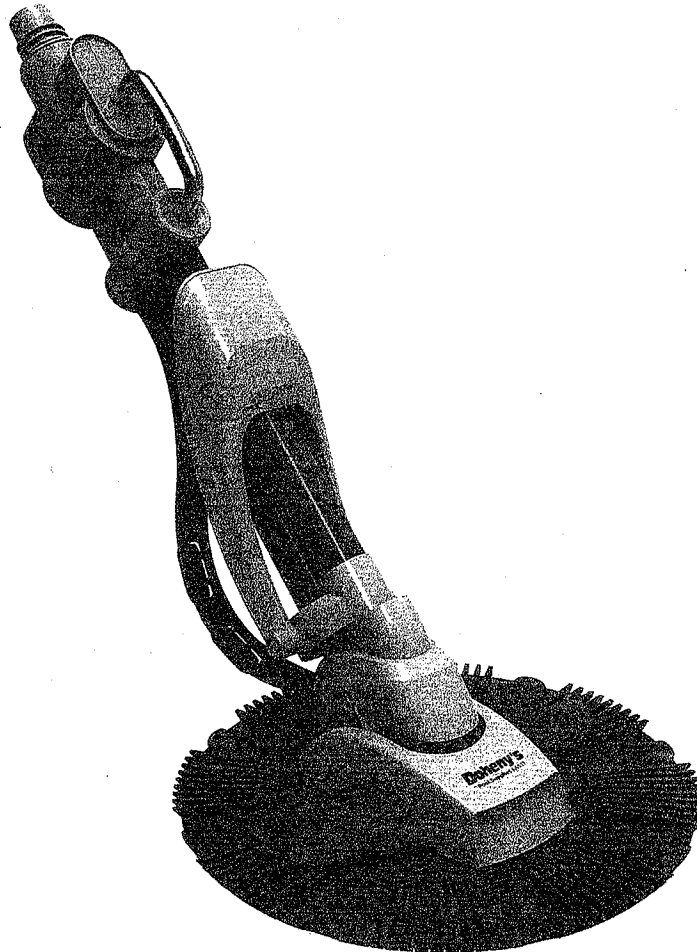


Doheny's
Pool Supplies FAST!

ProVac AG Suction Cleaner

Item # 90590

INSTALLATION, OPERATION & PARTS



To prevent potential injury and to avoid unnecessary service calls, read this manual carefully and completely.

SAVE THIS INSTRUCTION MANUAL Use of aftermarket replacement parts voids warranty.

ATTENTION INSTALLER – THIS MANUAL CONTAINS IMPORTANT INFORMATION ABOUT THE INSTALLATION, OPERATION, AND SAFE USE OF THIS CLEANER THAT MUST BE PROVIDED TO THE END USER OF THIS PRODUCT. FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.

I. POOL PREPERATION

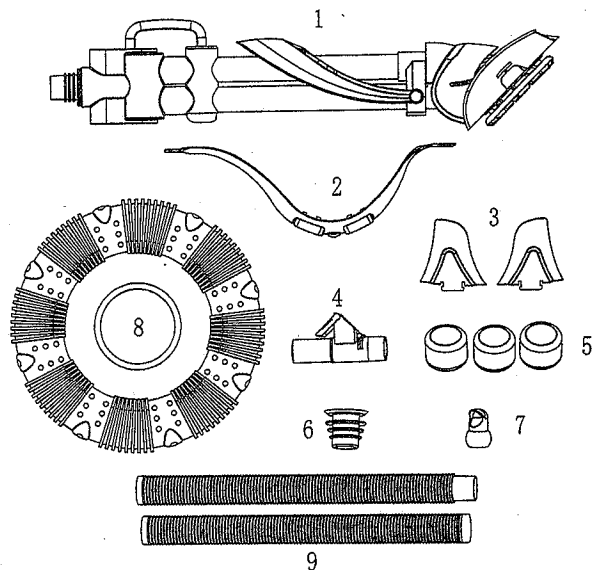
Before assembling and installing your cleaner, your pool should be clean and algae-free so as not to inhibit the cleaner's traction. If necessary, make the following preparations before proceeding:

1. Chemically balance the pool water.
2. Brush pool and let the debris settle.
3. Hand vacuum thoroughly.
4. Clean filter and pump strainer basket.

