

Navigator Pro, Pool Vac XL Navigator, Pool Vac Ultra Troubleshooting Guide

Pool Vac® XL
by **HAYWARD®**



HAYWARD®
Pool Vac Ultra®



Navigator® Pro
by **HAYWARD®**



HAYWARD®
Navigator®



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Safety Precautions

- Use only the “In Line Flow 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.

Cleaner Overview

This guide will cover the current *Navigator Pro* and new *Pool Vac XL* as well as the previous *Navigator* and *Pool Vac Ultra*. Each version has a model designed for Gunite or Vinyl applications. While the colors, shell shapes, names, specific areas of disassembly may be different, the majority of the major components of these cleaners are interchangeable.

Navigator Pro 2010



Pool Vac XL 2010



Navigator 2009 & Prior



Pool Vac Ultra 2009 & Prior



New style

Old style

We will refer to all versions as “cleaner” throughout this guide with notations as to old or new style.

Cleaner Overview

Contents of Unitized cleaner box

Hoses

9 connector

1 leader



Head

Skimmer cone

Manual

Flow Gauge

DVD

Regulator

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 or disabled.
- 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 7” 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.**



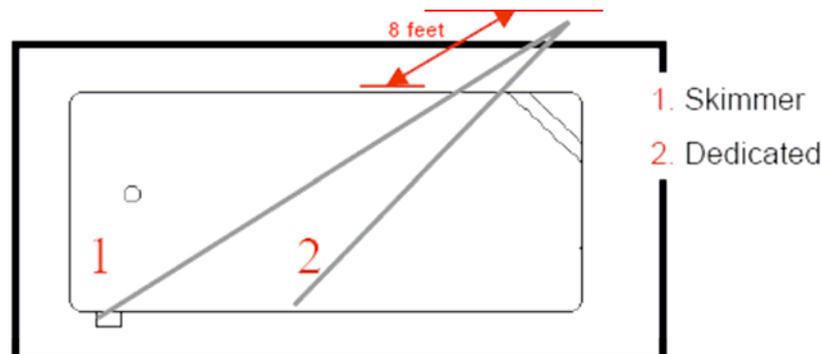
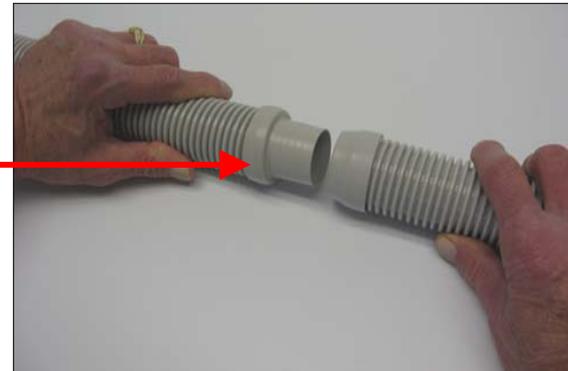
Installation

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 hoses section are provided, the installation may require more.

Connect hoses as shown

Leader hose is connected to the Cleaner head



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 (fig 1)
4. With the pump off attach hose to the skimmer (fig 2) or “Vac Lock” (fig 3)



Figure 1

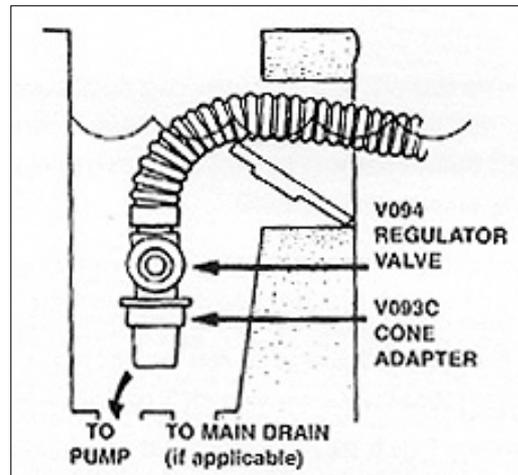


Figure 2



Figure 3

Installation

5. Turn the pump on and check the flow to the unit by using the flow gauge (submerged). The flow must be between the “min” and “max” (fig 4).

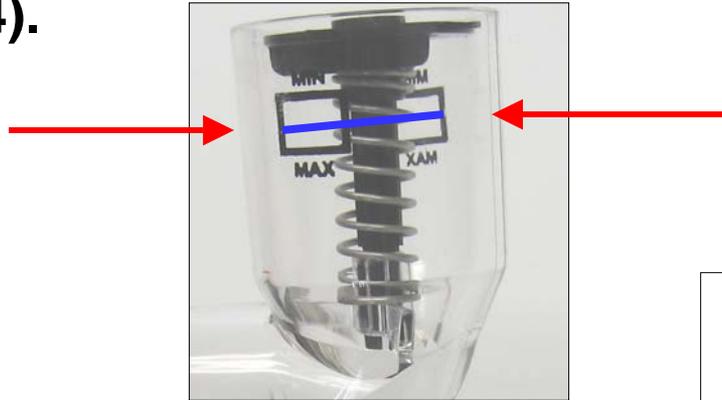


Figure 4

Note: A regulator valve (for skimmer) (fig 5) or a valve (dedicated line) (fig 6) may be needed to reduce suction.



Figure 5

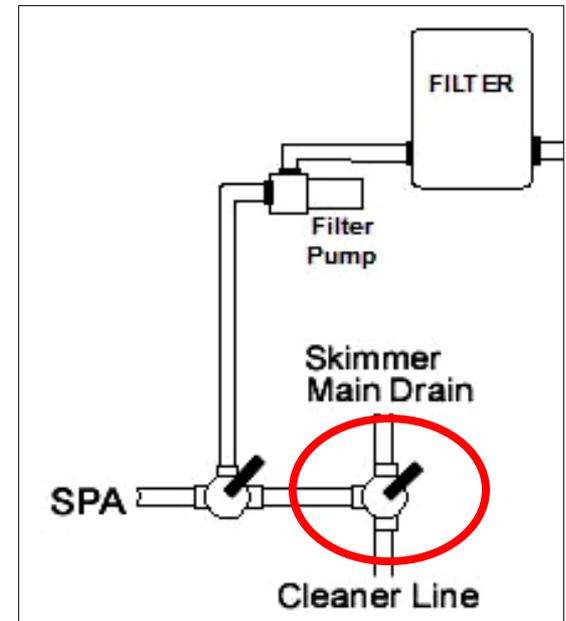


Figure 6

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 (fig 7)
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 (fig 8)



