

Navigator & Pool Vac Ultra



Table of Contents



Safety Precautions	Page 1
Navigator and Pool Vac Ultra Overview	Pages 2-4
Installation	Pages 5-8
Major Components	Pages 9-10
Disassembly & Parts Replacement	Pages 11-26
Troubleshooting	Pages 27-36

Safety Precautions

- Use only the gauge provided to check the system vacuum (or suction).
- Never use your hand to verify the amount of vacuum at the skimmer or dedicated suction line.
- Keep hands and fingers away from the access cover and any moving part while the cleaner is operating.
- Never operate the cleaner with people or pets in the pool.
- Never operate the cleaner unless submerged under the water.
- A dedicated suction line should have a Vac Lock installed for safety.

Navigator & Pool Vac Ultra Overview

Hayward currently offers two suction cleaners for in-ground pools, the Navigator and the Pool Vac Ultra (PVU) and each version has a model designed for Gunite or Vinyl applications. While the colors, shell shapes, and names may be different, the majority of the major components of these cleaners are interchangeable.



We will refer to all versions as “cleaner” throughout this presentation.

Pre-Installation Checklist

The majority of issues experienced with the cleaner are due to improper installation or expectations. The following pre-installation checklist will ensure correct performance.

- Is the pump size adequate to supply enough suction to operate the cleaner (use the flow gauge)?
- If using the skimmer, does it have one port or two? If only one port, the main drain may need to be shut off.
- If you have a dedicated suction line, make sure it is the right size (at least 1 ½”) and has a “Vac-Lock” for safety.
- The pool must have at least a 12” radius to climb walls.
- The cleaner is not designed to be used to clean a pool with heavy construction debris or heavy storm debris. It is designed to maintain a clean pool.
- The cleaner will not clean steps and loveseats, and may not work well under a cover.

Pre-Installation Checklist Continued

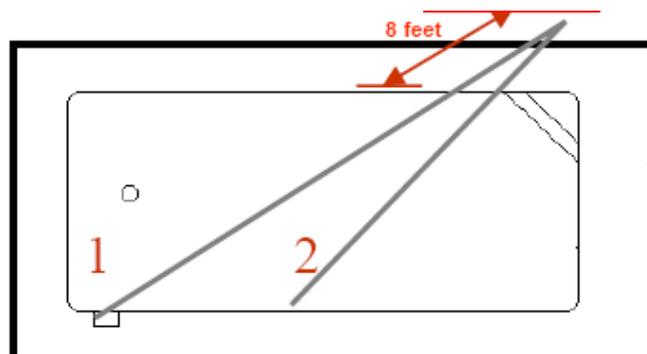
- **Remove all large objects from the pool that could interfere with the operation of the cleaner.**
- **Treat and remove algae from the pool water and surfaces.**
- **Check and balance the water chemistry.**
- **Make sure the water level in the pool is correct.**
- **Clean or backwash the filter.**
- **Empty the pump strainer and skimmer baskets.**



Installation

1. Starting with the leader hose, connect the four foot hose sections until they reach eight feet (two hose lengths) past the furthest point.

NOTE: Although 10 hose sections are provided, the application may require more.



1. Skimmer
2. Dedicated

Installation

2. Fill the hose with water and eliminate all air that is trapped within the hose. This is done by submerging the entire hose.
3. Connect the **flow gauge** to the leader hose and clip it to the first hose as shown.
4. With the pump off, attach hose to the skimmer or 'Vac Lock.'



Installation

5. Turn the pump on and check the flow to the unit by using the flow gauge. The flow must be between the “min” and “max”. See Figure 1.

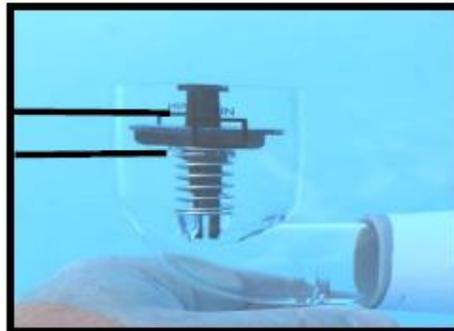


Figure 1

Note: A regulator valve (for skimmer) (Fig. 2) or a valve (for dedicated line) (Fig. 3) may be needed to reduce suction.



Figure 2



Figure 3

Installation

6. Remove the flow gauge and store for future use.
7. Check the rear flap adjuster at the left rear of the cleaner. It should be set to Position II. See Figure 4.
8. Check to make sure all returns are pointed down. Returns pointed up can interfere with the hose. Some pools may need directional eyeballs added.
9. Submerge the cleaner head and rotate to remove all air.
10. Remove the red label and connect the leader hose. See Figure 5.