Cleaner Components

Remove the body and all parts from the box. Check to be sure that all components are included.

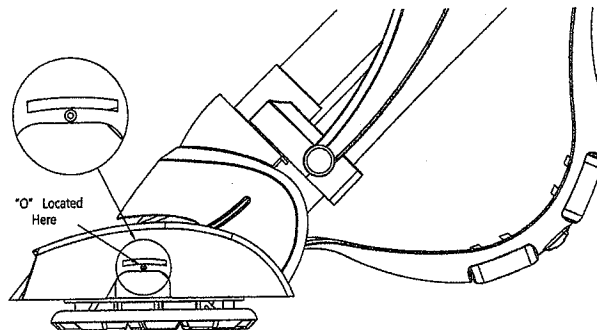
1. Cleaner Main Body
2. Bumper Assembly
3. Wings
4. Automatic Regulator Valve
5. Hose Weights
6. Hose Can
7. Eyeball Diverter
8. Pleated Seal
9. Hoses 3.28 ft per section
(11 Male/Female, 1 Female/Female)



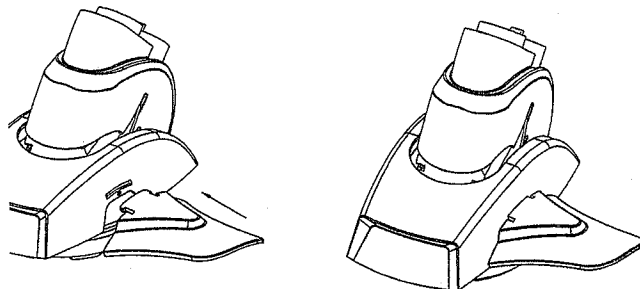
II. ASSEMBLING THE CLEANER

Step 1. Attach the Wing

1. Looking at the front right of the cleaner main body, locate the + on the right side of the body.



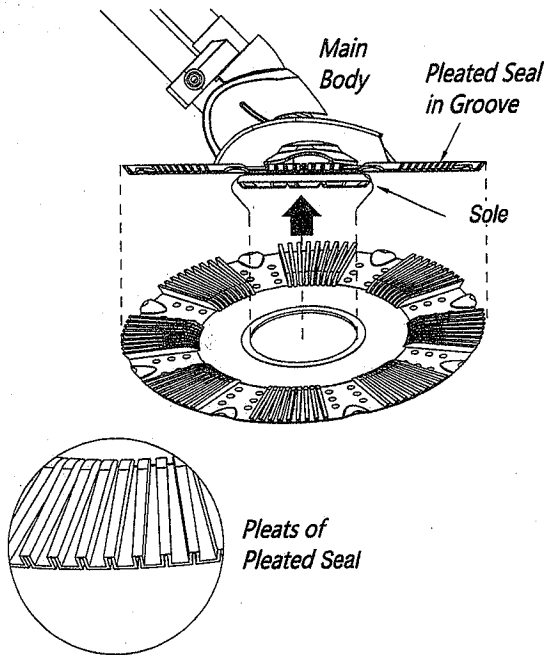
2. Lay cleaner on its side so the + is facing upward.
3. Locate the wing on the + on the right inner wall of the wing.
4. Hold wing at an angle and place the left side into the slot on cleaner, then the right side into slot, being sure to hook the wing securely in the tab inside the body of the cleaner.



5. Gently pull on wing to ensure it's secure.
6. Turn over cleaner to the left side and repeat steps 4 & 5 by inserting the left wing marked 'o' to the left side of body marked 'o'.