Figure 7

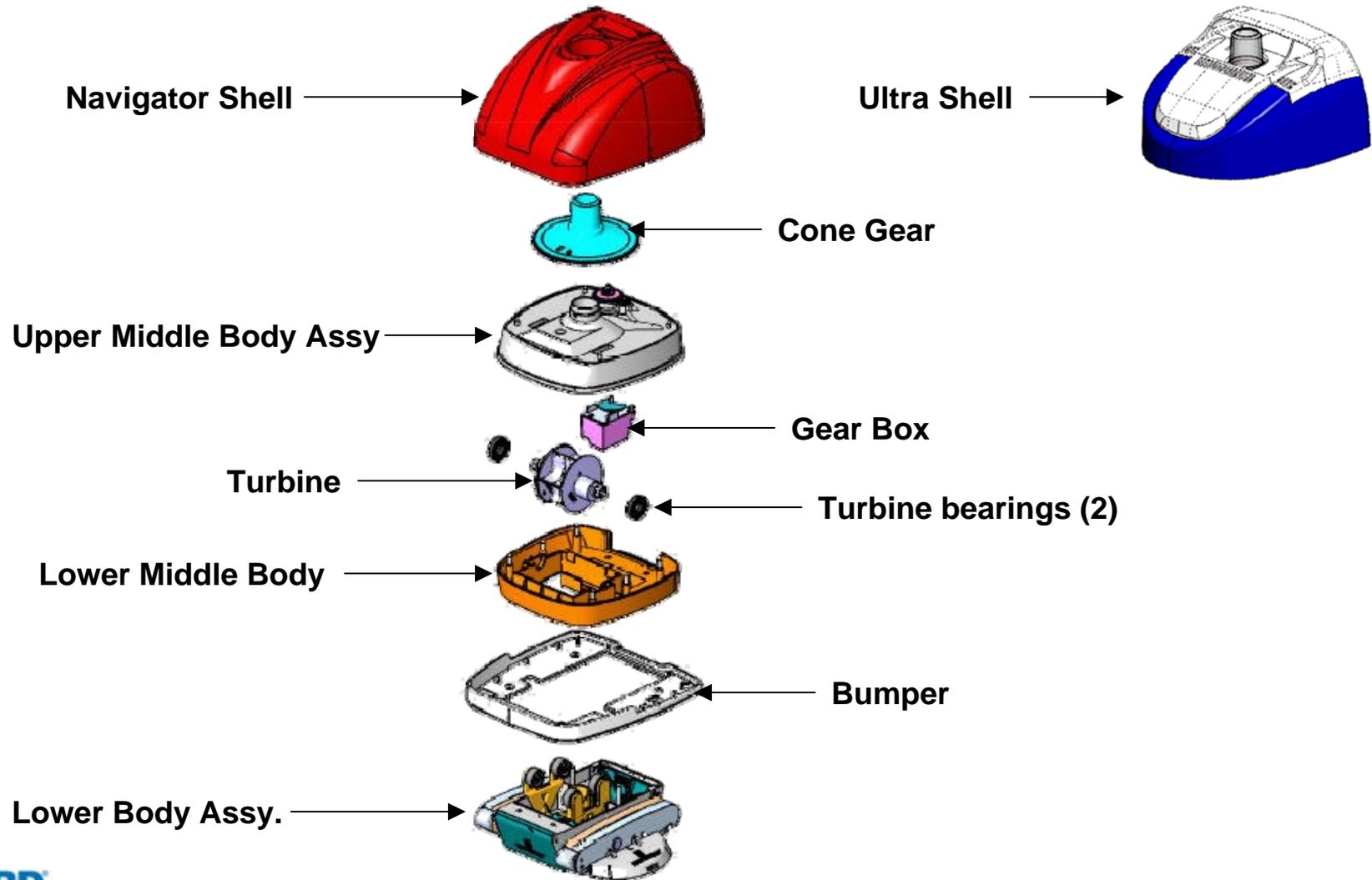


Figure 8

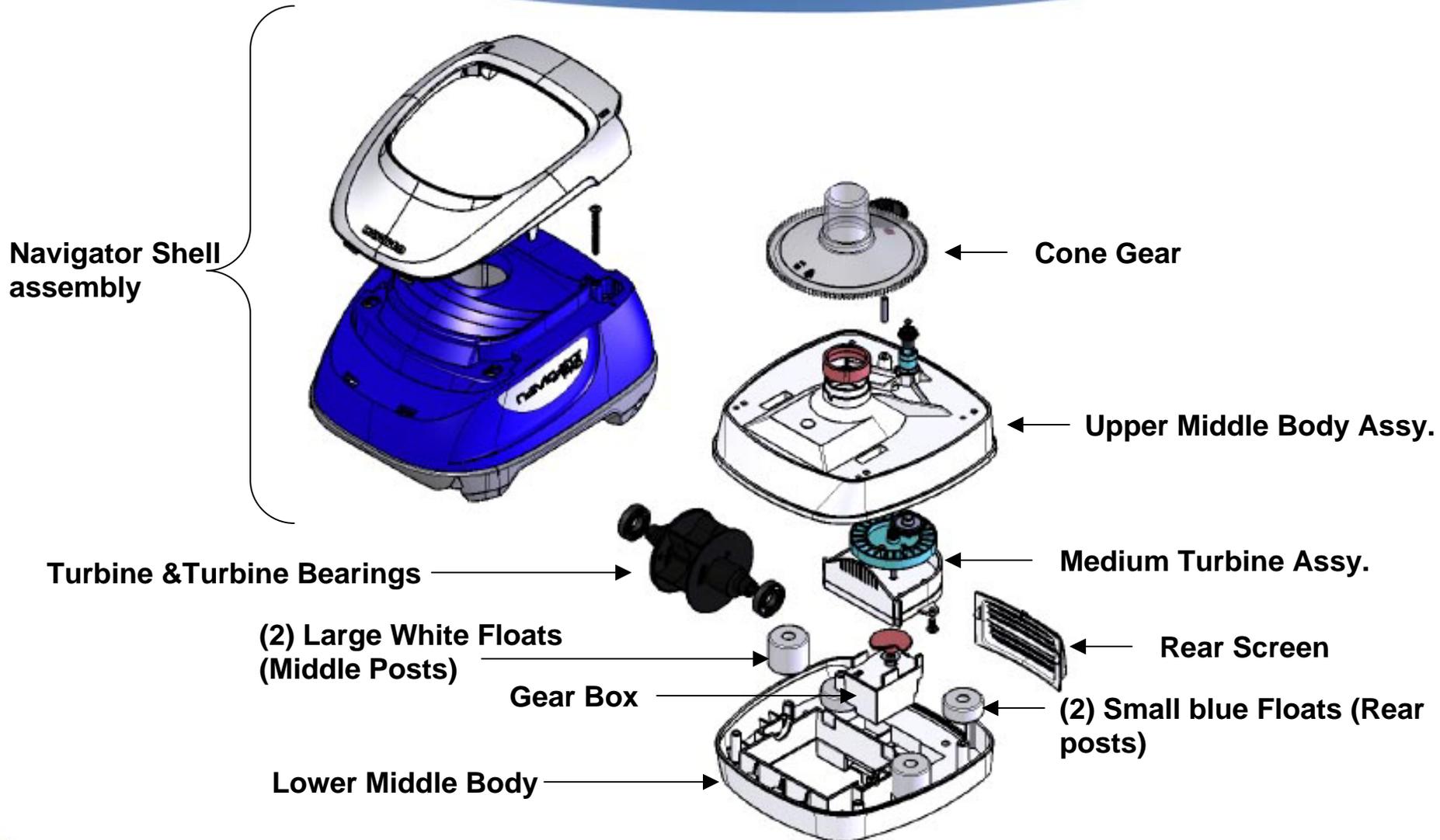
Operational Tips

- 1. Disconnect the cleaner from vacuum source during backwashing.**
- 2. Never coil the hose when cleaner is removed from pool. Always store straight.**
- 3. Never leave the leader hose attached to the head when it is out of the pool.**
- 4. Periodically check the water flow. Too much vacuum is as bad as too little.**
- 5. Periodically check the wings, flaps and shoes. Worn parts will affect the performance of the cleaner. Other parts damaged by worn out wear parts are not covered under warranty.**

Major Components Navigator & Ultra (Old Style)

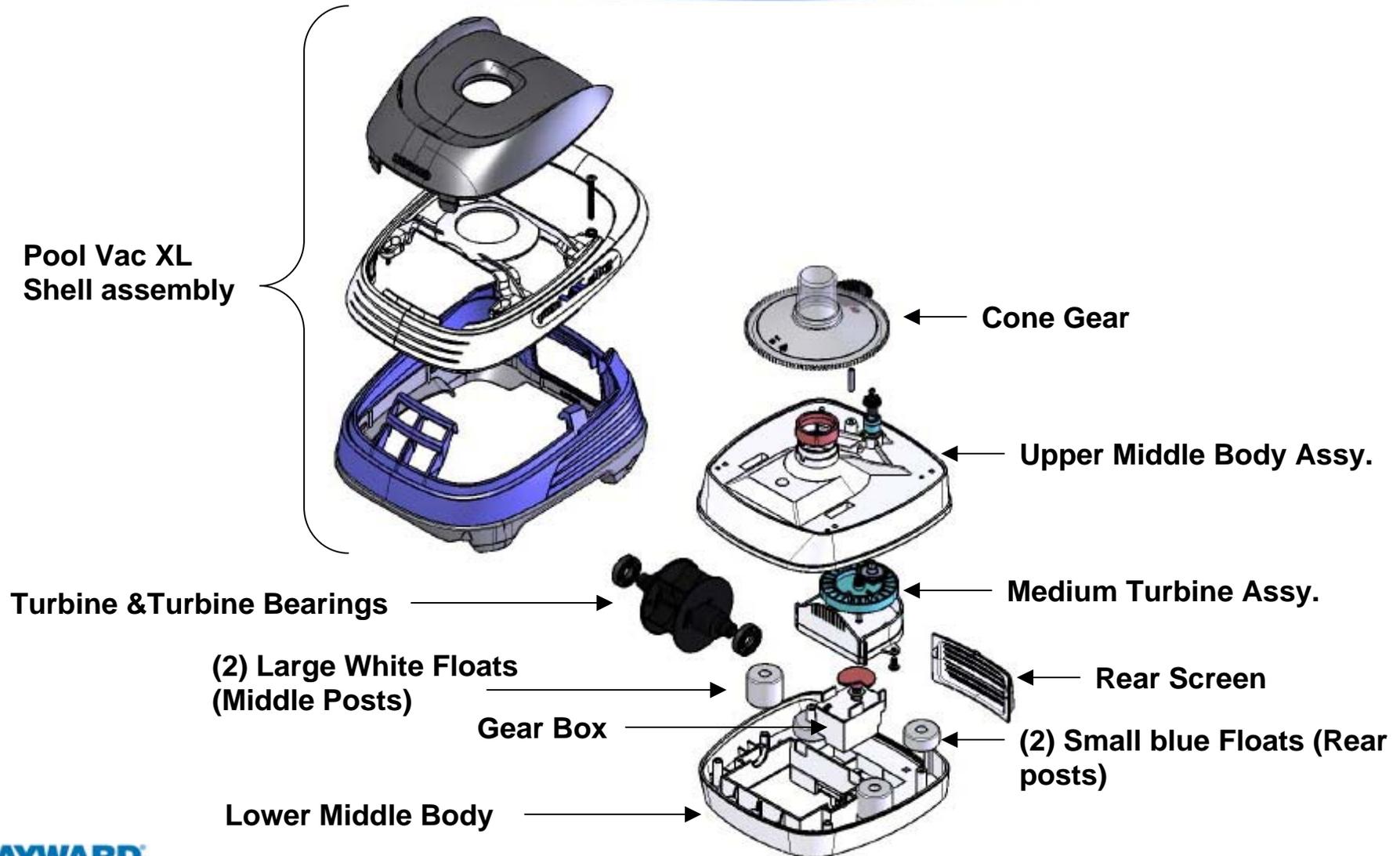


Major Components Navigator (New Style)



