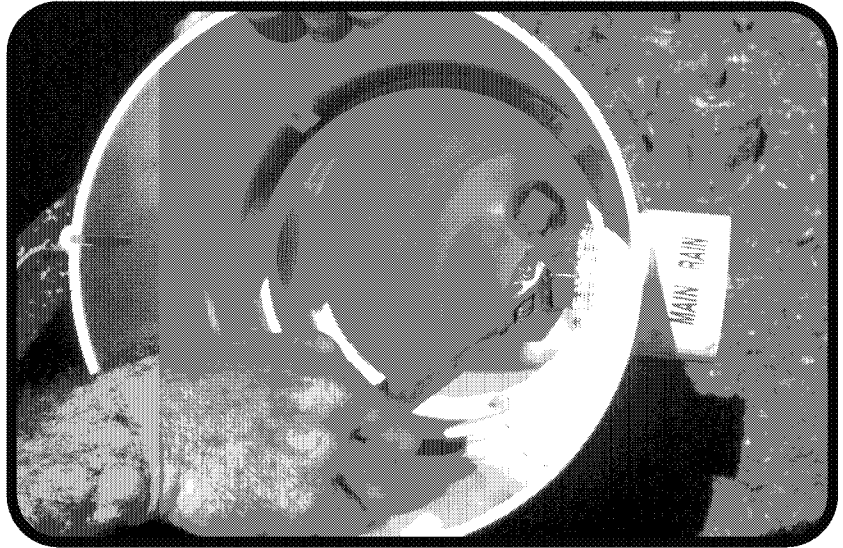
Note: Suggested location of second drain should be on the wall of the pool and a minimum of 3 feet from the active main drain.



PLUMBING DETAIL

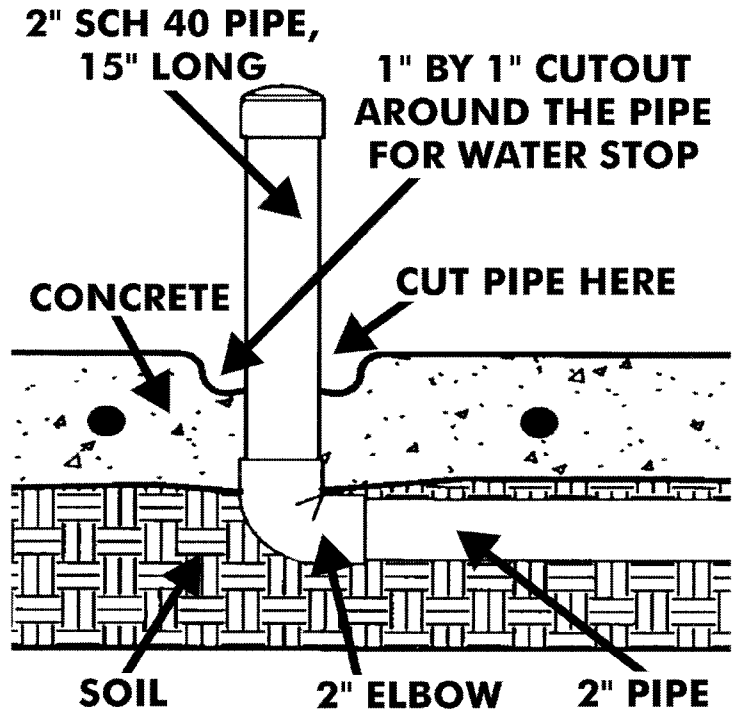
PRESSURE TEST DETAIL

USE REVERSABLE RACHET
TO INSTALL TEST PLUGS
1-5/8" 12 PT. SOCKET 2A406

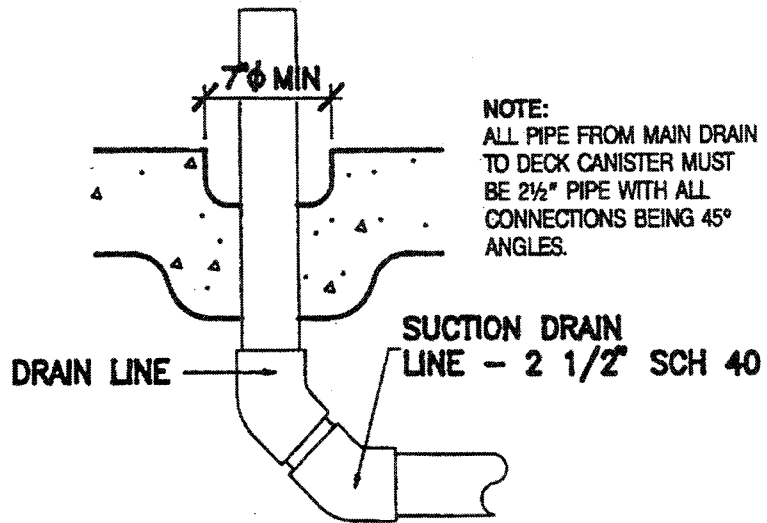
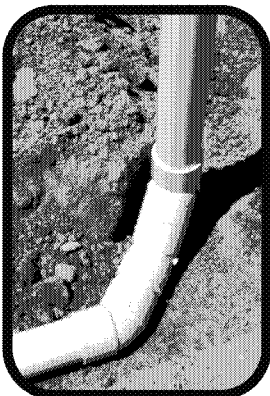


PLUMBING DETAIL

PLUMBING FOR FLOOR NOZZLES



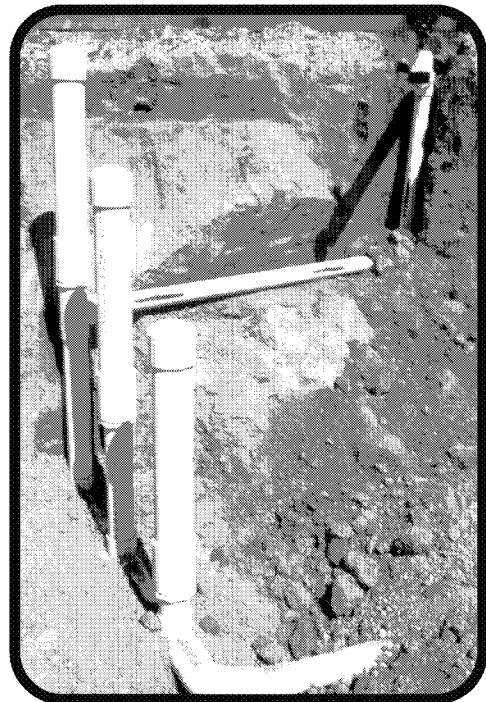
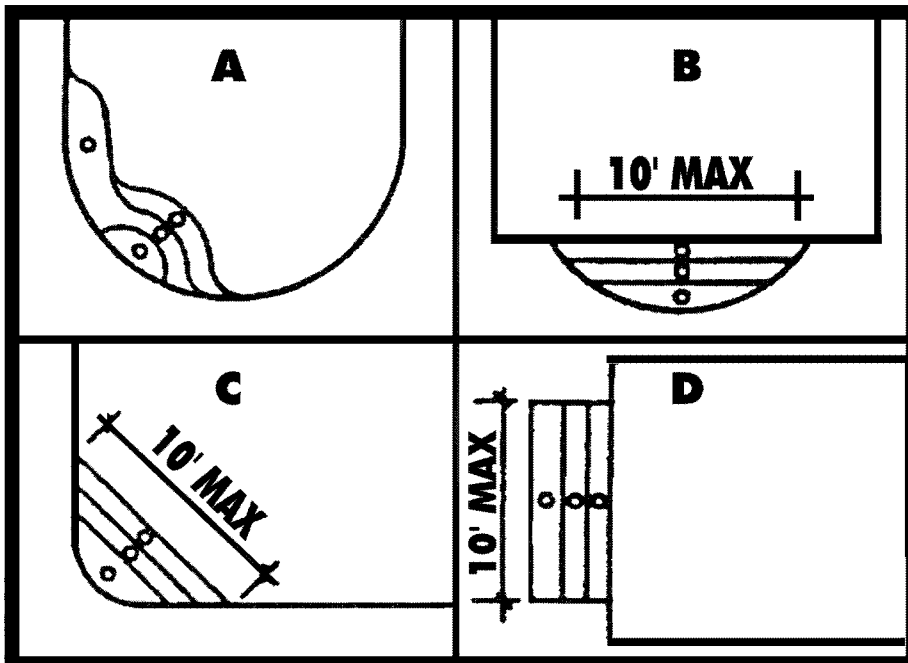
MAIN DRAIN PLUMBING



