

# Viio Cleaner

## Operation and Troubleshooting Guide



# Safety



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## Warning - Risk of Injury

**Failure to follow the safety warnings below may result in severe injury, death or property damage.**

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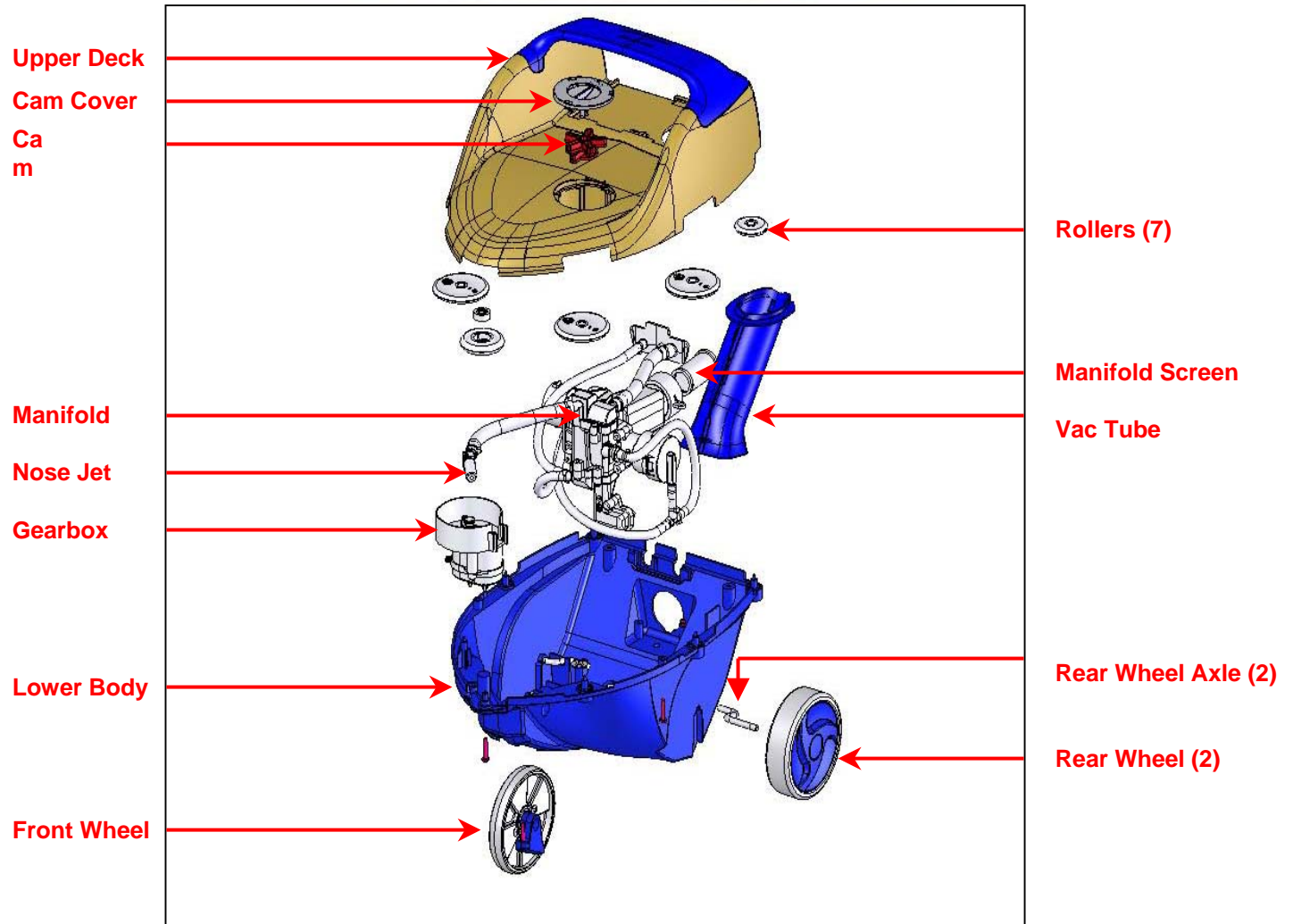
- Always turn the Booster Pump **OFF** before handling cleaner
- Always disconnect and remove the cleaner and pressure hose before entering the pool.
- Always handle with care. Do not let children or pets play with the cleaner; it is not a toy.
- Do not operate outside the pool. The Viio & Phantom cleaners and hoses contain high-pressure water jets that may cause injury. Follow all test hose instructions when testing unit outside of pool.
- Disconnect pressure hose from the universal wall fitting before removing the cleaner from the pool.
- Never point any of the cleaner's high-pressure jets, pressure hose or sweep hose at any person or pets.