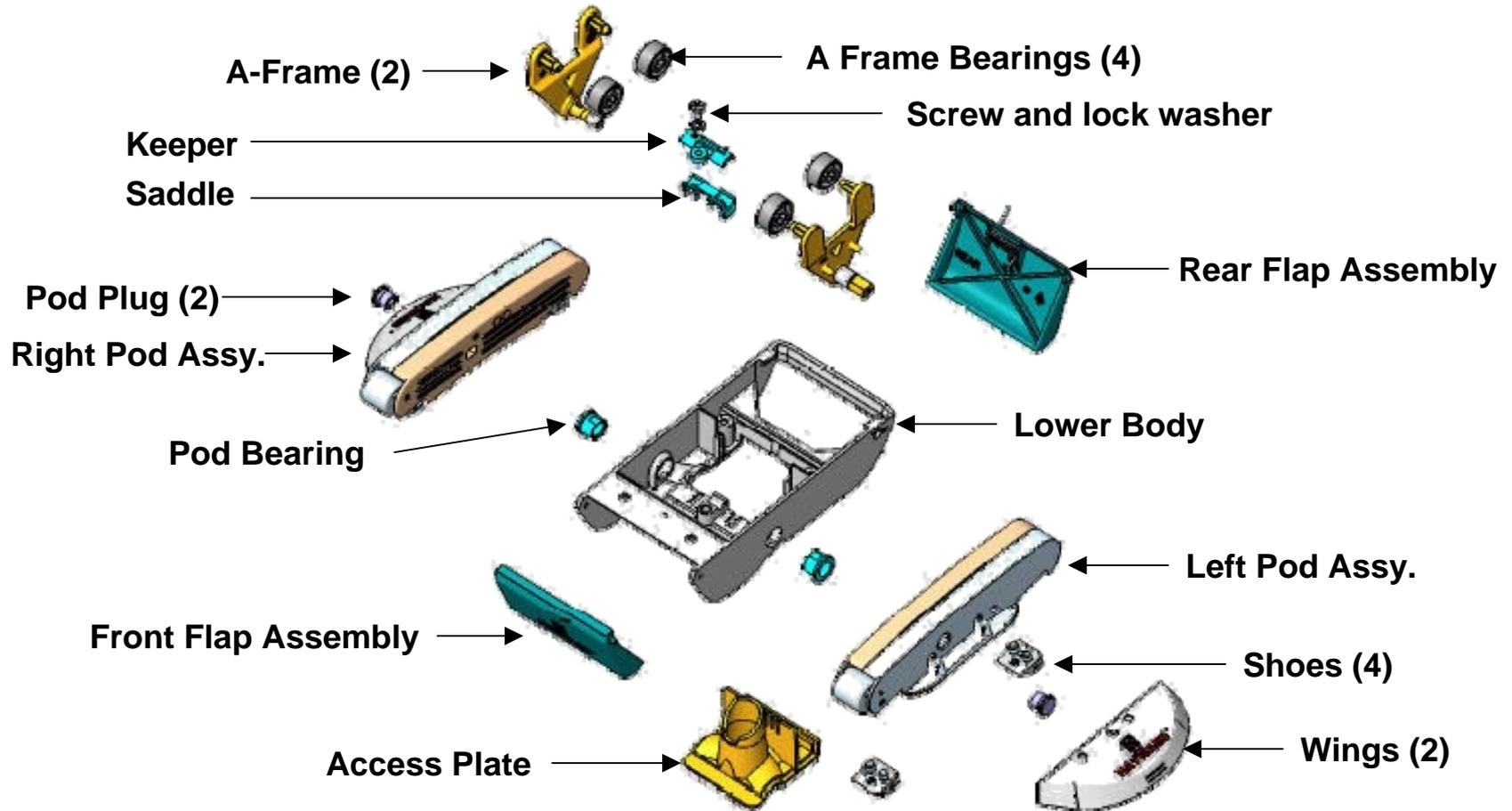
Major Components

Pool Vac XL (New Style)



Major Components

All Cleaners (lower body)



Lower Body Disassembly

1. Remove the access cover screw (captured) and cover (fig 9 & 10).



Figure 9



Figure 10

2. Remove the four lower body screws to remove the lower body (Fig 11 & 12)

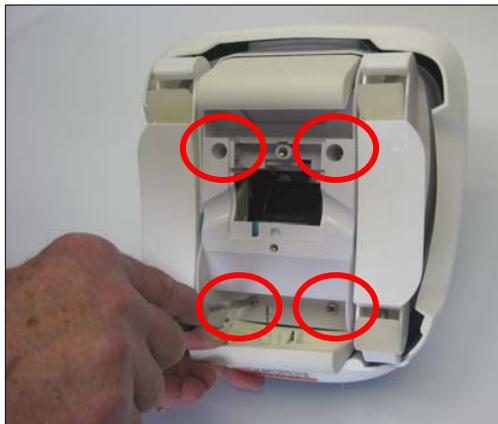


Figure 11



Figure 12

Wing Removal & Replacement

1. Using a screwdriver, remove the plugs from the pods on both sides (fig 13).
2. Remove the wings by bending the wings up toward the side of the cleaner and lift them off the pod's hooks (fig 14).

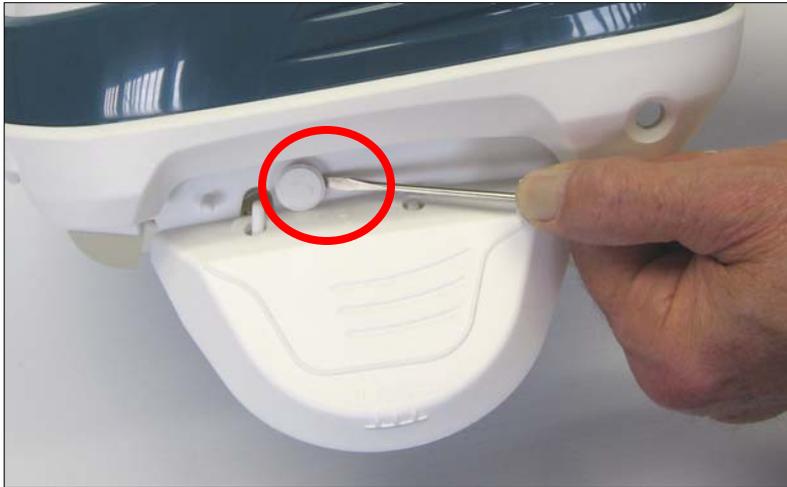


Figure 13

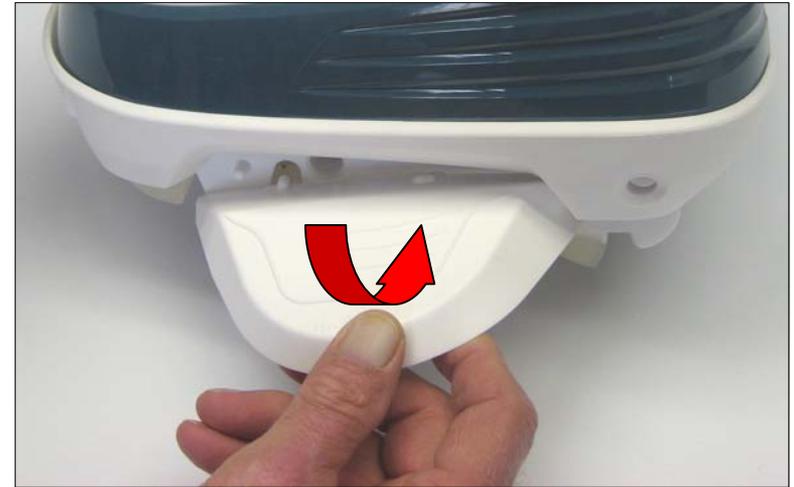


Figure 14

Wing Removal & Replacement

3. Replace the wings if necessary (see wear marker in fig 15), making sure that you match the “L” (left) and “R” (right) of the wings to the correct pods (fig 16 & 17)



Figure 15



Figure 16



Figure 17

4. Replace the pod plugs and tap them into place using the screwdriver's handle.

Pod Removal & Replacement

1. Remove the plug on each pod covering the pod screw (fig 18).
2. Unscrew and remove the pod screws and washers (fig 19).
3. Gently pry the pod off from the lower body of the cleaner (fig 20).



Figure 18

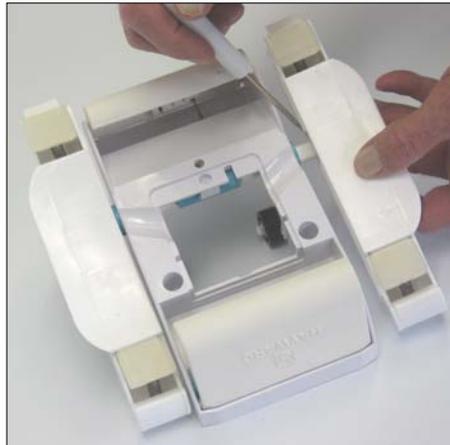


Figure 20

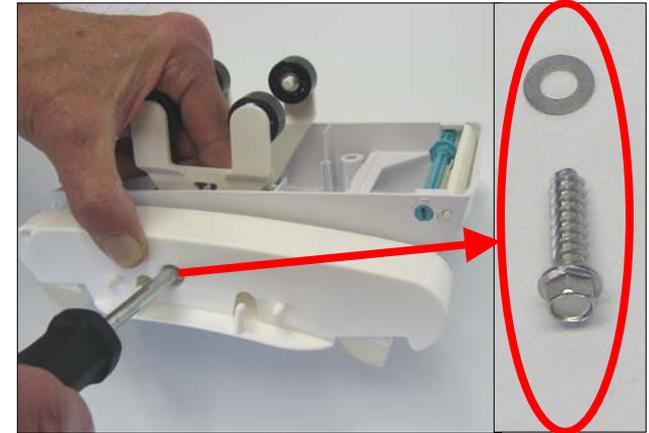


Figure 19

Pod Removal & Replacement

4. Inspect pods and A-Frames for wear caused by loose connection between the two parts. Both parts should move together as shown (fig 21).