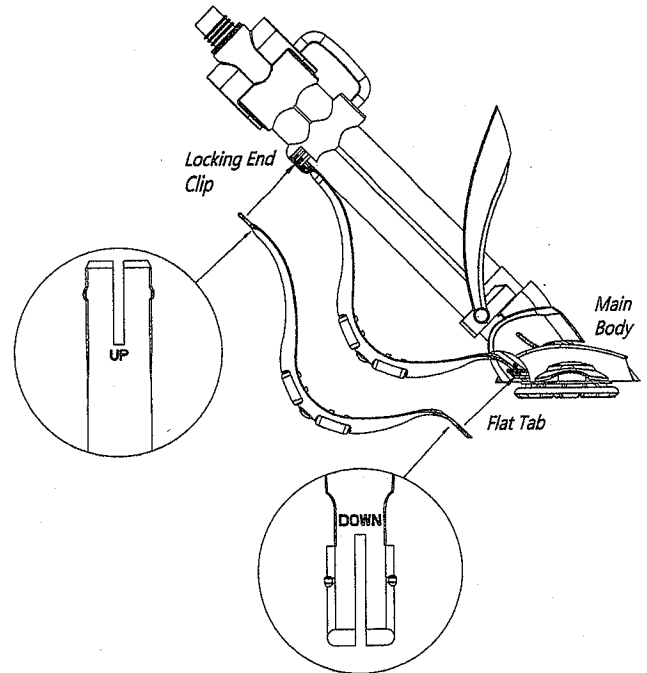
Step 2. Attach the Seal

1. Locate the words 'UP' on the seal and face toward the main body.
2. Slip the seal over the footpad (flat side facing pool floor). Gently pull until the seal sits in the groove on the other side. Be sure to install the seal with the flat side down and contoured side face up (the seals are not reversible).
3. The seal should rotate freely.



Step 3. Attach Bumper Strap Assembly and Adjust Dive Float Restrictor

1. Insert the bottom end of the strap into the slot provided on the main body. Insert the top end of the strap into the locking clip attached to the swivel head. Be sure both ends are inserted.
2. To adjust dive float assembly, locate two small tabs directly below dive float assembly. Rotate both dive float restrictors into the up position to prevent climbing or standard down position.



Step 4. Assemble Hose & Hose Weights

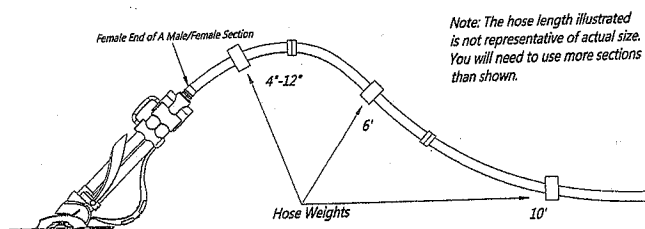
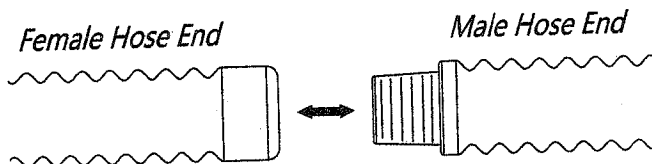
- To connect the hose sections, wet the ends in the pool water, then twist and push the female ends onto the male ends.
Note: One of the hose sections has two (2) female ends. This section should be fitted last and attached to pool vacuum connection.
- The hose should reach from where the suction pool cleaner is connected to the farthest point of the pool, plus one section.
- Your cleaner comes with three hose weights. Attach hose weights to the hose based on **Table A**. The number of hose weights is determined by the maximum depth of your pool. The hose weights help to neutralize the hose's buoyancy in water.

TABLE A

Pool Depth	Weight Placement
4 feet or less	1 weight: 4 to 12 inches from body's swivel head
More than 4 feet, less than 7 feet	2 weights: 4 to 12 inches, one 6 feet from the swivel head
More than 7 feet, less than 12 feet	3 weights: one 4 to 12 inches, one 6 feet and one 10 feet from the swivel head
More than 12 feet	4 weights: one 4 to 12 inches, one 6 feet, one 10 feet, and one 12 feet from the swivel head

- Connect the hose to the cleaner.
- Install the hose protector on the female/female hose section. Then connect the female/female end to the vacuum connection.

Note: May substitute 4 inch Female/Female hose.