PLUMBING DETAIL

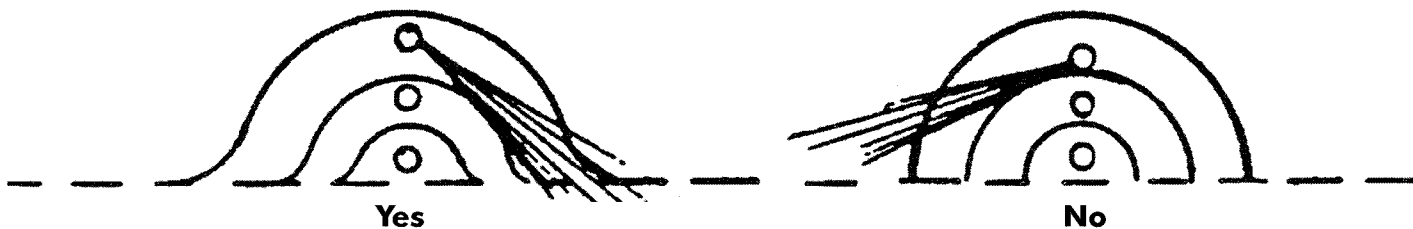
NOZZLE PLACEMENT (STEPS / BENCHES / SWIM-OUTS)

1. Using a 5' radius, indicate location of step-cleaning nozzle.



NOTE: Each nozzle will not clean more than 5' radius on steps or benches.

2. Nozzles should be pulled out as far as possible in order to reach corners.



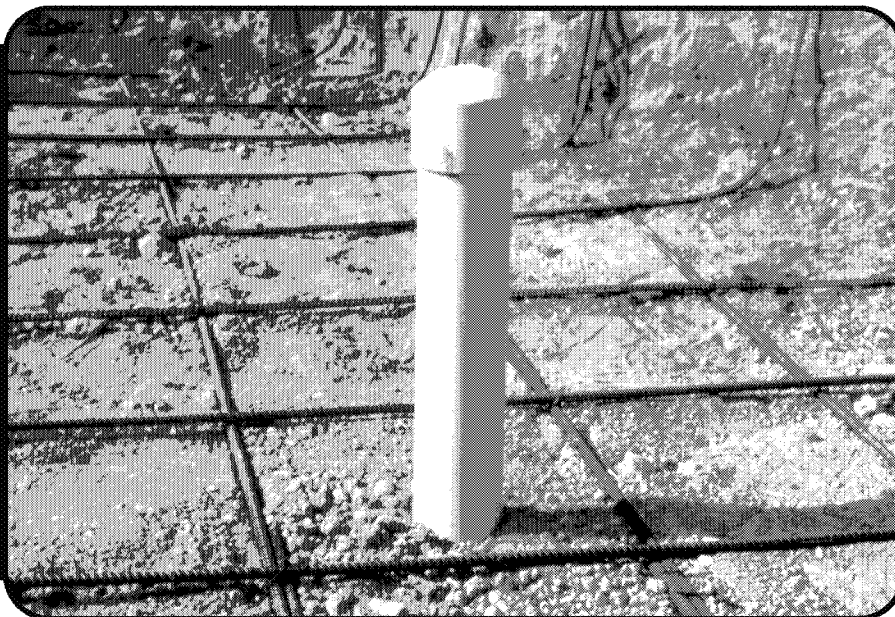
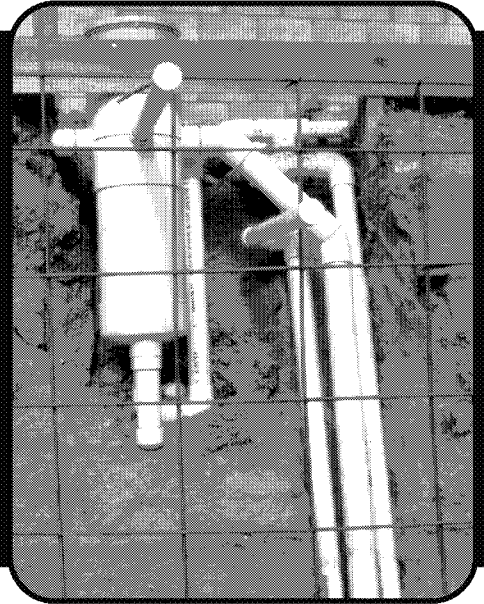
3. Reversed radius* of step corners will help to eliminate dirty steps.



* This will also help with the floor cleaning where the bottom step meets the pool wall.

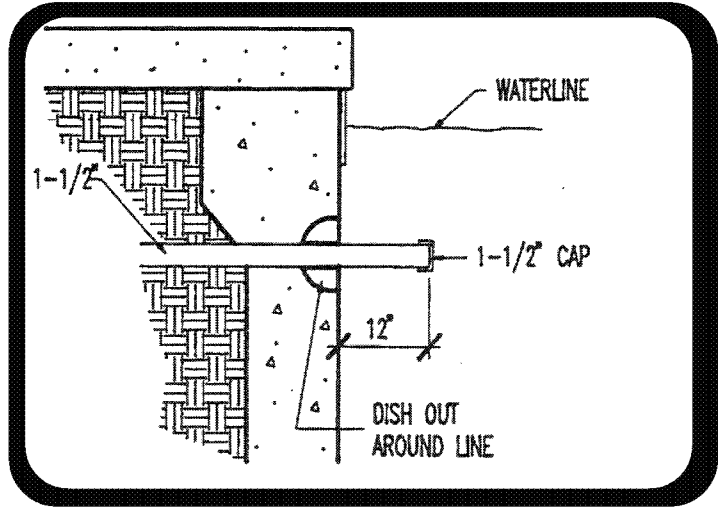
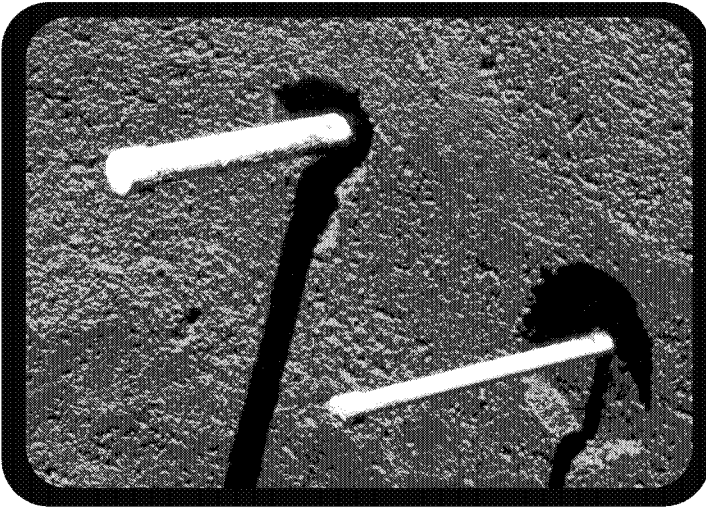
STEEL DETAIL

REBAR MUST BE KEPT AWAY FROM 2" PVC RISER. REBAR SHOULD BE BENT AROUND RISER SO THAT STEEL IS MINIMUM OF 2" AWAY FROM THE PIPE.