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

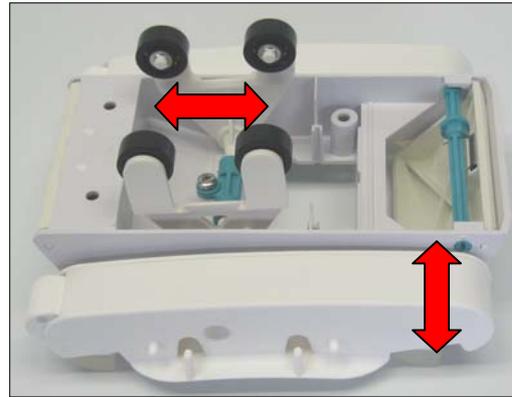


Figure 21

5. When replacing the pods, make sure that you match the “L” (left) and “R” (right) on the pods to the corresponding sides on the lower body (Fig 22 & 23).



Figure 22



Figure 23

A Frame Removal & Replacement

1. Remove the pod and A-frame bushings from the lower body on both sides (fig 27).
2. Remove the screw and saddle assembly holding the A-Frames in place from the inside of the lower body (fig 28). Tighten Securely when replacing.
3. Pull the A-Frame arms in towards each other from inside the lower body to remove (fig 29)

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

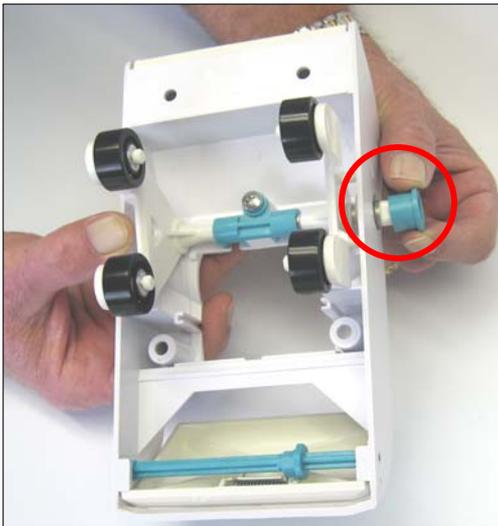


Figure 27

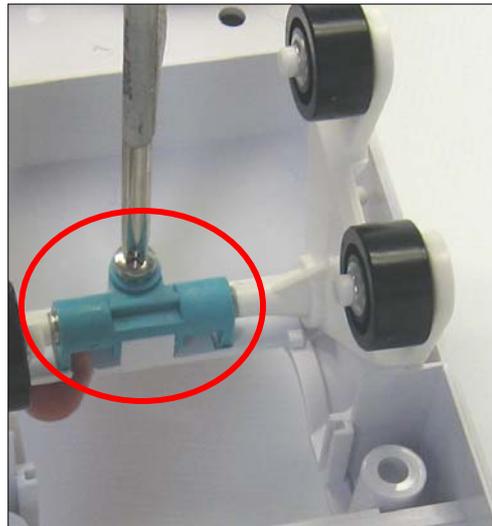


Figure 28

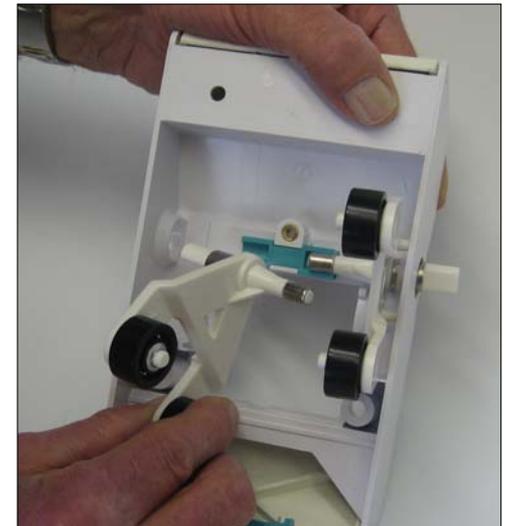


Figure 29

Shoe Removal & Replacement

1. Note the wear line (highlighted) on the side of the shoe. Replace shoes if worn beyond this mark (Fig 24).
2. Insert a flat head screwdriver between the pod foot and the shoe. Using a lifting motion, remove the shoe from the foot (Fig 25)
3. When installing the new shoe, make sure all water and debris are removed from the surface and hole. The holes for the shoes and the posts on the shoes have matching sizes for proper positioning (fig 26).



Figure 24

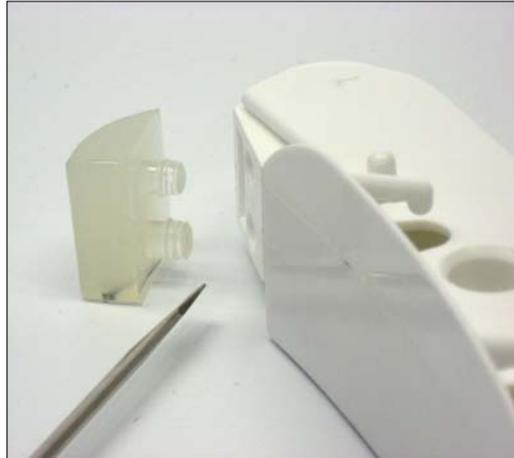


Figure 25

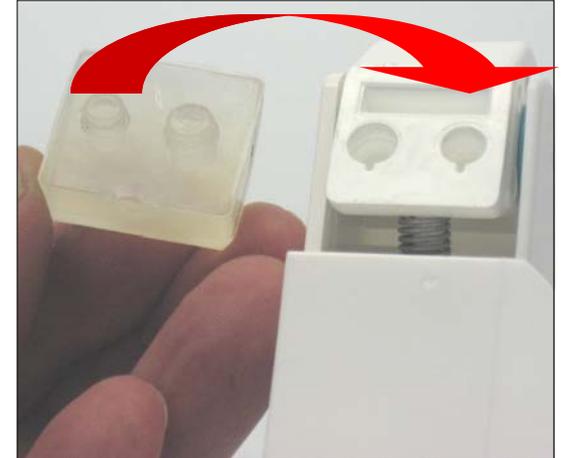


Figure 26

Flap Removal & Replacement

1. Prior to removal, note the position of flap springs for correct replacement. Rear flap (fig 30) Front flap (fig 31).

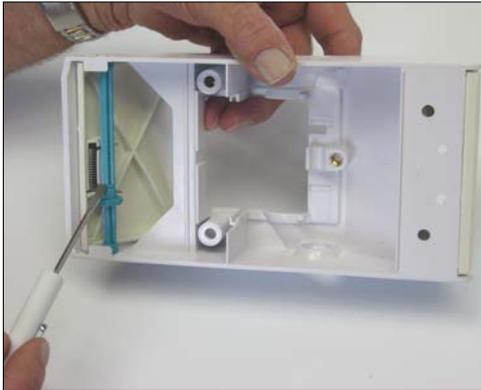


Figure 30

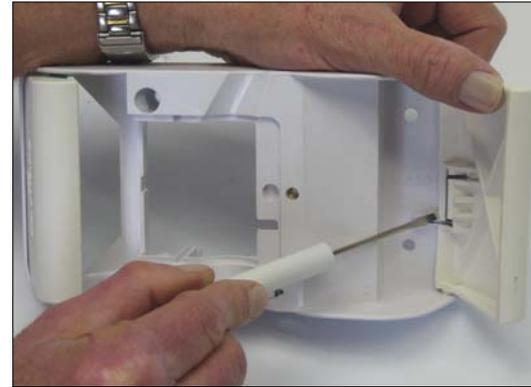


Figure 31

2. Remove the front and rear flaps from the lower body by inserting a small flathead screwdriver between the flap and body near the flaps pivot point (fig 32 & 33).