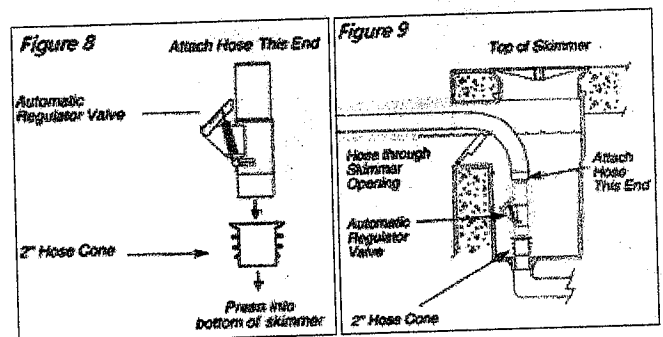


III. INSTALLING THE CLEANER

Standard Installation

The cleaner is designed to work in a wide variety of swimming pools. For pools with one skimmer, use the automatic regulator valve. During this installation, the automatic regulator valve automatically balances the water flow between the skimmer and cleaner. The valve automatically adjusts to changes in the amount of water flow to provide the cleaner with the power necessary to ensure proper cleaning performance. We strongly recommend the use of the automatic regulator valve for maximum safety and performance.

- Turn the pool pump off.
- Close the main drain and all suction lines, except the line from the skimmer to which the cleaner will be connected.
- Remove skimmer basket.
- Press the 2" hose cone into the vacuum connection in the bottom of the skimmer, as shown in **Figure 9**.
- Press the automatic regulator valve into the 2" hose cone. The end of the valve that is marked with arrow must point down, as shown in **Figure 8**.
- Place cleaner into the pool and allow it to sink to the floor. Continue to feed the hose vertically down into the pool until it is completely filled with water and purged of air.
- Slide the hose protector into position on the hose to prevent the hose body from rubbing against the skimmer wall.
- Insert the end of the hose through the skimmer opening and connect the hose directly onto the automatic regulator valve.



IV. CLEANER ADJUSTMENTS & OPERATION

After completing the installation, turn the pool pump on. Allow the pump to run for a couple of minutes to ensure all air cycles out of the system. The cleaner should be moving about the pool at a rate of 8 to 12 feet per minute. Check each of the following initial adjustments to the cleaner at this time.

Hose Length

IMPORTANT: The pump must be on when you check the hose length. The hose contracts when the pump is operating and will be longer when the pump is off.

With the cleaner operating:

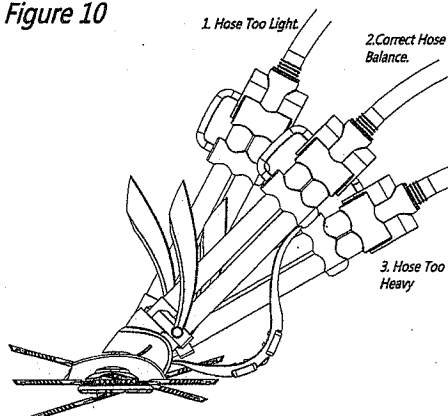
1. Position cleaner at the furthest point of the pool from where it's attached. (Use a pool pole and brush to easily position the cleaner in the pool).
2. The cleaner's hose should be long enough to reach the end of the pool, plus one hose section.
3. If there is excess hose, be sure to remove the sections from the center portion of hose. This avoids disturbing the hose weight placement.
4. Save extra hose section for use as needed for replacement.

NOTE: Turn pool pump off when adding or removing hose sections.

Hose Balance

To determine correct hose balance, turn the pump off and observe the cleaner. Hose balance is correct when the cleaner's seal rests flat on the pool floor and the diver tubes make a 45 degree angle with the floor, as shown in **Figure 10**. The cleaner achieves the best cleaning coverage when the hose neither weights down nor pills up on the unit. Adjust hose weights one inch at a time as needed, until proper hose balance is achieved. In pools with both shallow and deep areas, adjust hose weights first in the deep area and then in the shallow area.

Figure 10



1. **Hose Too Light.** If the hose rises towards the surface at an angle greater than 45°, move the weights closer to the cleaner, or move the first two weights closer to each other.
2. **Correct Hose Balance.**
3. **Hose Too Heavy.** If the hose sags downward to an angle less than 45°, move the weights away from the cleaner, or separate the first two weights away from each other.