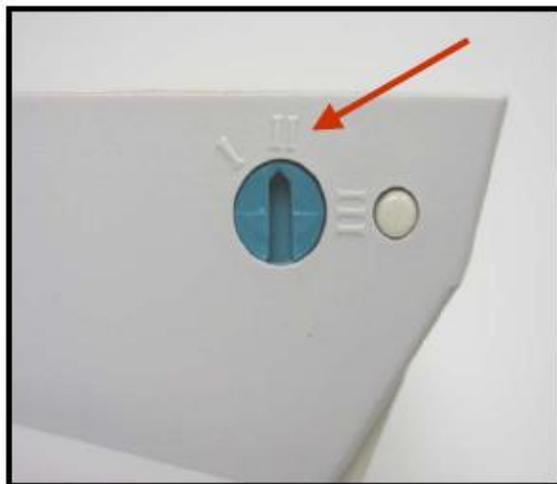
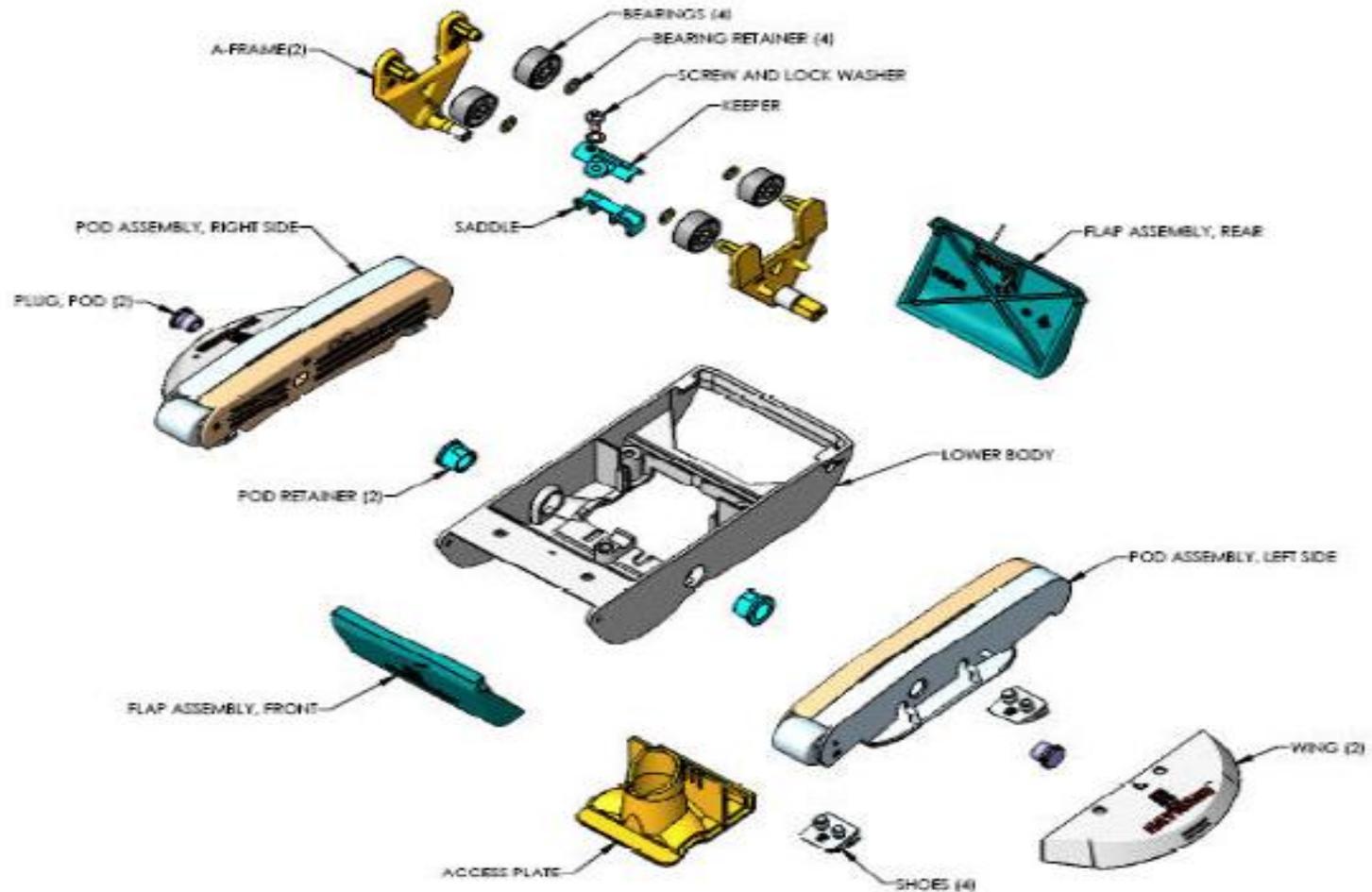