CONCRETE DETAIL

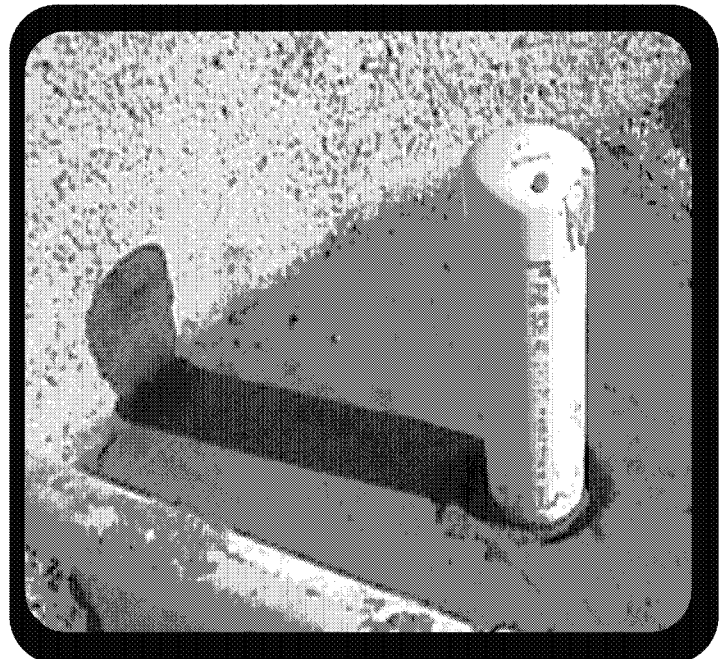
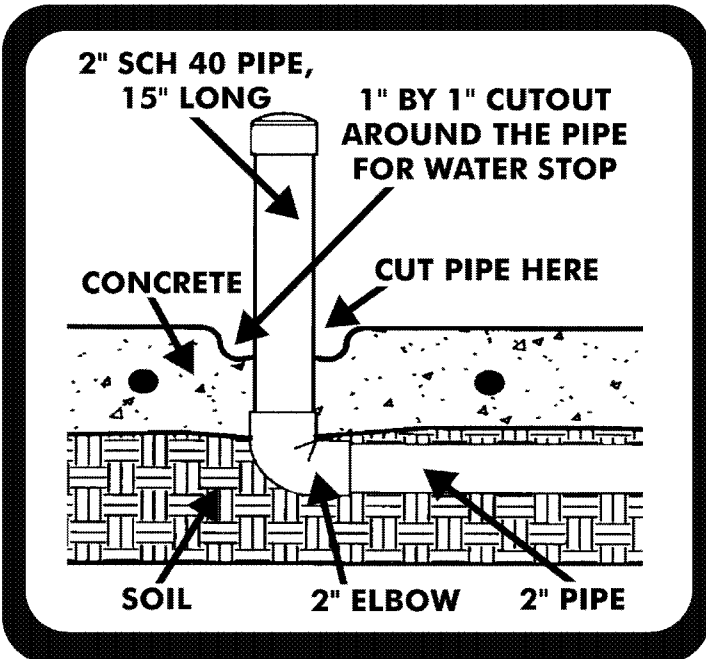
Gunite Or Shotcrete Process



PV-3 NOZZLE BODY INSTALLATION

CONCRETE:

1. Make a cutout or opening approximately 1" deep and 1" bigger than the pipe.
2. This cutout will be filled with plaster and create a water stop.



Verify the angle of the risers as it is imperative that the riser angle be 90 degrees from the finished floor angle. Check that the system did not lose pressure prior to shooting the pool and upon completion.



Body Installation Guide

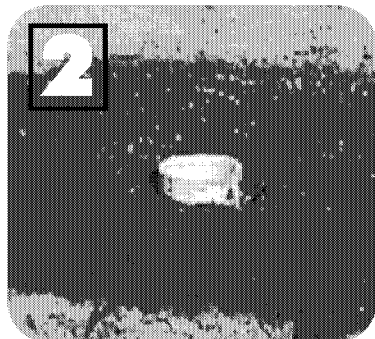
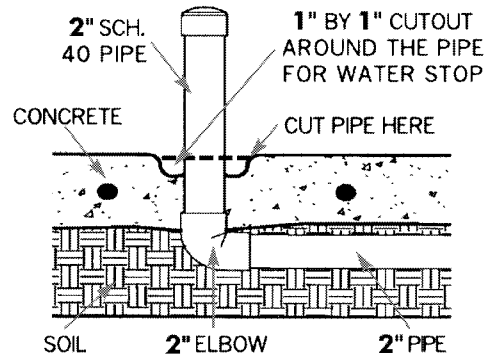
NOTICE
Heavy Body
Glue Is Required



1

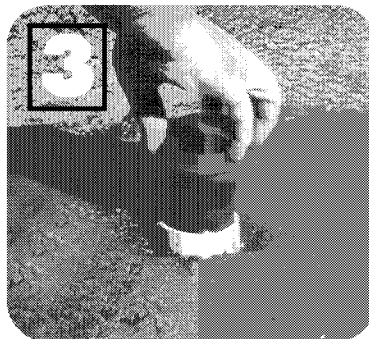
Make a cutout or opening approximately **1"** deep and **1"** bigger than the pipe.

This cutout will be filled with plaster to create a water stop.



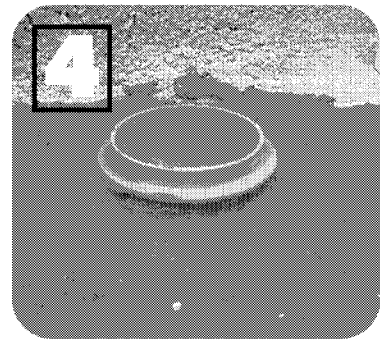
2

2. Cut off riser pipes flush with concrete surface.



3

3. Remove cap. Prime the inside of the pipe. **DO NOT** prime the body.



4

4. Glue the body into the pipe with a **HEAVY BODY PVC SOLVENT CEMENT**.

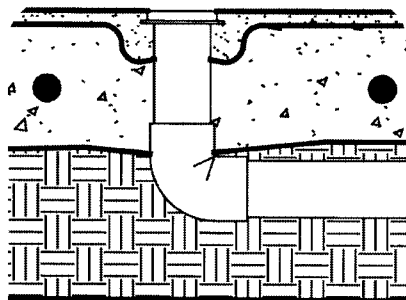
(IPS WELD-ON 711 or equivalent)

The glue must cover the full length of the body barrel and **3"** deep inside the riser pipe. Push the body into the pipe until the shoulder hits the top edge of the pipe

(SEE PICTURE #5)

DO NOT ROTATE THE BODY IN THE PIPE.

5



5. Let fumes vent for 30 minutes then replace all body caps

PLASTERING THE POOL

Leave all plaster caps in place for removal at start up.

NOTE: Optional, the plaster crew may remove the plaster caps as they finish.

NOTE: The body does not come with the nozzle installed.

PLASTER DETAIL

ANTI-VORTEX LIDS FIT FOLLOWING SUMPS:

AMERICAN

861007 Concrete
861013 Concrete

HAYWARD

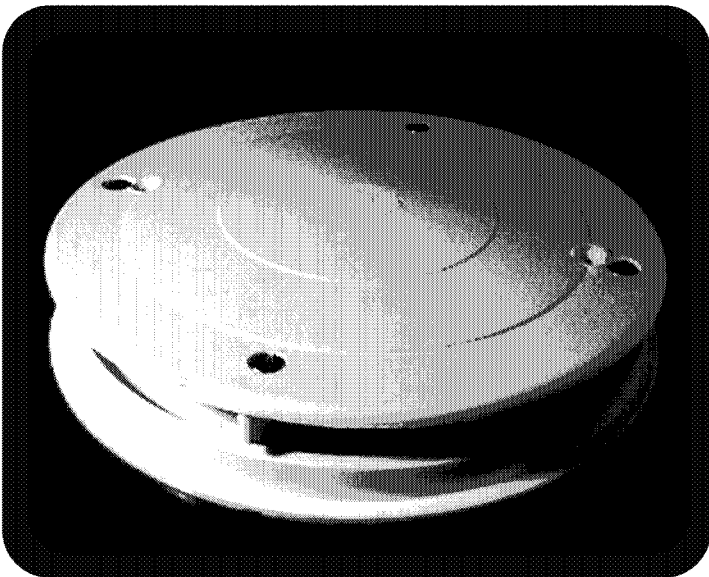
SP-1054 Concrete

PAC FAB

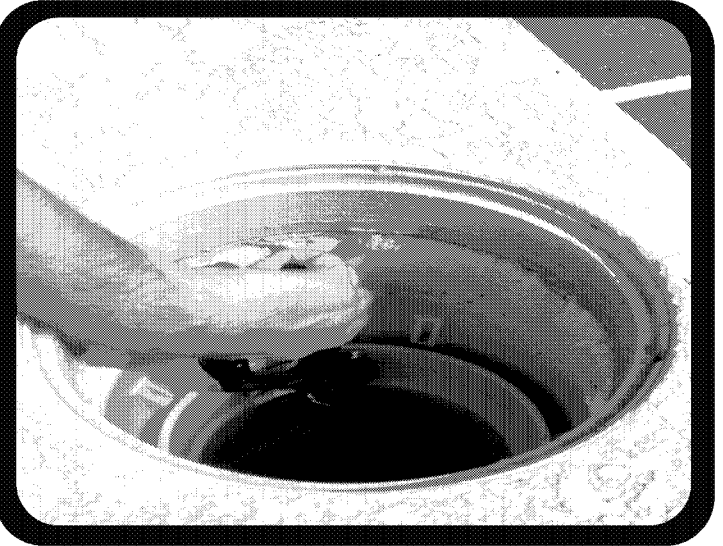
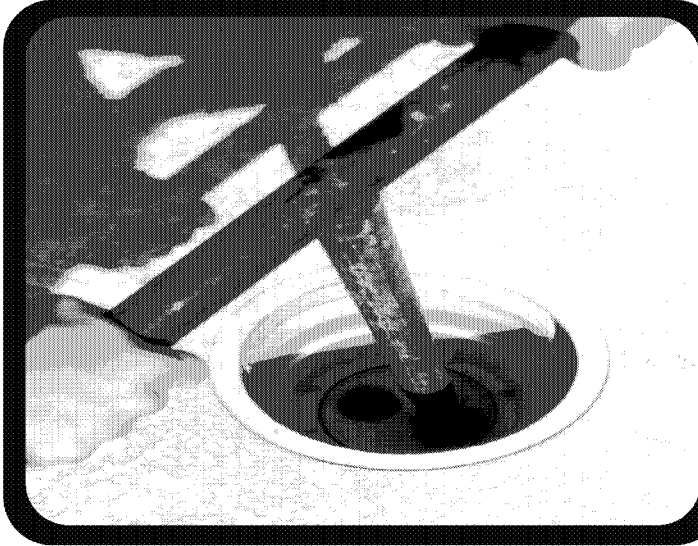
54-2030, 54-2031 Concrete
54-2040, 54-2041 Concrete

Paramount supplies the anti-vortex style of active main drain grate that may be used on a concrete-formed main drain sump.

If a plastic sump is used, the Paramount anti-vortex assembly will fit the above pre-manufactured sumps.



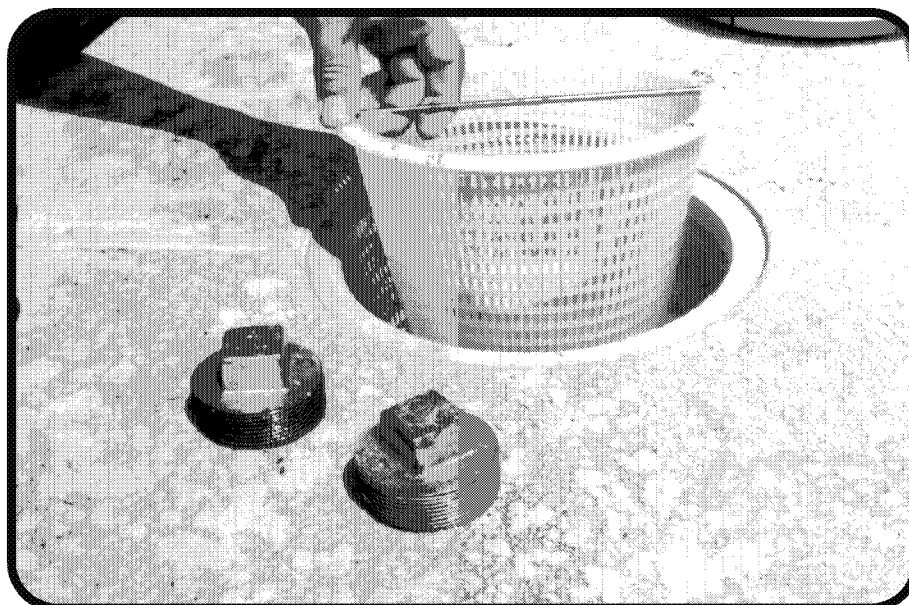
START-UP



1. Remove all pressure test plugs.



2. Install all baskets and lids.

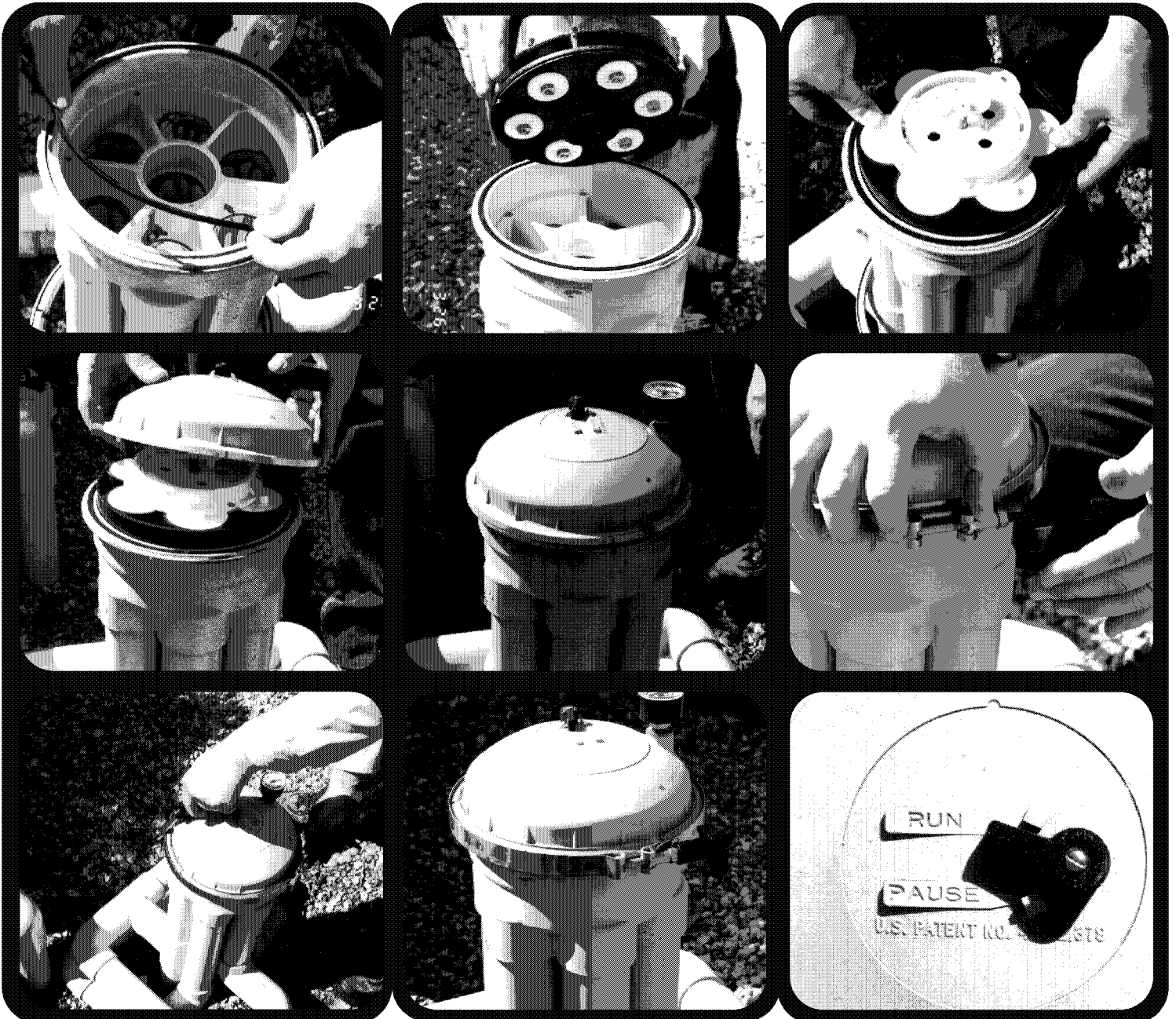


START-UP

Valve Installation

Before installing the valve, start the pump and run without the module in place to clear any debris from the feed lines. The equipment needs to run for a minimum of ten minutes before installing the valve module.