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# Major Components - Viio

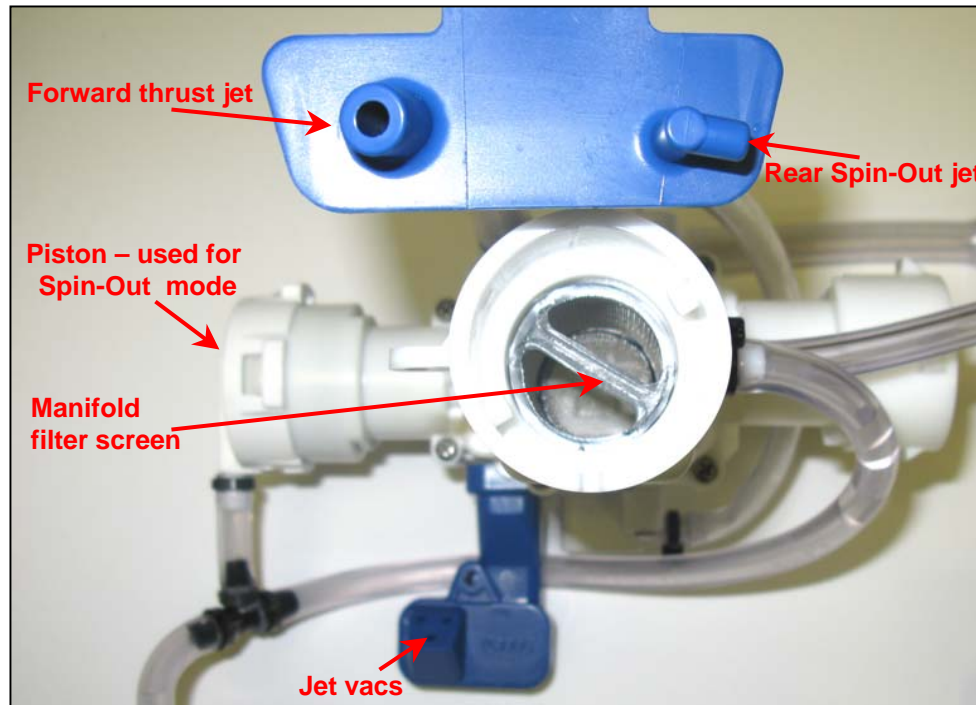


# Viio Overview

The Viio unit is operated via a pressure connection hose to a dedicated wall pressure fitting on the pool wall. This connection must be plumbed to a Hayward or equivalent 3/4 HP booster pump in order to supply the necessary pressure to operate the cleaner.

As the water enters the cleaner it passes through a manifold. The purpose of the manifold is to direct water to the correct jets in order to provide forward movement and Spin-Out operation. This is accomplished through a series of ports within the manifold, where these ports are open or blocked depending upon the selected mode. The control of blocking and opening these ports is provided by a piston, where the piston can move horizontally in order to open or close the port with the blocking plate. The piston position is controlled by the gearbox and a check ball valve, that can be either open or closed. The piston slides in one direction when the ball valve is depressed and in the opposite direction when the ball valve is not depressed.

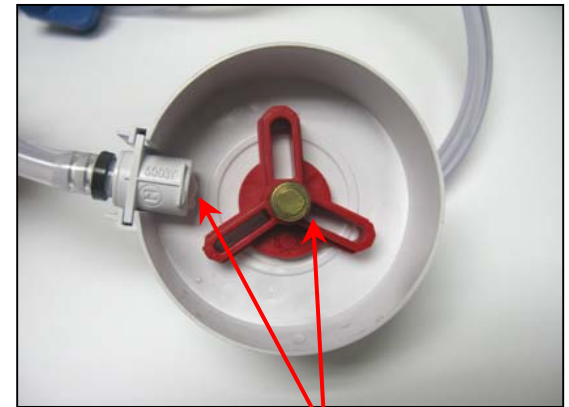
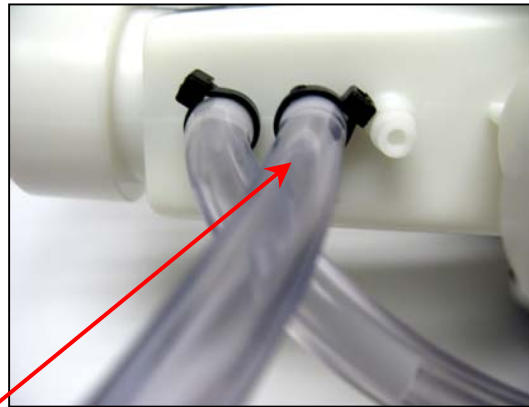
**Rear view**