Figure 4



Figure 5

Lower Body Assembly



Lower Body Disassembly

1. Remove the access cover screw and cover. See Figures 6 & 7.



Figure 6



Figure 7

2. Unscrew the four lower body screws to remove the lower body. See Figure 8 & 9.



Figure 8



Figure 9

Wing Removal & Replacement

1. Using a screwdriver, remove the plugs from both pods. See Figure 10.
2. Remove the old wings by bending the wings up toward the side of the cleaner, and lift them off of their hooks. See Figure 11.



Figure 10



Figure 11

Wing Removal & Replacement

3. Replace the wings, making sure that you match the "L" (left) and "R" (right) of the wings to the correct pods. See Figures 12 & 13.



Figure 12



Figure 13

4. Replace the pod plugs and tap them into place with the screwdriver handle.

Pod Removal & Replacement

1. Remove the plug on each pod covering the pod screws. See Figure 14.
2. Unscrew and remove the pod screws and washers. See Figure 15.
3. Gently pry the pod off from the lower body of the cleaner. See Figure 16.



Figure 14



Figure 15

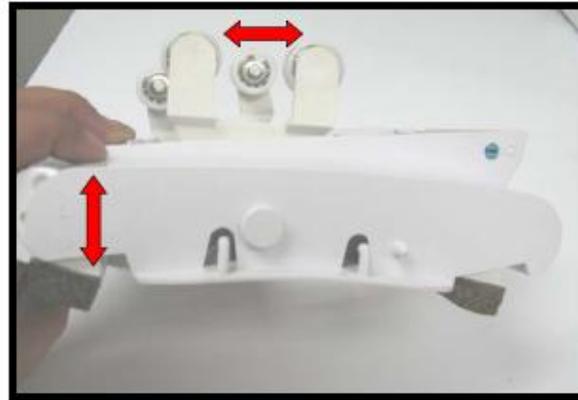


Figure 16

Pod Removal & Replacement

4. Inspect pods and A-frame for wear caused by loose connection between the two parts. See Figure 17.

Figure 17



Note: If either the pods or the A-frames are worn down, replace both for proper operation.

5. Replace the pods, making sure that you match the "L" (left) and "R" (right) of the pods to the correct side. See Figures 18 & 19.

Figure 18



Figure 19



Shoe Removal & Replacement

1. Insert a flat head screwdriver between the foot and shoe.
2. Using a lifting motion, remove the shoe from the foot. See Figure 20.
3. When installing the new shoe, make sure all water and debris are removed from the surface. The holes for the shoe and the posts on the shoes have matching sizes for proper positioning. See Figure 21.



Figure 20

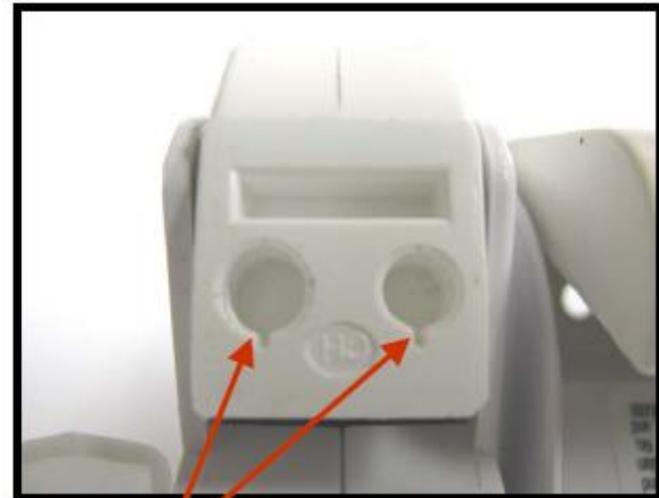


Figure 21

Note small and large holes.

A Frame Removal & Replacement

1. With a flathead screwdriver, remove the pod retainers (bushings) from the pods and A-frames on each side. See Figure 22.
2. Remove the screw and saddle assembly holding the pods in place from the inside of the lower assembly. See Figure 23.
3. Pull the A-frame arms in towards each other from inside the lower assembly to remove. See Figure 24.