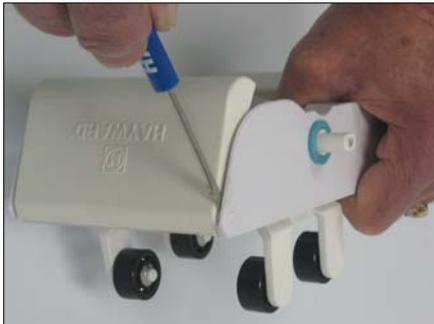


Figure 32

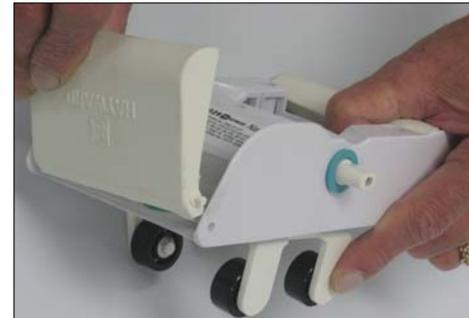


Figure 33

Flap Removal & Replacement

3. The flaps are marked “FRONT” and “REAR” (fig 34 & 35). When replacing make sure they are installed in the correct location



Figure 34



Figure 35

Middle Body Disassembly

OLD STYLE

1. Remove the four screws attaching the bumper to the lower middle body and remove the bumper (fig 36 & 37)
2. Remove the two remaining screws holding the lower middle body to the upper middle body (fig 38)

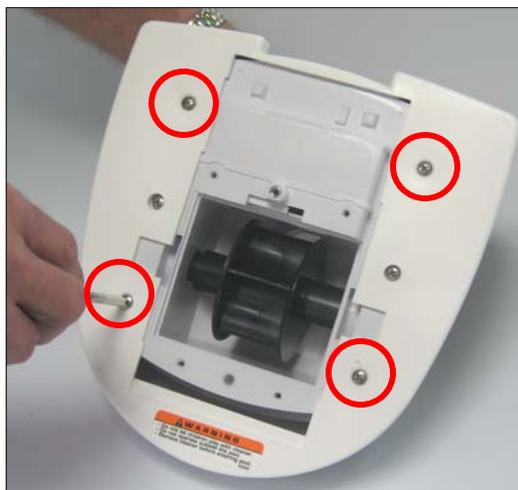


Figure 36



Figure 37

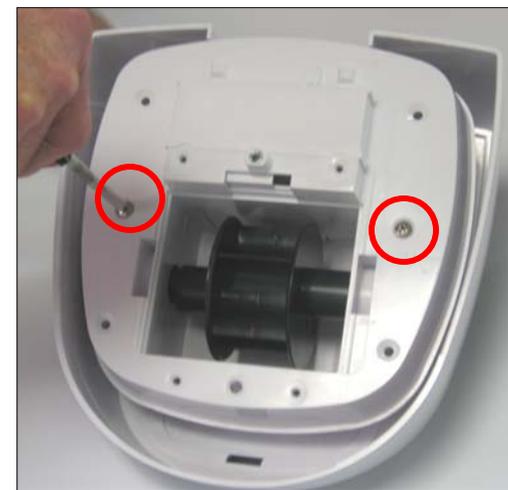


Figure 38

Middle Body Disassembly

NEW STYLE

3. Remove the six screws holding the lower middle body to the upper middle body (fig 39)

OLD AND NEW STYLE

4. Turn the cleaner upright and remove the upper middle body from the lower middle body (fig 40).

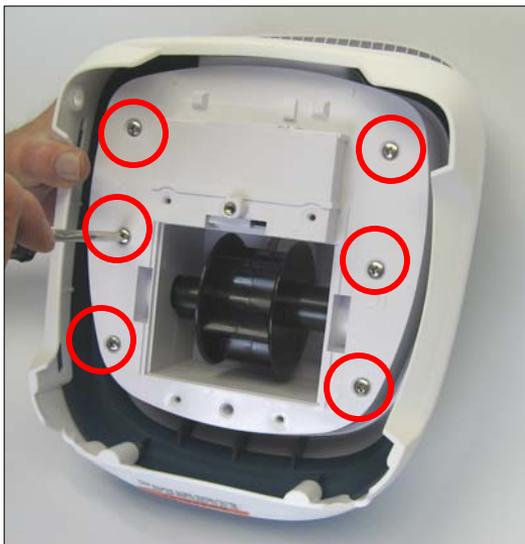


Figure 39



Figure 40

Gear Box Removal & Disassembly

1. Pull up on the gearbox to remove from the lower middle body (fig 41)
2. Pull up to remove the red disc and white ring on the gearbox (fig 42)
3. Remove the top access plate to inspect the internal gears for damage or debris (fig 43)

Note: When removing the gears, lay them out in order for correct replacement (fig 44)

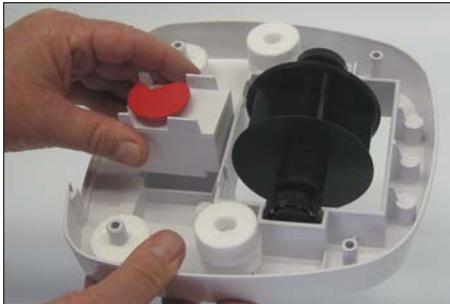


Figure 41

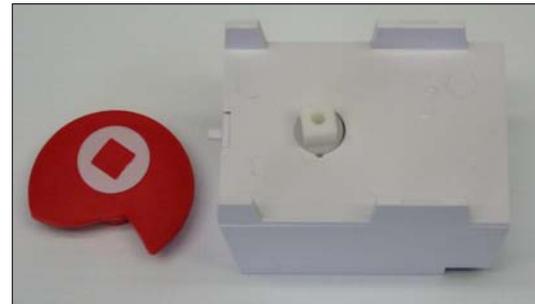


Figure 42



Figure 43

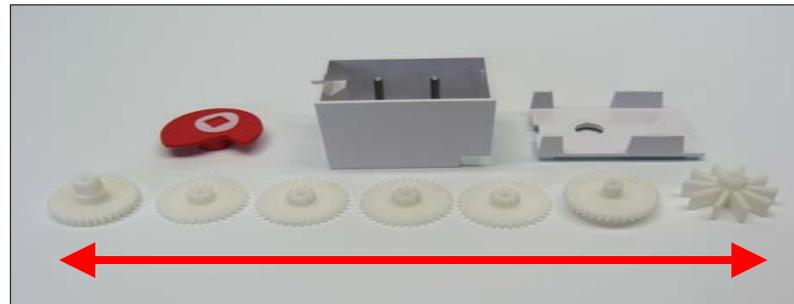


Figure 44

Turbine Assembly Removal & Replacement

1. Remove the turbine and bearings by pulling up the center of the turbine (fig 45)

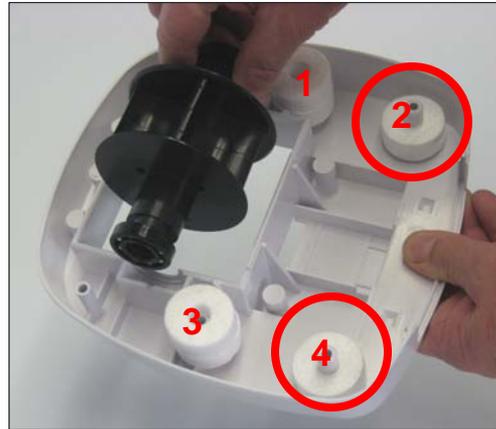


Figure 45

Note: **NEW** Cleaner shown (fig 45) has four floats. Floats 2 & 4 are blue and small, while floats 1 & 3 are large and white.

OLD style cleaner only has two (circled on fig 45).

2. Inspect bearings, turbine and housing where the bearings seat for wear. Any items that are worn require replacement (fig 46, 47 & 48)



Figure 46

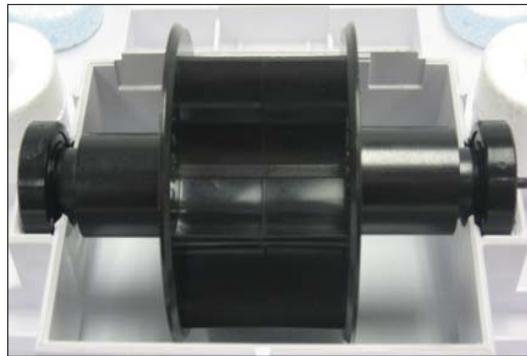


Figure 47

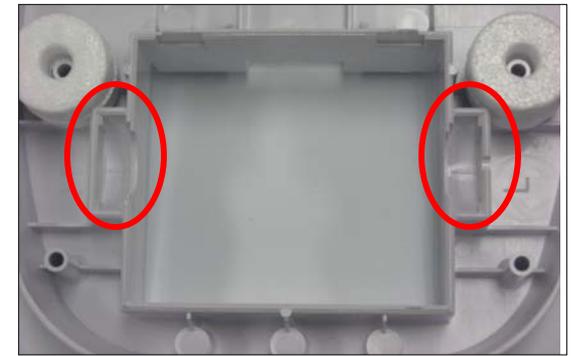


Figure 48

Turbine Assembly Removal & Replacement

3. The turbine end and lower middle body are marked to ensure correct turbine placement (fig 49 & 51) . When replacing, make sure the bearing's outside race locks into position in the lower middle body. (fig 50 & 51)



Figure 49



Figure 50

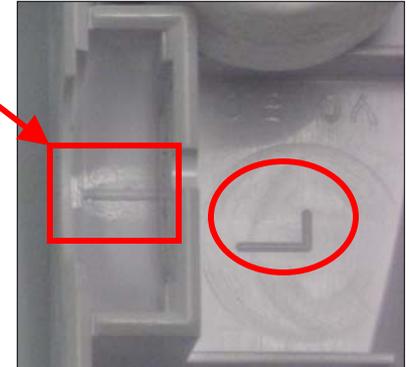


Figure 51

Note: When replacing the turbine assembly in older models, it may be necessary to remove the prong on the left side of the turbine (fig 52)

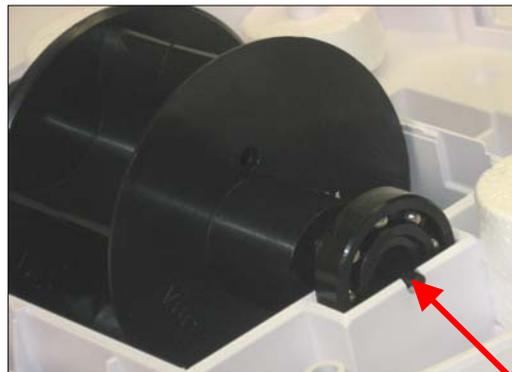


Figure 52

Medium Turbine Assembly

1. Remove the two screws holding the cover over the medium turbine assembly (fig 53).
2. Remove cover and ensure the turbine is clean and free spinning (fig 54) .