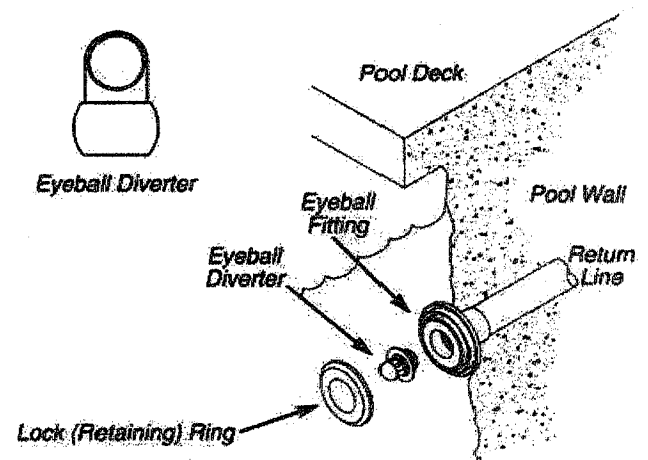
Return Line Water Flow

IMPORTANT: The water flow from your return line can push the cleaner's hose and affect its performance. It may cause the cleaner to steer away from the end of the pool where the return line is located, or it may cause the cleaner to remain in one section of the pool. To correct this, use the eyeball diverter included with your the cleaner.

To Install the Eyeball Diverter

1. First make sure your pool pump is off. Remove the original eyeball from the return line at the pool by unscrewing the lock ring.
2. Replace the original eyeball with the cleaner eyeball diverter.
3. Replace the lock ring and tighten. Make sure the opening of the eyeball diverter points in the proper direction before tightening fully. See "Eyeball Diverter positions" below.

Figure 11



To Install the Eyeball Diverter

1. First make sure your pool pump is off. Remove the original eyeball from the return line at the pool by unscrewing the **Eyeball Diverter Position**.

Position the diverter opening to redirect the return line water flow so it does not interfere with the cleaner's movement. Try different positions to see which works best in your pool:

1. Flow directed along the side of pool (the tile line).
2. Flow directed downward
3. Flow directed against the hose will help steer the cleaner away from obstructions such as stairs and ladders.

After installing the eyeball diverter, turn the pool pump on. The cleaner should begin moving across the pool floor vacuuming up debris in its path.

V. TROUBLESHOOTING

Because of the individual characteristics of your pool, some additional adjustment may be required to get the best performance from your cleaner.

If there seems to be a problem, check these common causes of cleaner problems.

--Is bottom main drain closed?	Close drain
--Is filter clean?	Clean filter
--Is pump strainer basket clean?	Clean basket
--Is debris blocking the bottom of the cleaner?	Remove debris
--Are there any leaks in the hose?	Replace leaky section
--Is automatic regulator valve free of debris?	Clean valve

If the cleaner is not moving or not pulsating

1. Check to ensure that the main drain and all suction lines are closed, except for the suction line to which the cleaner is attached.
2. Check for debris in the filter or pump basket.
3. Check for debris in the cleaner's flapper. Debris may prevent flapper movement or restrict flow.
4. Pool pump and filter system may be too small (incapable of providing 20 gallons per minute water flow). Consult your pool professional.

If the cleaner stays at one end of the pool

1. Check the return line water flow and redirect as necessary with an eyeball diverter.
2. Check that hose is long enough to reach to end of pool.
3. Check that the cleaner has proper hose balance.

If the cleaner stays on main drain

1. Check to ensure that main drain is closed. A pool professional may need to assist you.
2. Check to ensure that a main drain grate is installed.
3. If main drain is not flush with the pool floor, consult your pool professional.

If the cleaner slows or stops and air bubbles enter the pool at the return line.

Find and correct the air leak that is causing the pump to lose its prime.

1. Check the hose to ensure there are no leaks.
2. Check the vacuum connection. It should be submerged so no air enters the system.
3. Check the pump basket lid for looseness, cracks, and worn or missing O-rings. If you need assistance, contact your pool professional.