Note: If either the pods or the A-frames are worn down, replace both for proper operation.

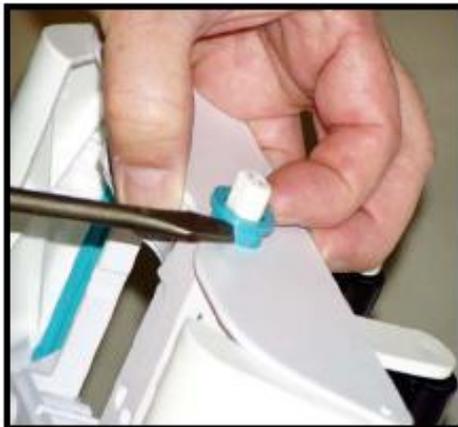


Figure 22

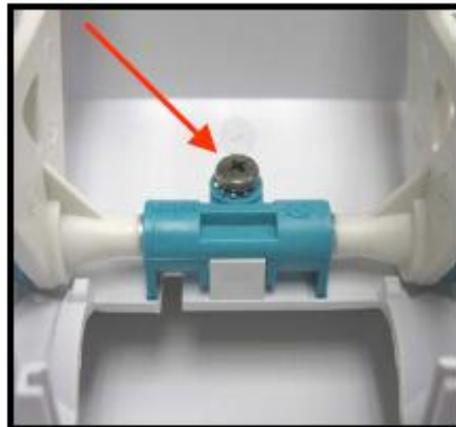


Figure 23

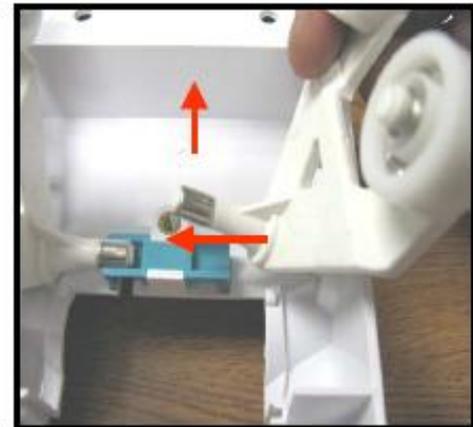


Figure 24

Flap Removal & Replacement

1. Prior to removal, note position of flap springs for correct replacement. See Figures 25 & 26.

Figure 25



Figure 26



2. Remove the front and rear flaps from the cleaner by inserting a small flathead screwdriver between the flap and the lower body near the pivot points. See Figures 27 & 28.

Figure 27



Figure 28



Flap Removal & Replacement

3. The flaps are marked "front" and "rear". When replacing, make sure they are installed in the correct location. See Figures 29 & 30.



Figure 29

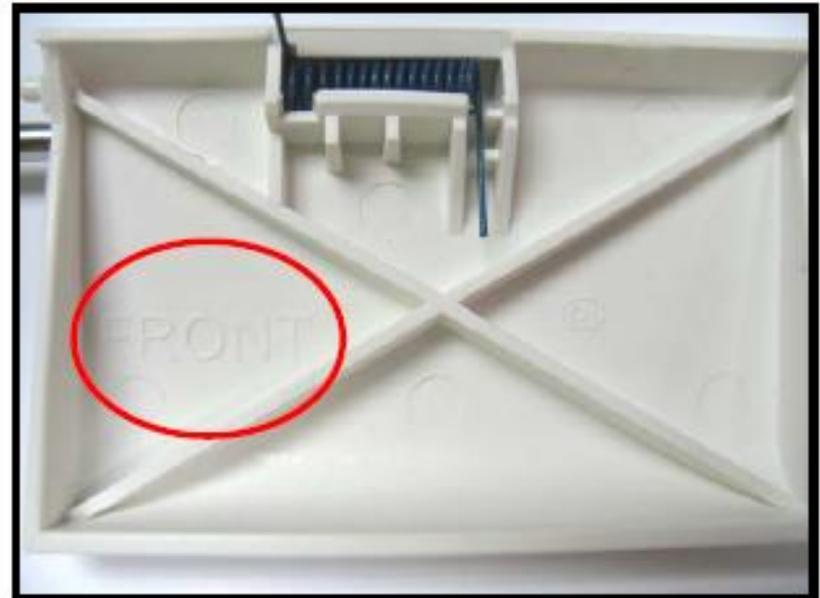


Figure 30

Middle Body Disassembly

1. Remove the four screws attaching the bumper to the lower middle body and remove bumper. See Figures 31 & 32.
2. Unscrew the two long screws holding the lower middle body to the upper middle body. See Figure 33.
3. Turn the cleaner upright and gently remove the lower middle body. See Figure 34.