Install the valve module assembly next. Turn off the pump. Remove the V-clamp. Install the module assembly in the housing. There are guide pins on the module that will line up with the holes in the bottom housing. (Reuse the internal O-ring.) Place the Run/Pause knob selector in the run position. Replace dome and V-clamp and tighten until snug. Lightly tap on V-clamp while tightening. Turn the pump on.



PARAMOUNT 3+1 MODULE ALIGNMENT GUIDE

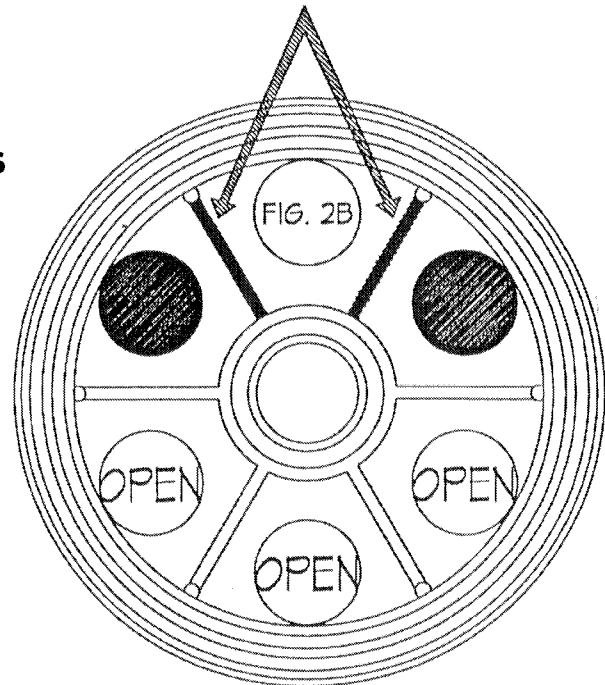
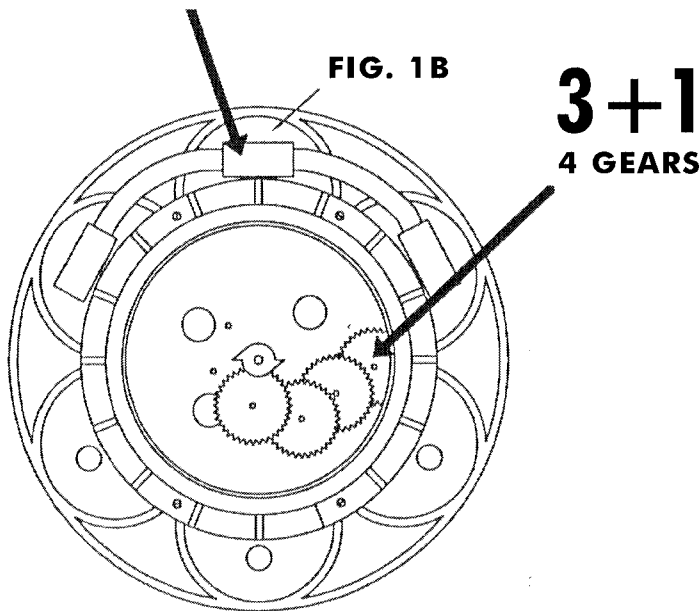
TO FUNCTION PROPERLY IT IS IMPERATIVE THAT THE MODULE BE PLACED IN CORRECT ORIENTATION TO THE BASE. TO INSURE THIS IS DONE, PLEASE FOLLOW THESE INSTUCTIONS.

- 1.** Look at the top of the module. (FIG. 1)
- 2.** Locate the multiport tube assembly (FIG. 1A)
- 3.** Look at the base. (FIG. 2)
- 4.** Notice two ribs in the base have been cut out to allow flow through of water between three ports. (FIG. 2A)
- 5.** One open port is centered between two plugged ports. (FIG. 2B)
- 6.** When installed, the port centered under the multi port tube assembly (FIG.1B) on the module must be centered over the open port in the base. (FIG. 2B)

IF THE MODULE IS PLACED INCORRECTLY MULTIPLE ZONES OF NOZZLES IN THE POOL WILL FIRE AT THE SAME TIME.

MULTI PORT TUBE ASSEMBLY (FIG. 1A)

RIB CUT AWAY (FIG. 2A)



MODULE

FIG. 1

BASE

FIG. 2

PARAMOUNT 1+1 MODULE ALIGNMENT GUIDE

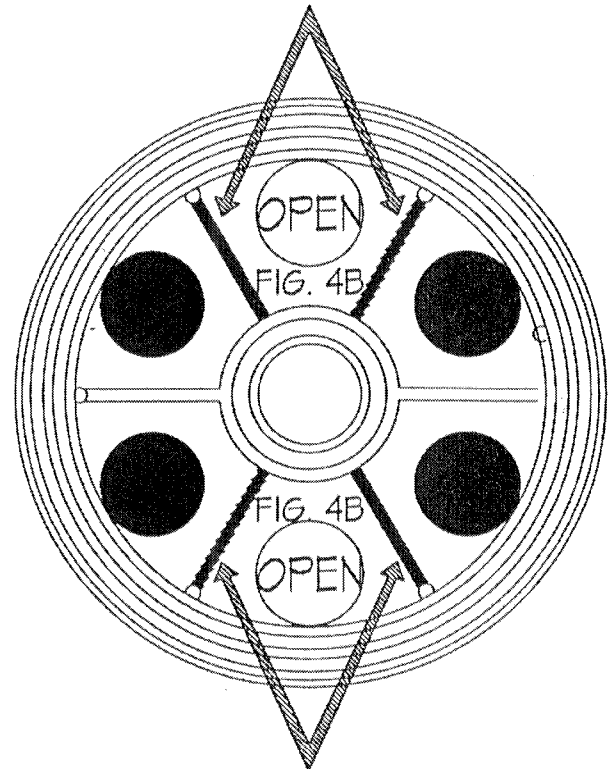
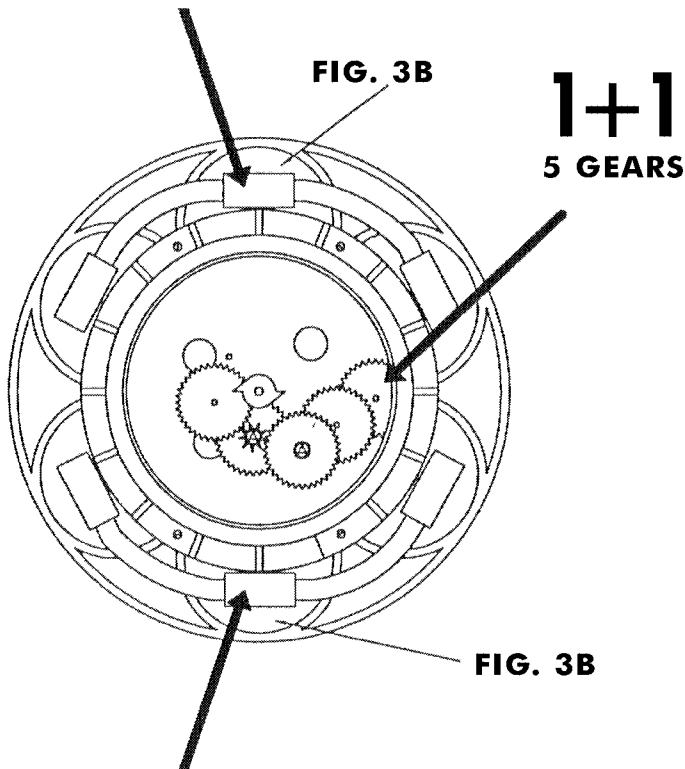
TO FUNCTION PROPERLY IT IS IMPERATIVE THAT THE MODULE BE PLACED IN CORRECT ORIENTATION TO THE BASE. TO INSURE THIS IS DONE, PLEASE FOLLOW THESE INSTUCTIONS.