If the cleaner pulls air from, or remains at, the water surface.

1. Check to ensure the dive float mechanism is operating freely and the dive float restrictor is installed. (See page 3 for how to install dive float restrictor.)
2. Check the automatic regulator valve for its proper installation and ensure it is not clogged with debris.
3. Make sure the water level is at least 3 inches below the pool deck.
4. Check to insure the cleaner is operating at the proper speed of 8-12 feet per minute.

If the cleaner stays at the shallow end steps.

1. Check the return line water flow and re-direct as necessary with an eyeball diverter.
2. Check the automatic regulator valve for its proper installation and ensure it is not clogged with debris.
3. Check that hose is long enough to reach the furthest point of the pool, including pool steps.
4. Check that the cleaner has proper hose balance in shallow end.

5. Check to ensure the cleaner is operating at the proper speed of 8-12 feet per minute.
6. Check to ensure the dive float mechanism is operating freely and the dive float restrictor is installed. (See page 3 for how to install dive float restrictor.)
7. Shorten the roller bumper strap by 1/2 inch. (Pull out upper end of bumper strap from locking end clip attached to swivel head .Cut 1/2 inch off, then return bumper strap into locking end clip.)
2. If debris is still lodged inside, you must remove the flapper. First, get rid of four lids in the foot pad, unscrew it, and then remove it from the main body. In secession, take out the screw from baffle plate, pull it out and lastly, remove the flapper. See **Figure 13**.
3. Once the debris is dislodged, insert the flapper back into the main body and snap the baffle plate back into position. Be sure that it is securely in place. See **Figure 13**.

If the cleaner tracks in a repetitive pattern.

1. Check the swivel on the top of the cleaner. It should turn freely.
2. Check the return line water flow and re-direct as necessary with an eyeball diverter.
3. Check the cleaner's hose to ensure it has not become bent or kinked. It only takes one bent or kinked hose section to hinder the cleaning coverage. One way to check for kinks in your hose is to lay each section flat on your pool's deck (or other flat surface). The hose should be perfectly straight and flat. Do not coil the hose when taking your cleaner out of the pool because it will retain the coil shape, forming a bend or kink.

To Remove Debris from the Flapper

1. Sometimes debris may clog the bottom of the cleaner and prevent flapper movement or restrict flow. The flapper is located inside the main body and must move freely at all times. You can see the flapper through the opening in the baffle plate, when you turn the cleaner upside down as shown in **Figure 12**. Jiggle the flapper with your finger or flush the cavity with a hose to force out any debris lodged inside the main body.

Figure 12

Bottom View of Cleaner

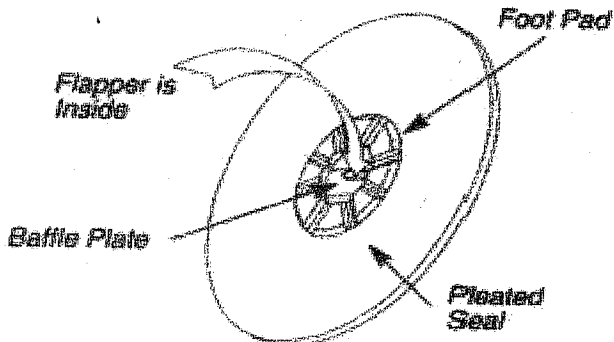
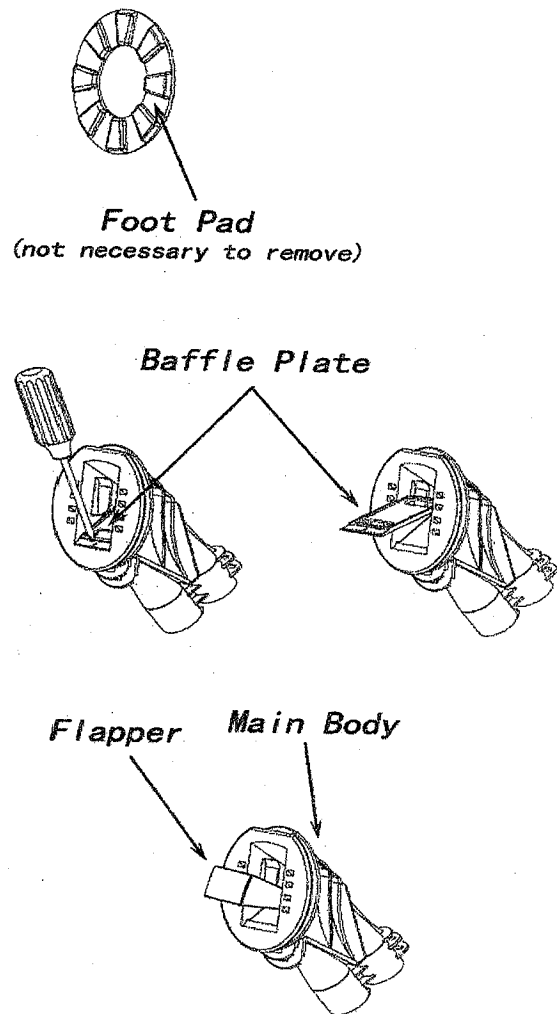