Figure 31



Figure 32



Figure 33



Figure 34

Gear Box Removal

1. Pull up on the gearbox to remove. See Figure 35.
2. Pull up to remove the red disc and the white ring on the gearbox. See Figure 36.
3. Remove the top access plate to inspect the internal gears for damage or debris. See Figure 37 & 38.

Note: When removing the gears, lay them out in order for correct replacement. See Figure 38.



Figure 35

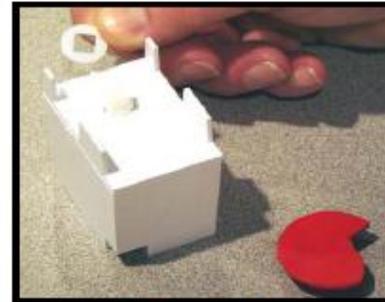


Figure 36



Figure 37

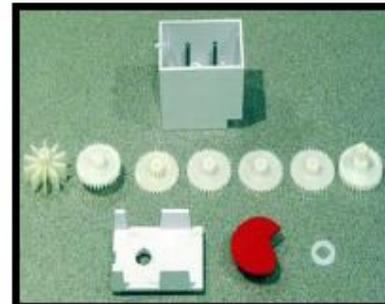


Figure 38

Turbine Assembly Removal & Replacement

1. Remove the turbine and bearings by pulling up the center of the turbine. See Figure 39.



Figure 39

2. Inspect bearings, turbine, and housing where bearings seat for wear. Any items that are worn require replacement. See Figures 40,41, and 42.



Figure 40



Figure 41

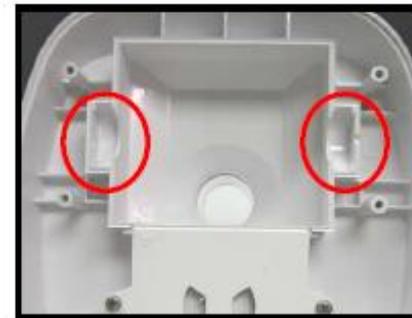


Figure 42

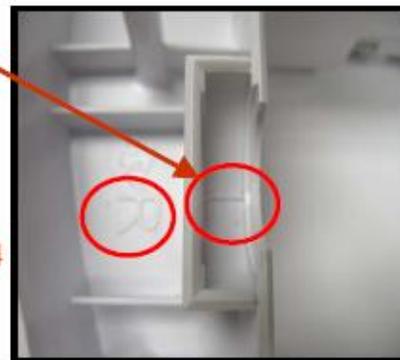
Turbine Assembly Removal & Replacement

3. The turbine and lower access cover are marked to ensure correct turbine replacement. When replacing, make sure the bearing outer race locks in position on the cover. See Figures 43 & 44.

Figure 43

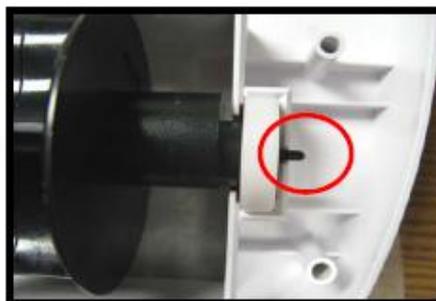


Figure 44



Note: When replacing the turbine assembly in older models, it may be necessary to remove the prong on the left side of the turbine. See Figure 45.

Figure 45



Medium Turbine and Upper Body

1. Remove the two screws holding the turbine assembly to the upper body. See Figure 46.
2. Ensure the turbine is clean and free-spinning. See Figure 47.