Figure 53



Figure 54

Upper Gear Assembly Access

OLD Style

1. Remove the four screws holding the upper middle body to the shell. Note the length of the screws (fig 55)
2. Turn the cleaner upright and carefully remove the shell from the upper middle body (fig 56)

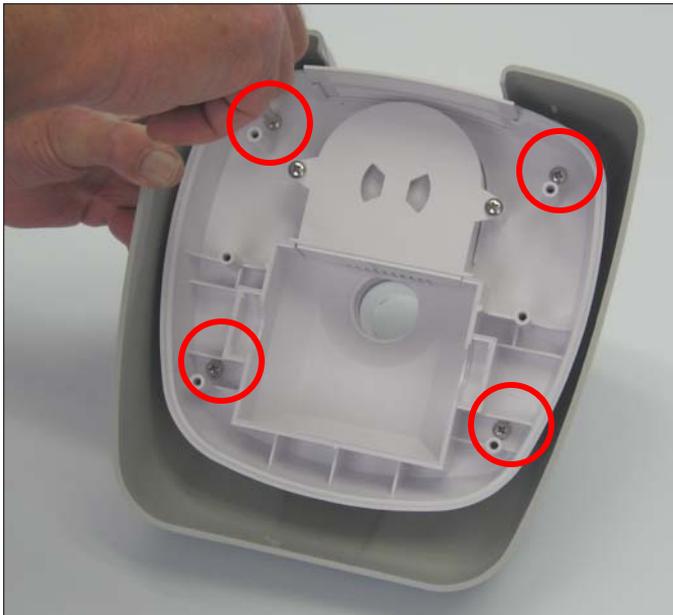


Figure 55



Figure 56

Upper Gear Assembly Access

New Style Navigator Pro

1. Using a flat blade screwdriver carefully lift up on the top shell at the provided cutouts (fig 57 & 58)
2. Remove the four screws holding the shell to the body (fig 59). Lift off the shell from the body (fig 60)



Figure 57



Figure 58



Figure 60



Figure 59

Note the screw size for reassembly (fig 59).

Upper Gear Assembly Access

New Style Pool Vac XL

1. Using a flat blade screwdriver carefully lift up on the top shell and remove as indicated (fig 61).
2. Remove the four screws holding the Handle/frame to the body.

Note the screw size for reassembly (fig 62).



Figure 61

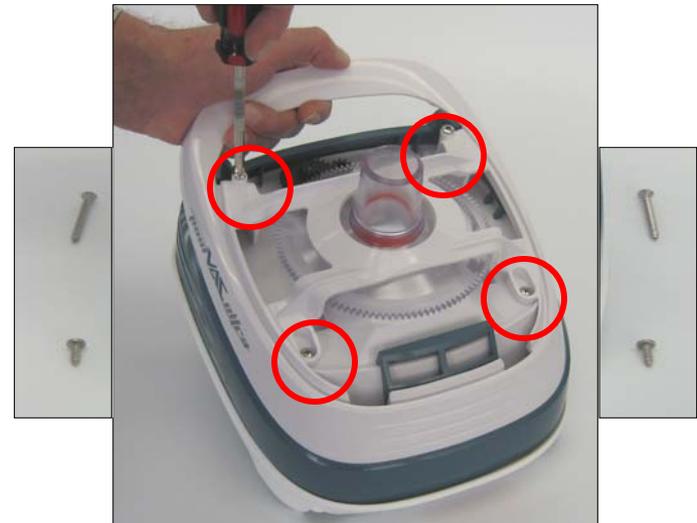


Figure 62

Upper Gear Assembly Access

New Style Pool Vac XL. (continued)

3. Remove the Handle frame from the lower frame assembly (fig 63)
4. Remove the lower frame assembly (fig 64)



Figure 63



Figure 64

Upper Gear Assembly

1. Both the clear cone gear and the black intermediate gear can be removed by lifting up (fig 65 & 66).
2. Remove the spindle gear screw to remove spindle gear, spindle bushing and medium turbine drive gear (fig 67).

Note: When replacing any parts in this section always install a medium turbine kit rather than individual parts.



Figure 65

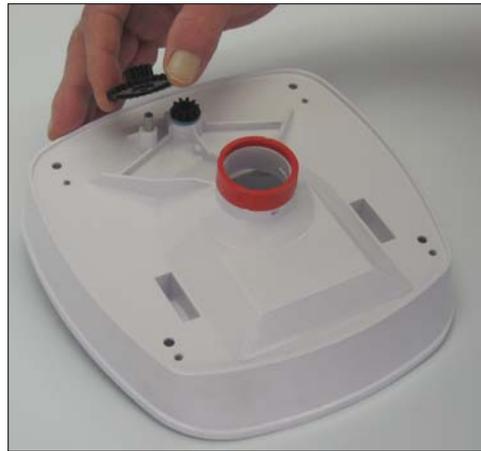


Figure 66

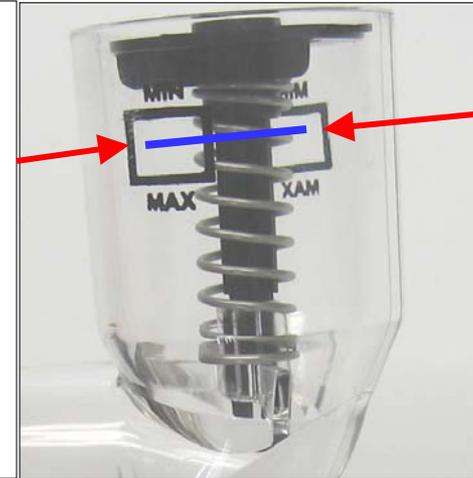


Figure 67

Troubleshooting/Hang Test

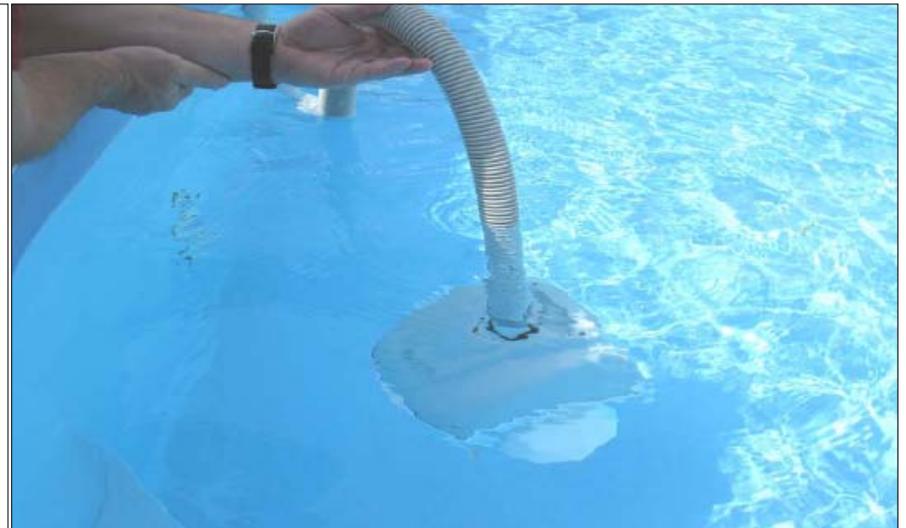
Step A

Before getting started with troubleshooting, understanding how the Hang Test is performed will help in diagnosing a problem. Before using the test or performing any other test, attach the flow gauge and make sure the suction setting is correct, See page 8 .



Hang Test

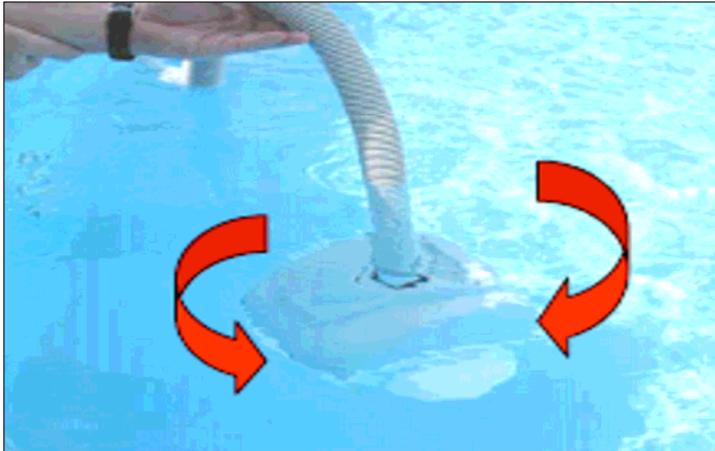
With the cleaner installed, filter pump on and the cleaner suction line fully open, raise the cleaner off the pool floor by the hose. Suspend the cleaner about one foot below the water line. This test will answer many performance questions.



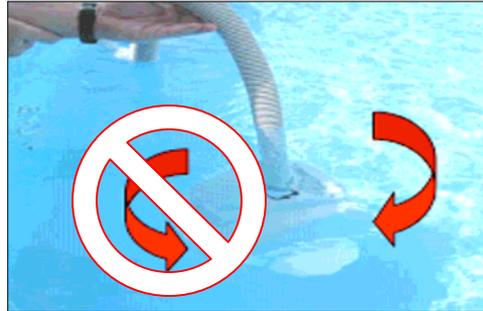
Troubleshooting/Hang Test

Step B

Does the cleaner rotate in both directions with a stop in-between in a 5 minute time period



If the cleaner goes in both directions equally cleaner is turning properly.