1. Look at the top of the module. (FIG. 3)
2. Locate the multiport tube assembly (FIG. 3A)
3. Look at the base. (FIG. 4)
4. Notice four ribs in the base have been cut out to allow flow through of water between two sets of three ports. (FIG. 4A)
5. One open port is centered between two plugged ports. (FIG. 4B)
6. When installed the port centered under the multi port tube assembly (FIG. 3B) on the module must be centered over the open port in the base. (FIG. 4B)

IF THE MODULE IS PLACED INCORRECTLY MULTIPLE ZONES OF NOZZLES IN THE POOL WILL FIRE AT THE SAME TIME.

MULTI PORT TUBE ASSEMBLY (FIG. 3A)

RIB CUT AWAY (FIG. 4A)



MULTI PORT TUBE ASSEMBLY (FIG. 3A)

RIB CUT AWAY (FIG. 4A)

MODULE

BASE

FIG. 3

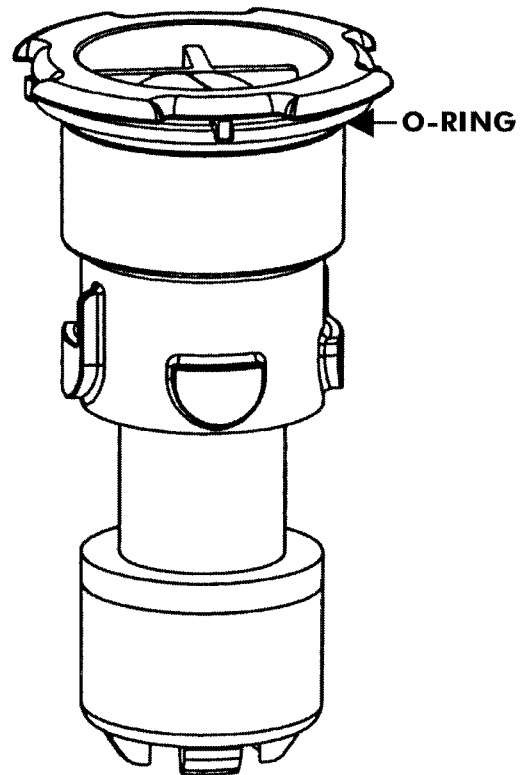
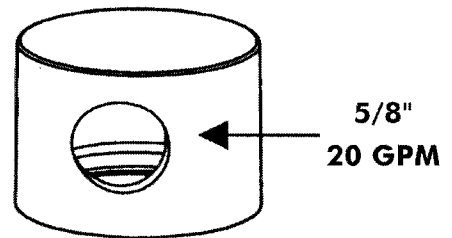
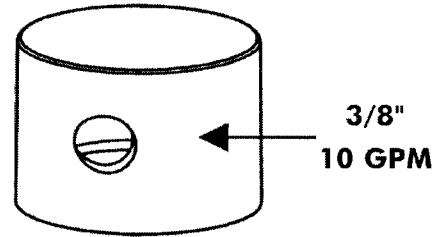
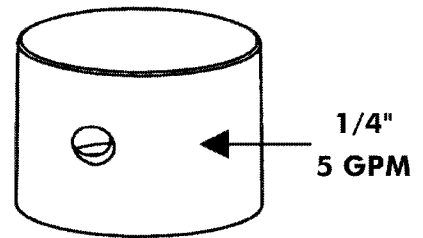
FIG. 4

START-UP

Cleaning Nozzle Installation

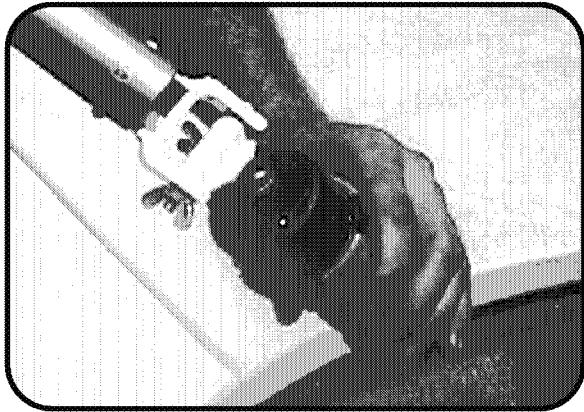
System Start Up

1. Before installing nozzles flush all lines by:
 - a. Start pump, run for 10 minutes before installing the water valve module.
 - b. Install the water valve module and let valve cycle to flush out any debris remaining in each line.
2. Select nozzle size from pool plan.
3. Press cap firmly onto stem top until it snaps into place.
4. Be sure O-ring is pushed all the way up to top flange.