Figure 46

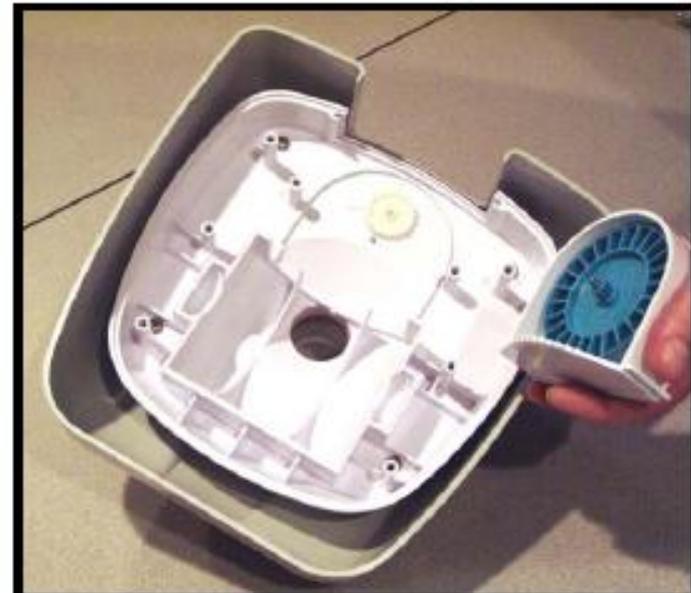


Figure 47

Medium Turbine and Upper Body

1. Remove the four screws holding the upper body to the shell. Note the length of the screws. See Figure 48.
2. Turn the cleaner upright and carefully remove the shell from the upper body assembly. See Figure 49.



Figure 48



Figure 49

Upper Gear and Medium Turbine

1. Both the clear cone gear and the black intermediate gear can be removed by lifting up. See Figures 50 & 51.
2. Remove the spindle gear screw to remove the spindle gear. See Figure 52.
3. When replacing any parts in this section, install a Medium Turbine Kit.



Figure 50



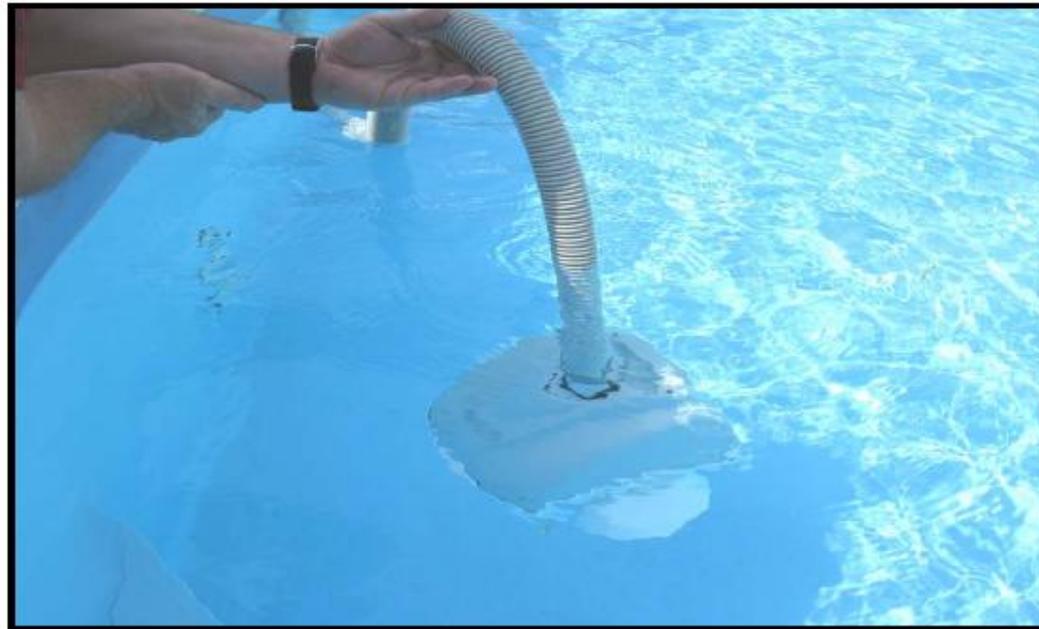
Figure 51



Figure 52

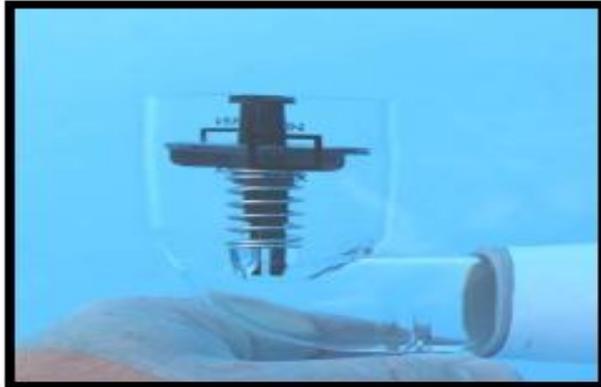
Troubleshooting

Hang Test: With the cleaner installed, filter pump on and the cleaner suction line fully open, raise the cleaner off the pool floor by the hose. Suspend the cleaner about one foot below the water line.