Figure 13



VI. MAINTENANCE

The cleaner requires almost no maintenance. Visually inspect your cleaner from time to time to make sure that:

1. The flapper is moving freely and is not obstructed by debris.
2. The foot pad is not excessively worn. When the traction pads on the bottom have worn down, it is time for replacement.

When storing the cleaner, do not coil the hose. Lay the hose flat IN an area protected from direct sunlight. If hose sections are disconnected, try not to disturb the hose weight locations.

The cleaner's hose is specially designed to ensure optimum performance for the cleaner.

Disclaimer of Liability about your pool and the cleaner

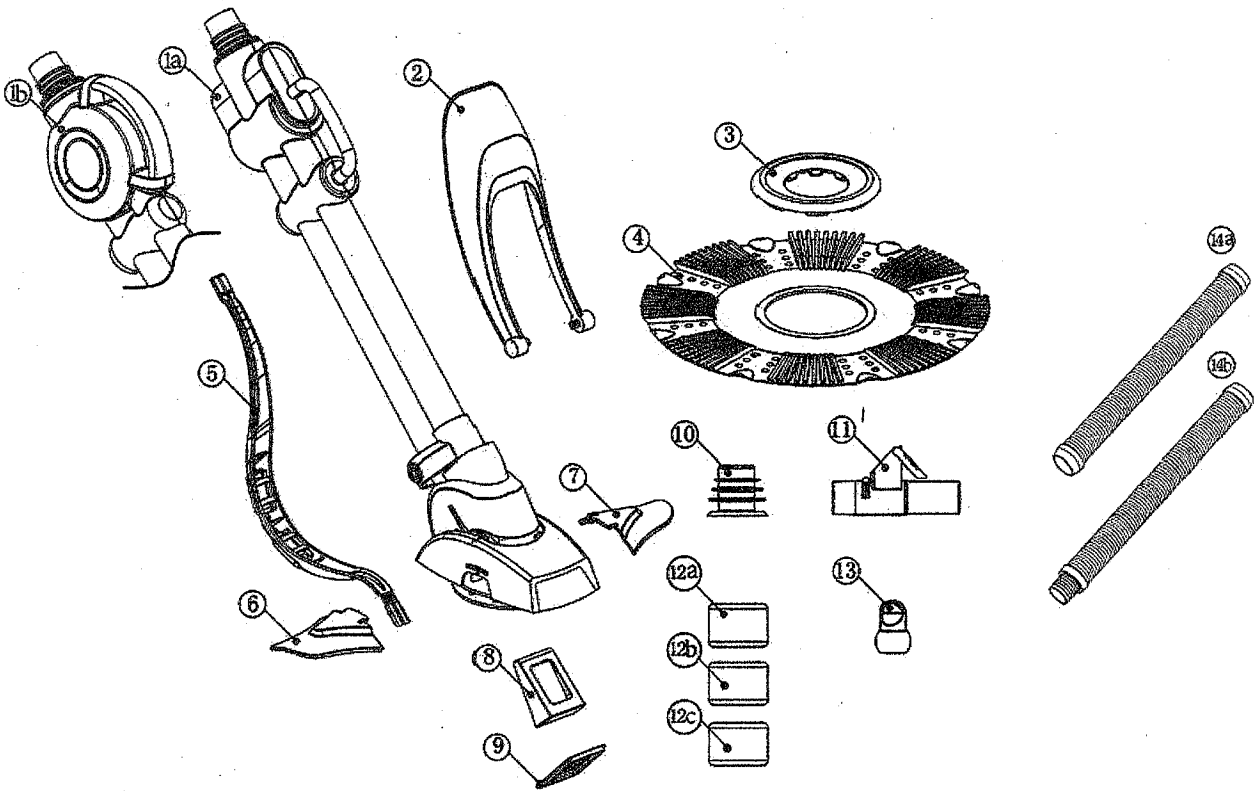
There are a multitude of factors that contribute to the life of your pool. The automatic pool cleaner is a very passive product that will have no impact on pool life.