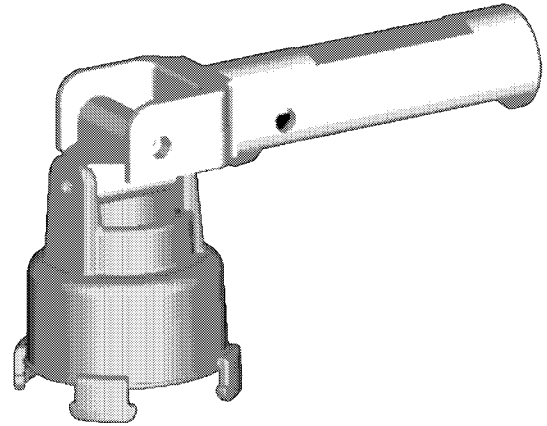


START-UP

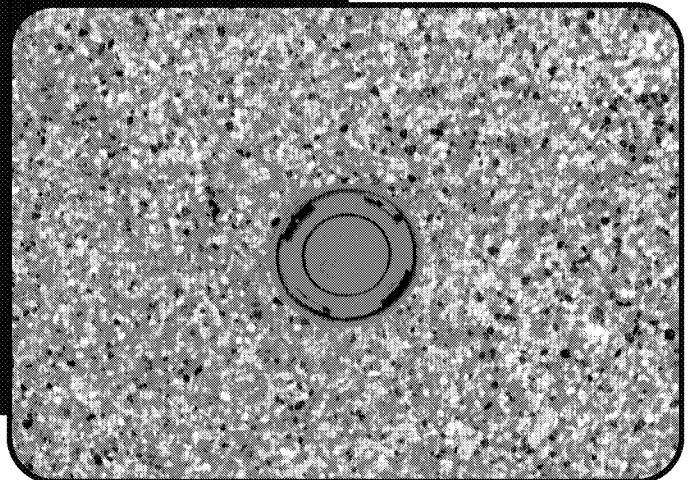
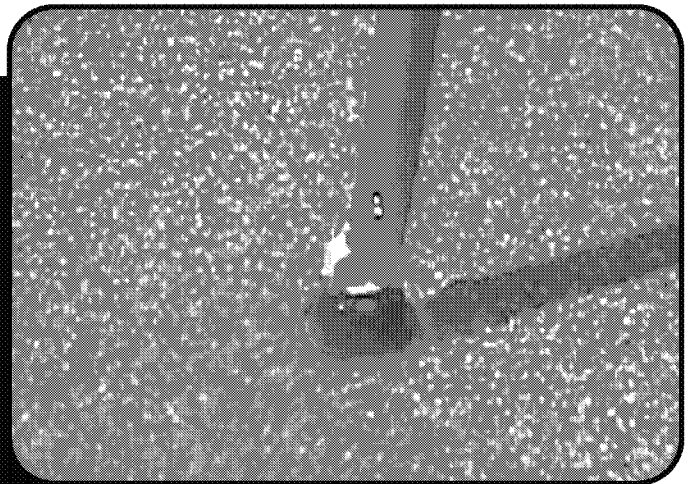
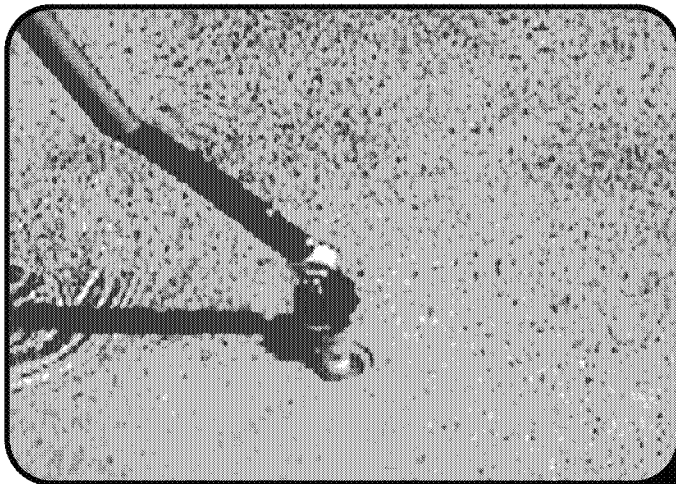
CLEANING NOZZLE INSTALLATION



- 5. Start with nozzle closest to the valve and as red plaster caps blow out install nozzles.
- 6. Snap the nozzle onto the install tool by twisting.
- 7. Install nozzle in body by turning clockwise one-quarter turn.