Hang Test Continued

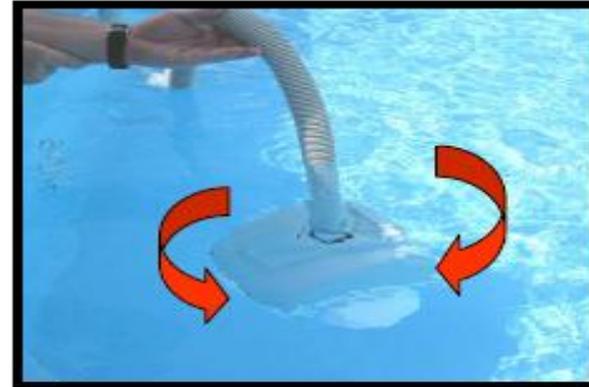
Step A Test suction reading.



If suction is OK, go to step B. If low or no suction, see page 7.

Step B

Does cleaner rotate in both directions in a 5 minute time period?



If cleaner rotates in each direction go to Step C. If not, See page 21.

Step C

Place the cleaner on the pool floor. If the cleaner is not moving, check the shoes for wear, the pool surface for algae, or the rear screen for debris.



Hang Test Continued

Step D

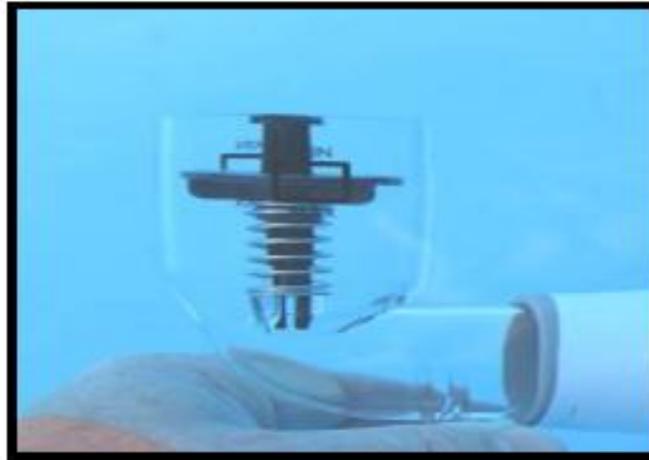
If the cleaner goes in circles in only one direction, or turns heavily in only one direction, there is excessive play between the A-frame and turbine, A-frame and pod, or both. Inspect both items for wear and replace if necessary.



Cleaner Moves Too Slow Or Fast

Step E

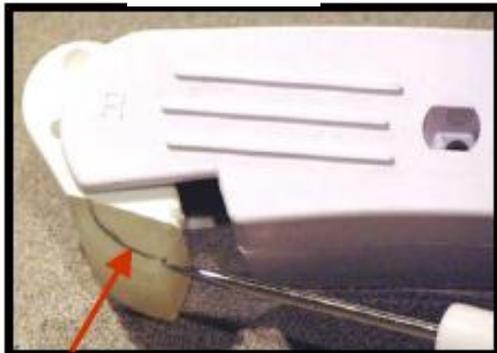
Verify the suction is correct.



If the suction is correct, go to step 2. Low suction, see page 7.

Step F

Check and replace any worn shoes, wings, or flaps.

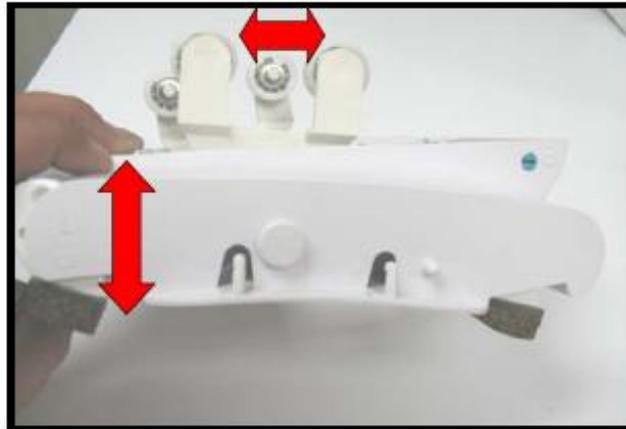


Note wear indicators on these parts

Cleaner Moves Too Slow Or Fast

Step G

Check to make sure pods are tightly connected to A-frames.



If connection is not tight, see page 17.

Step H

Perform Hang Test. See Page 27.



Hose Collapsing

Step I

If using the cleaner with a skimmer, make sure the angle where the hose attaches to the skimmer is not too sharp.