If the cleaner turns in one direction only go to page 26.



If the cleaner does not turn at all go to page 26 or 34 or check the rear screen for debris.



Note: The rear screen should be checked on a regular basis.

Troubleshooting/Hang Test

Doing this test pool side is invaluable. For the retail or service dealers retail location this test can be accomplished using air. Procuring at least a 3hp Shop-Vac along with a cleaner leader hose gets you most of the way towards building your own in-house cleaner tester.

Attaching the leader hose cleaner end to the cleaner and the other end to the Shop-Vac's suction outlet makes a great tester without needing the water. In most cases the cleaner will rotate faster than it does in the water but will allow you to see if it rotates both ways with a stop in-between. The key is turning equally both ways +/- half a turn.

Note: This testing apparatus can be permanently installed as shown below.

Mobile
Training
Center Tester



Bench
Tester



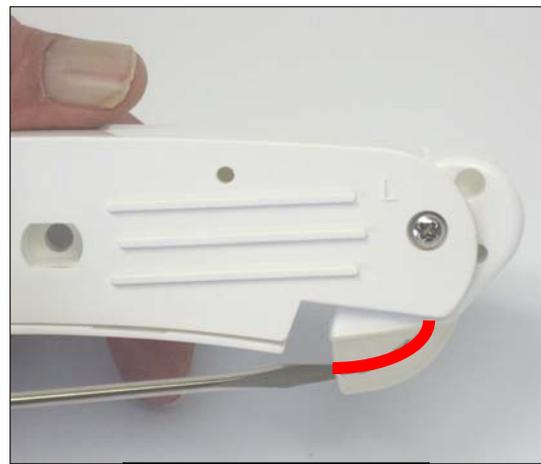
Troubleshooting Cleaner does not move

Step A

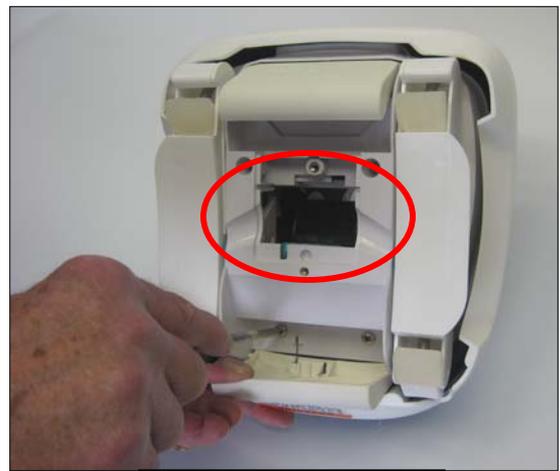
Verify the suction setting is correct (page 8). If the suction is correct go to Step B.

Step B

After confirming proper suction, place the cleaner on the pool floor. If the cleaner does not move, check the shoes for wear and the pool surface for algae (treat and remove) or remove the access cover and check for debris in the turbine area.



See page 20



See page 15

Troubleshooting

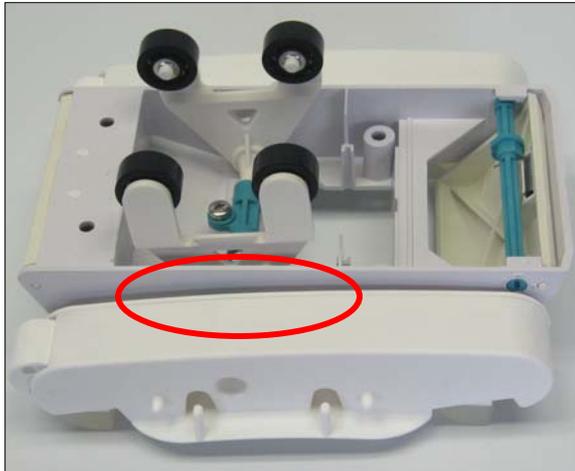
Cleaner turns in one direction

Step A

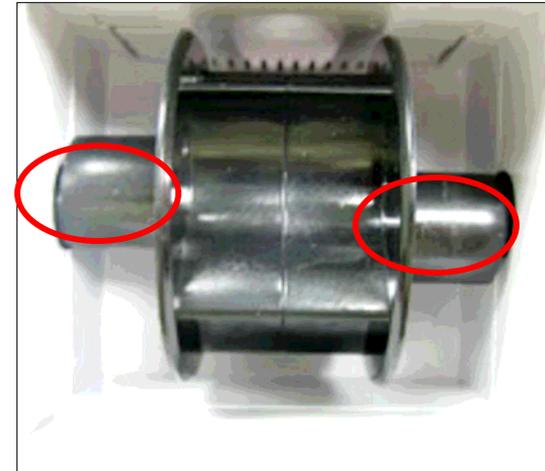
Perform Hang Test on page 35 & 36. If Cleaner turns in both directions correctly go to Step B

Step B

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



See pages 18, 19 or 20



See pages 27 & 28

Troubleshooting

Cleaner goes too slow or fast

Step A

Verify the suction setting is correct (page 8). If the suction is correct go to Step B.

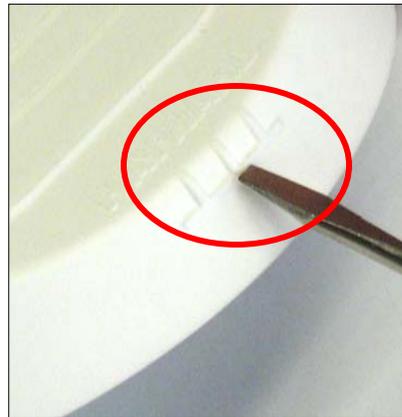
Step B

Check and replace any worn shoes, wings or flaps. If the problem is not solved go to step C

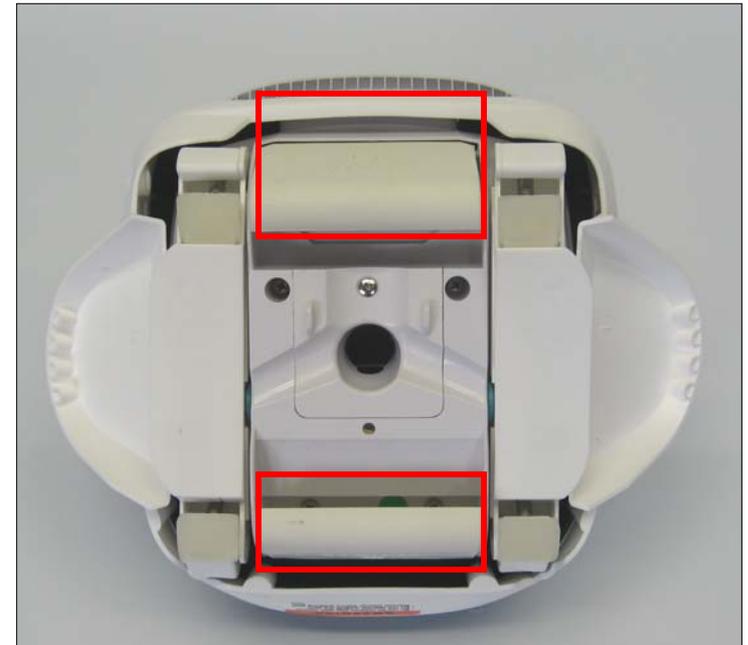
Note wear indicators on these parts



See page 21



See pages 16 & 17



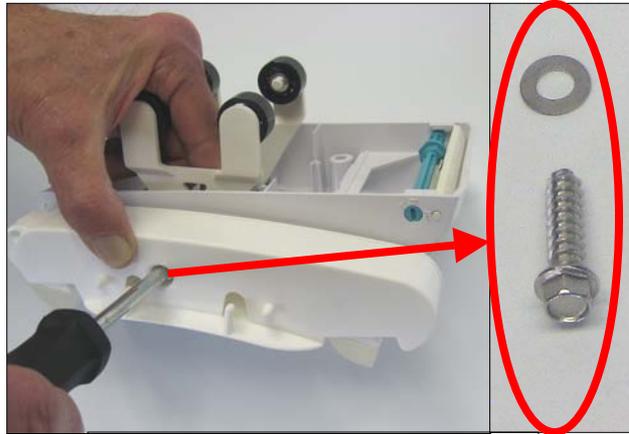
See pages 22 & 23

Troubleshooting

Cleaner goes too slow or fast

Step C

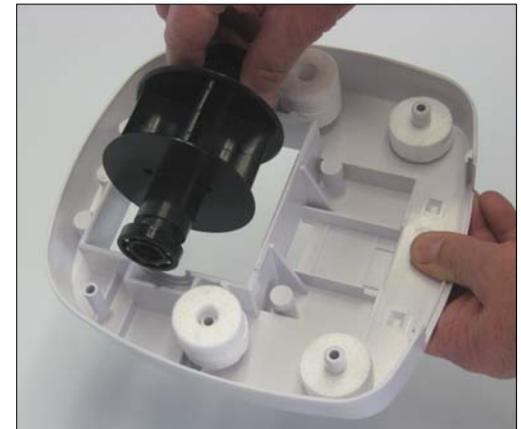
Check and make sure pods are tightly connected to A-frames. If connection becomes loose shortly after tightening replace both A-frames and pods. If problem persists go to Step D



See pages 18, 19 or 20

Step D

Check turbine for wear or correct placement. If worn replace turbine and both A-frames.