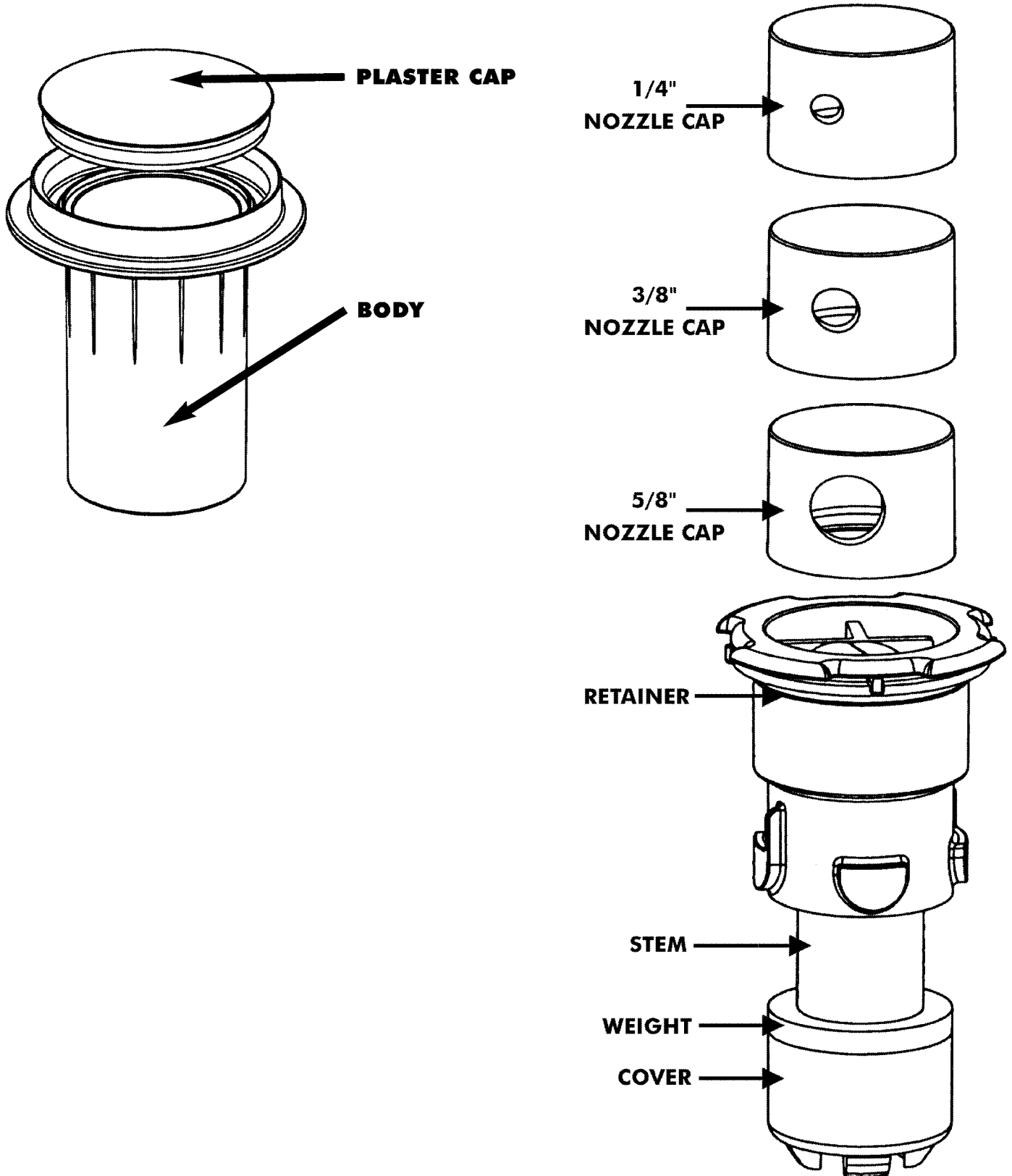


INSTALLATION TOOL
#004-009-1038



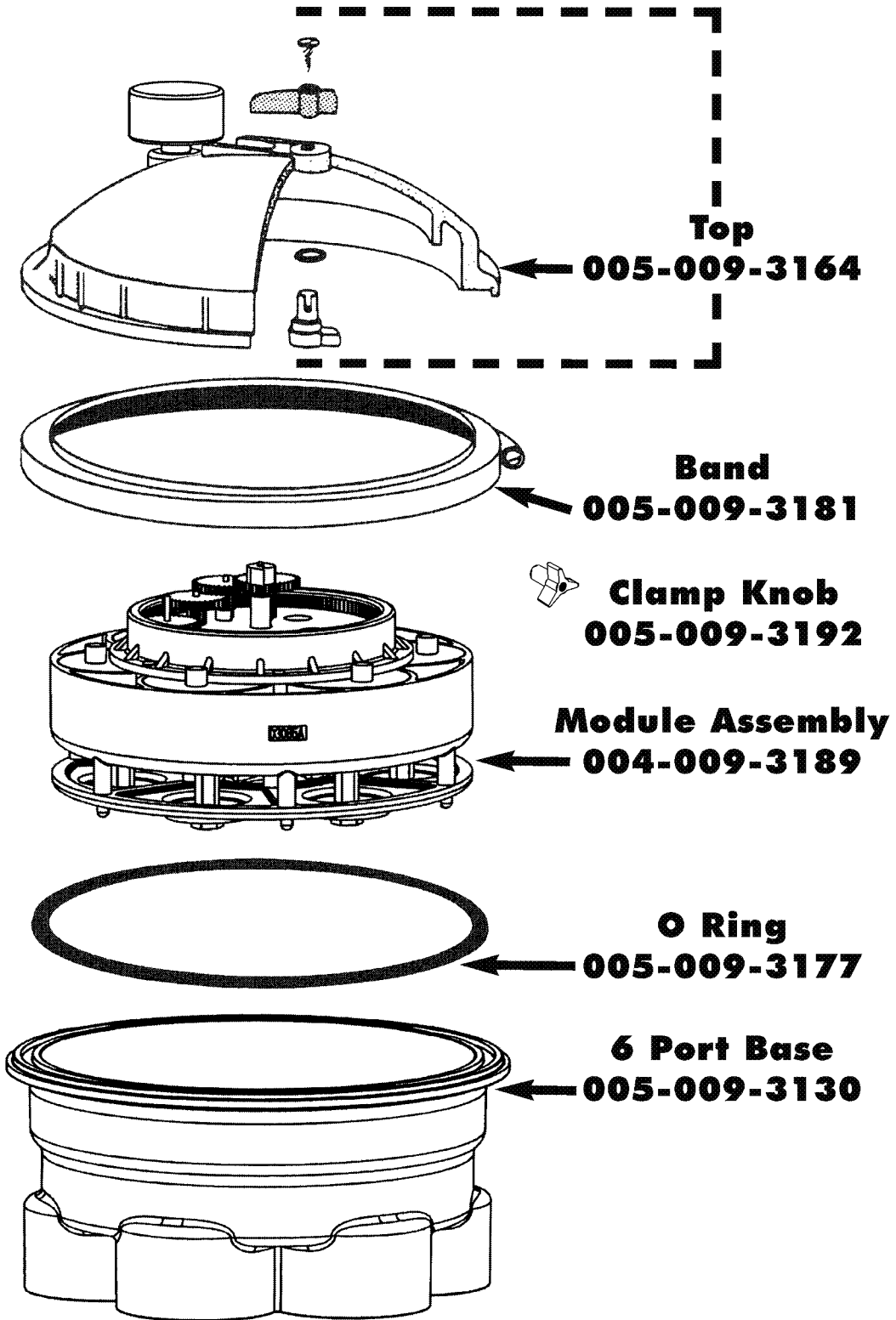
START-UP

NOZZLE & BODY DIAGRAM



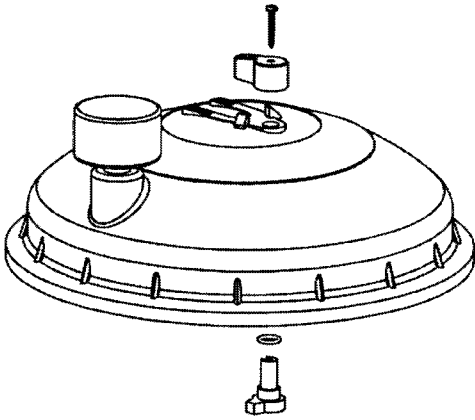
TROUBLE-SHOOTING

Water Valve Diagram



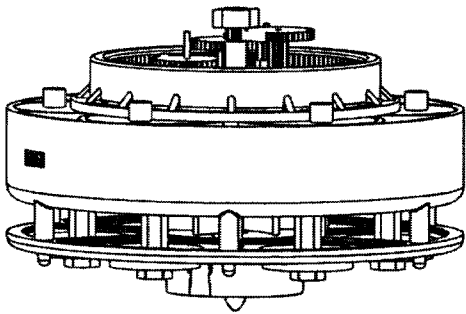
TROUBLE-SHOOTING

Part Number Diagrams

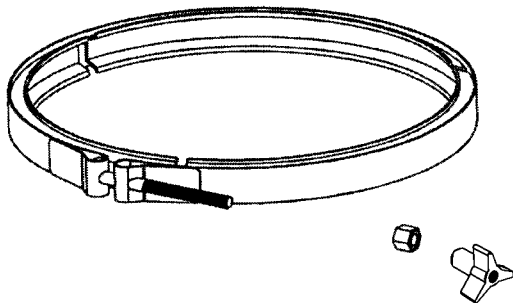


Top Dome Complete: 5-9-3164
(Includes: Top, Gauge & Pause Assembly)

Pause Assembly: 5-9-3110
(Includes: Screw, Knob, O-Ring & Pawl)



Module Complete: 4-9-3189



Band Clamp Complete: 5-9-3181
(Includes: Clamp, Knob & Nut)

Band Clamp Nut Only: 5-9-3191

Band Clamp Knob Only: 5-9-3192



Valve O-Ring Only: 5-9-3177

TROUBLE-SHOOTING

WATER VALVE INSTRUCTIONS

How to "Open the Water Valve"

1. TURN OFF THE PUMP.
2. To remove the Band Clamp, turn the "Tee Handle" counter-clockwise until it comes off the bolt. Note: You may have a 7/16" Nut instead of a Tee-Handle, if so use a wrench to remove it.
3. Lift the Top Dome off the Base.

How to "Close the Water Valve"

Check the "O-Ring" (or square gasket) and groove for debris, which could prevent a good seal. Remove any debris found and verify the O-Ring is in the groove properly.

Place the Top Dome on the Base. You may face it any direction you like.

Place the Band Clamp around the Valve Shells and put the Tee Handle or 7/16" Nut on the bolt.

Tighten the Band Clamp securely. Note: Tapping the Band Clamp gently around the circle will help you tighten the Bolt with less effort.

4. Turn on the pump and inspect the Water Valve for any drips. If you find drips, turn off the pump and tighten the Band Clamp more. Note: Silicone "lubricant" makes O-Rings seal easier, but is rarely needed. **NEVER USE PETROLEUM JELLY ON PLASTIC OR RUBBER.**

Module Installation (P/N: 4-9-3189)

1. TURN OFF THE PUMP
2. "Open the Water Valve."
3. Lift the Module out of the Base.

Note: The Module is designed to seal inside the Base so it may be difficult to lift. An easy solution is to turn the pump on and off quickly.

CAUTION: Make sure no one is standing nearby or he could get wet when the Module pops out of the Base.

4. Install the Module by aligning the pins on the bottom with the little holes in the Base.

5. Pool Trouble Shooting Guide

TROUBLE-SHOOTING

POOL TROUBLE SHOOTING GUIDE

The System Doesn't Clean Like It Has Previously.

If the nozzles are turning on and off in groups, but don't clean as far as they once did, then the in-floor system isn't getting enough water to run effectively. A quick way to check this is by looking at the pressure gauge, is it below the green zone?

Service the filtration system, clean all baskets, and backwash the filter.

Make sure auxiliary valves, spa jets, waterfalls, manual surface returns are not open when the pool is in its cleaning mode.

Dirt Collects Around One Nozzle

Nozzle stays up all the time:

When a Nozzle stays up, even when the pump is off, something is stuck in it. Try the following items one at a time until the problem is solved.

Push the Nozzle down with a pool pole.

Remove the Nozzle, rinse to remove all debris.

Replace if damaged - Read Lifetime Limited Warranty. Nozzles are covered for life if you are the original pool owner.

Nozzle pops up and down, but does not rotate.

When the nozzle is up, try pushing on it with a pool pole. This may dislodge debris.

Remove the Nozzle and rinse to remove all debris.

Replace if damaged - Read Lifetime Limited Warranty. Nozzles have a lifetime guaranty if you are the original pool owner.

Clean Area Around One Zone Only

When one set of Nozzles comes on with the pump each day, but never rotates more than once a day, the Water Valve isn't cycling.

"Pause" Mode may be active. Turn the Knob on top of the Water Valve to "RUN".

"Turbine" may be jammed with debris. "Open the Water Valve", remove the Module, and inspect Turbine.

- Look for debris.
- Does Turbine move freely? - If yes, the debris may be in the pipe and out of sight. Turn on the pump for a few seconds to clear the line.
- Does turning Turbine turn the Gears? - If not replace Module.

One Set of Nozzles Stay Up Whenever the Pump is On.

One set of Nozzles stays up all the time, even though the other sets cycle up and down.

A part inside the Module has a problem.

- Debris is holding one piston open all the time - Remove the debris.
- Piston diaphragm is broken - Replace Module.

All Nozzles are floating when the pump is on.

When all Nozzles are floating, or have water running through them all at the same time check the Module.

- Module is missing - replace Module
- Module is damaged and all pistons are open - replace module.
- Module is not seated properly - remove Module, remove any debris found inside Base and on Module, reinstall Module.