Step J

The suction is too great. Reduce the suction by using the regulator valve or plumbing valve with flow gauge supplied.



Cleaner Is Lifting Or Floating

Note: Since the cleaner is heavier than water, the only way it can float is from an external source. This is usually caused by air trapped in the cleaner or on the hoses.

Step K

Ensure all air is removed from the cleaner and hoses- refer to installation section.

Step L

Verify the cleaner hoses are tightly connected to prevent the suction of air.

Step M

The return jets may create water current which is moving the cleaner- redirect the jets.

Step N

There may be air bubbles on the outside of the cleaner hose caused by an air leak or ozonator. V130LF is a set of hoses designed for use when an ozonator is present.

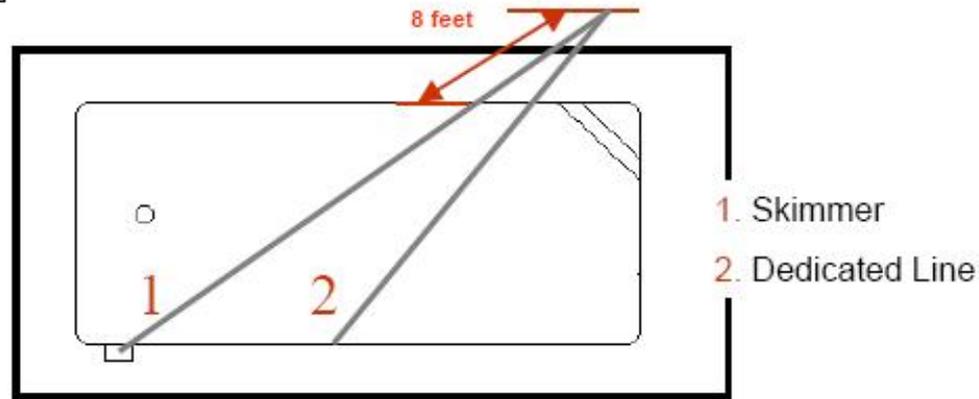
Hoses Twisting Or Coiling

Twisting: If the hoses are twisted like a pretzel, it is from a cleaner turning in only one direction. See page 27.

Coiling: Due to improper storage. Lay the hoses straight in direct sunlight to fix

Cleaner Gets Stuck In Corners or on Steps

Step O Check to make sure hose length is correct.



Step P Check return jets direction.

Step Q Check for worn shoes, wings or flaps.



Cleaner Gets Stuck In Corners or on Steps

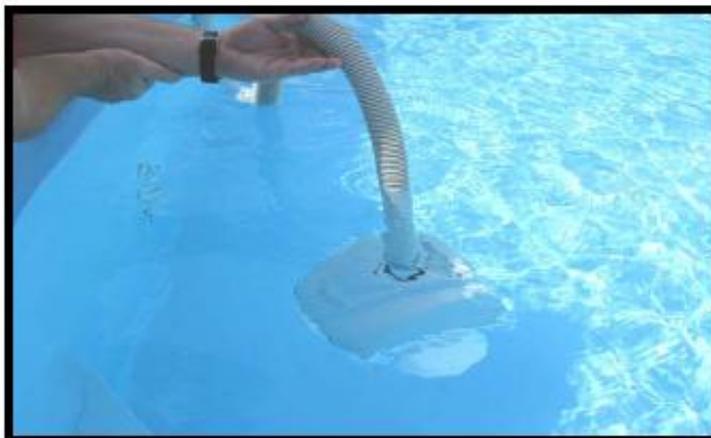
Step R

Adjust rear flap to #1.



Step S

Perform Hang Test. See Page 27.



Cleaner Does Not Climb Vinyl Walls

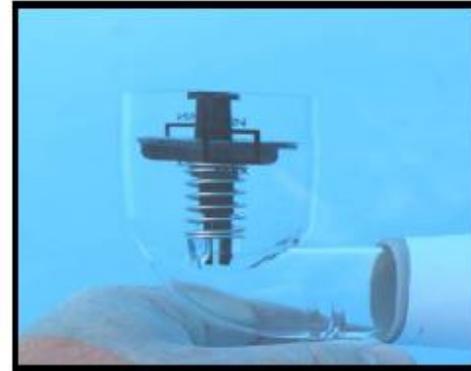
Step T

Verify cleaner has cork shoes and that they are not worn.



Step U

Check the suction amount and adjust if needed.



Step V

Adjust the rear flap to position # 3.