See pages 27 & 28

Troubleshooting

Cleaner is floating or lifting, Hose is twisting or curling

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 hose.

Step A

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

Step B

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

Step C

The pools return fittings may be creating water current which is pushing the hose, causing the cleaner to lift. Reposition fitting.

Step D

There may be air bubbles on the outside of the cleaner hose caused by a suction leak or ozonator. In extreme cases a set of V130LF hose can be used when a ozonator is present.

Hose is twisting or curling

Twisting: If the hoses are twisted like a pretzel, it is from a cleaner turning in only one direction. See pages 35 & 36.

Curling: Due to improper storage. Lay the hoses straight in direct sunlight to straighten. In certain cases the hoses may need to be replaced.

Troubleshooting

Cleaner Gets Stuck In Corners or on Steps

Step A

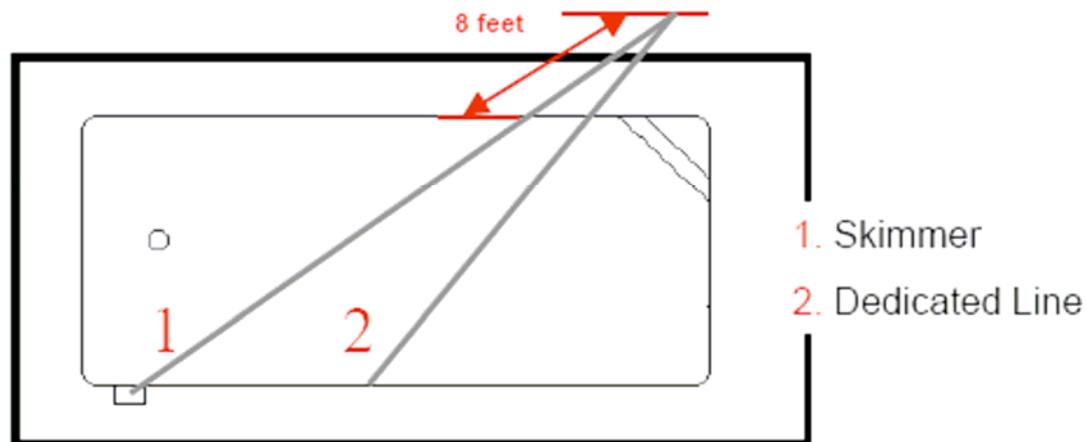
Verify the suction setting is correct (page 8). A cleaner running too slow or too fast may not turn off a step or corner. If the suction is correct go to Step B.

Step B

Check return fittings direction. Change as needed.

Step C

Check to make sure hose length is correct.



Troubleshooting

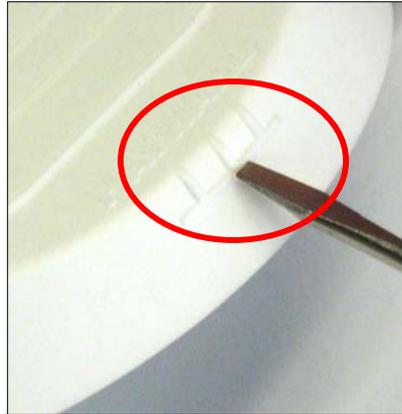
Cleaner Gets Stuck In Corners or on Steps

Step D

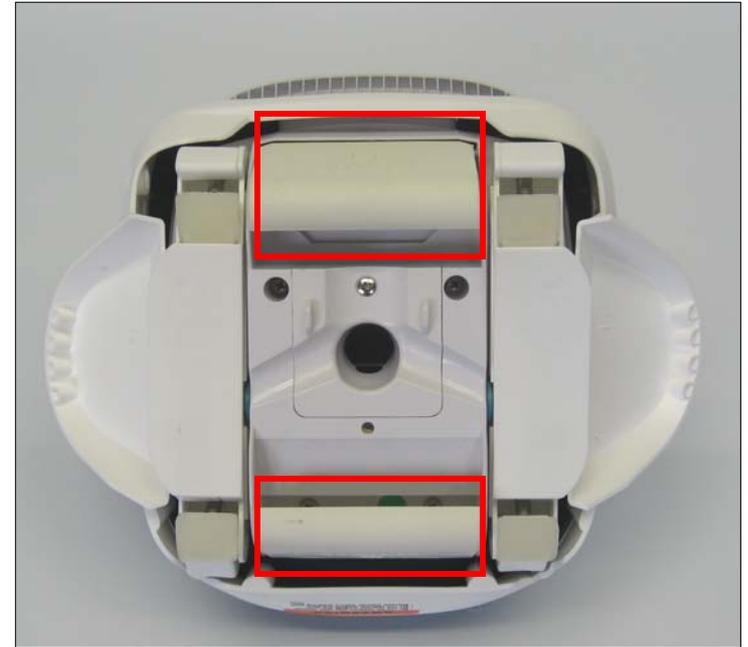
Check and replace any worn shoes, wings or flaps.



See page 21



See pages 16 & 17



See pages 22 & 23

Step E

Adjust rear flap adjuster to #1



Troubleshooting

Cleaner Does Not Climb Walls

Step A

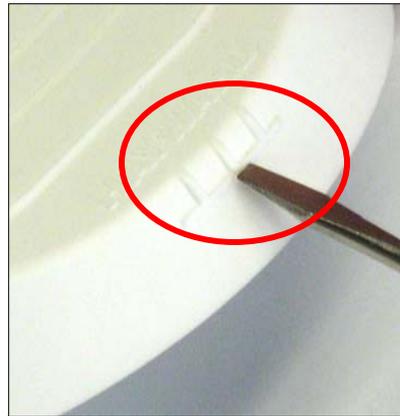
Verify the suction setting is correct (page 8). If the suction is correct go to Step B.

Step B

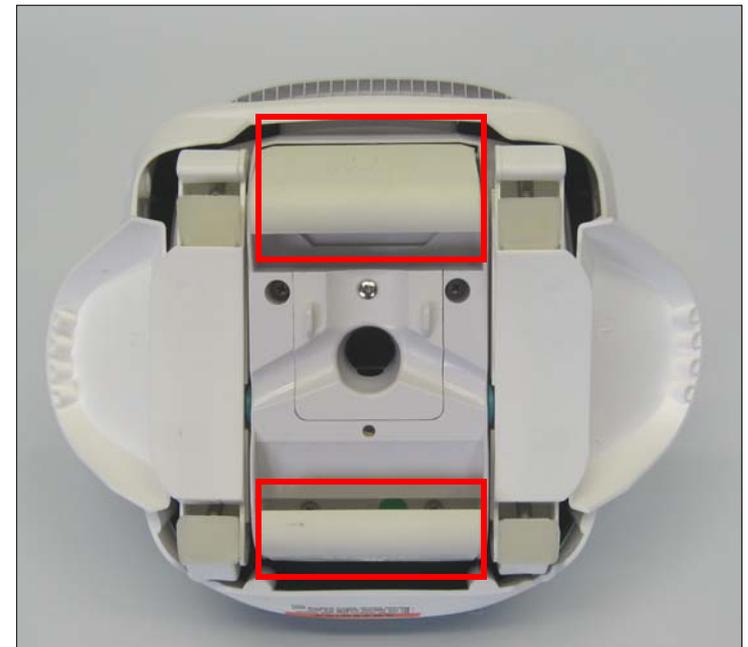
Check and replace any worn shoes, wings or flaps.



See page 21



See pages 16 & 17



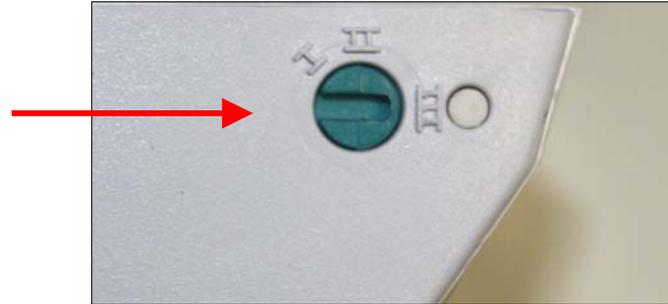
See pages 22 & 23

Troubleshooting

Cleaner Does Not Climb Walls

Step B

Adjust rear flap adjuster to #3



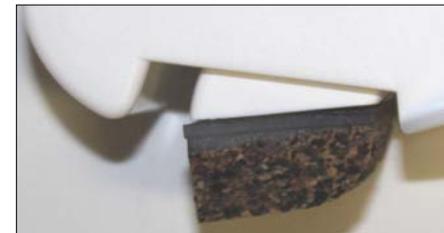
Vinyl liners: The ability for a cleaner to climb a wall may be hindered by hoppers or walls that have smaller than a 7" radius

Make sure the cleaner is a vinyl unit and has cork shoes

Concrete: Cleaners will not climb walls with a radius smaller than 7".

The roughness of the pool surface could hinder the cleaners ability to have good suction for climbing

Fiberglass: Make sure the cleaner has slotted rubber shoes(VO14S).



Cork shoe

Troubleshooting

Hose Collapsing

Step A

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



Step B

The suction may be too great. Reduce the suction by using the regulator valve. Two regulator valves may be stacked to reduce suction where large pumps are used. If dedicated line adjust suction with valve.