Please be aware that over time, deterioration, discoloration and brittleness of any pool finish can be caused separately by, or in combination with, age, an imbalance in pool water chemistry, improper installation and other factors. An automatic pool cleaner, such as the cleaner, will not remove or cause wear on "good" pool plaster. In fact, the opposite is true-pool plaster will eventually cause wear on the cleaner.

The same situation holds true for vinyl-lined in ground swimming pools, because vinyl liners are also affected by the environment and factors such as pool water chemistry, sunlight and the pool's surroundings. Therefore over time, vinyl can become brittle and weak. In addition, vinyl-lined pools are affected by the workmanship, composition and installation of the liner and the workmanship and quality of construction of the supporting walls and pool base. These are all factors which can contribute to liner failure. The existence of any of these type of conditions in your pool is not caused by the use or operation of the cleaner. The manufacturer disclaims any liability for repairs or replacement to any of these structures or components of the customer's pool.

The pool owner must assume all responsibility for the condition and maintenance of the pool's surface, water and deck.

ProVac Plus Cleaner Item #' 90590



REF No.	PART NUMBER	DESCRIPTION	No. REQ'D
1a	647323072000	Main Body with Square Head	1
1b	647322071000	Main Body with Round Head	1
2	647323071000	Dive Float	1
3	47325020042	Foot Pad	1
4	47325019042	Pleated Seal	1
5	647323073000	Weight Holder (includes dive float restrictor set)	1
6	47323015042	Right Wing (marked with +)	1
7	47323014042	Left Wing (marked with O)	1
8	47325012042	Flapper	1
9	47325013042	Bottom Cover	1
10	47325001000	Hose Cone	1
11	647325075000	Automatic Regulator Valve	1
12	47325025061	Hose Weight	3
13	47325021001	Eyeball	1
14a	47325029017	3.28 Foot Hose - Male/Female End	11
14b	47325030017	3.28 Foot Hose - Female/Female End	1

1 Year Limited Harris Pool Products® Cleaner Warranty

Please read installation instructions before installing cleaner.

This cleaner was inspected before shipment from our warehouse. To original purchasers of this pump, Harris Pool Products™ 10411 80th Avenue, Pleasant Prairie, Wisconsin, warrants its products free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Parts which fail or become defective during the warranty period, except as a result of freezing, negligence, improper installation, use, or care, shall be replaced, at our option, without charge, within 90 days of the receipt of defective product, barring unforeseen delays.

After 90 days, to obtain warranty replacements, defective components should be returned, transportation paid, to the place of purchase. For further Harris Pool Product's™ service, contact Harris Pool Product's™ customer care department. No returns may be made directly to the factory without the express written authorization of Harris Pool Products™.

To original purchasers of this cleaner, Harris Pool Products®, warrants its cleaners housing to be free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Parts which become defective during the warranty period, except as a result of freezing, negligence, improper installation, use or care, or as the result of a use in association with an automatic valving system.

All other conditions and terms of the standard warranty apply.

Harris Pool Products™ shall not be responsible for cartage, removal and/or reinstallation labor or any other such costs incurred in obtaining warranty replacements.

The Harris Pool Products™ warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.