# Viio Overview

Water passing through the manifold also travels via a small tube, to the gearbox. The water entering the gearbox is turning a small turbine, which in turn drives the gears in the gearbox allowing it to rotate internally. The gearbox has a 2, 3 or 5 prong cam attached to the output shaft, which in turn rotates whenever water is entering the cleaner.

The rotating cam is located adjacent to a check ball valve, where the ball is depressed when the cam leg rotates in line with the check ball. This cam controls the frequency and duration of the Spin-Out mode.



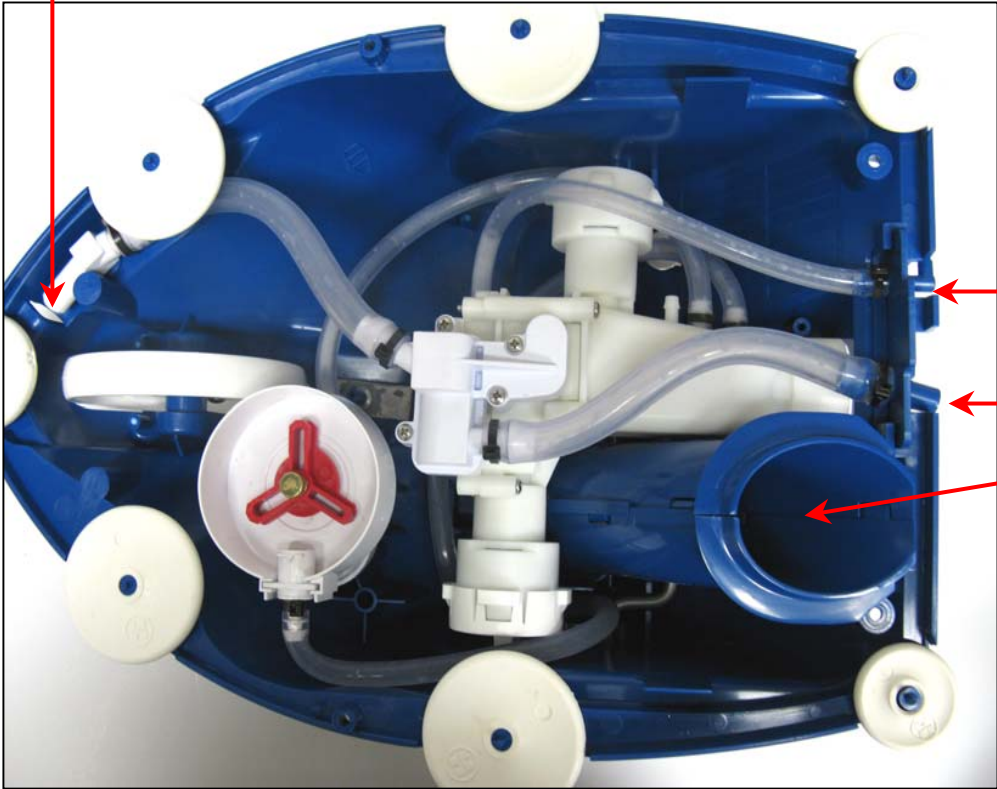
**Turbine tube**

**Spin-Out cam and  
check ball valve**

# Viio Overview

There are four water jets on the cleaner. There are two Spin-Out jets, one at the front and one at the rear. There is a forward thrust jet that will drive the cleaner forward. There is also a set of bottom vac jets that pass water from beneath the unit and into the debris bag, cleaning the bottom of the pool.

Front Spin-Out jet



Rear Spin-Out jet

Forward thrust jet

Bottom vac jets



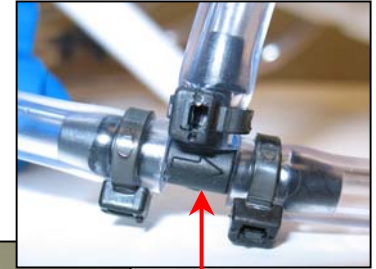
# Viio Overview-Turbo Science

When the check ball in the gear box is depressed, water will flow through the lines connected below the piston cap.

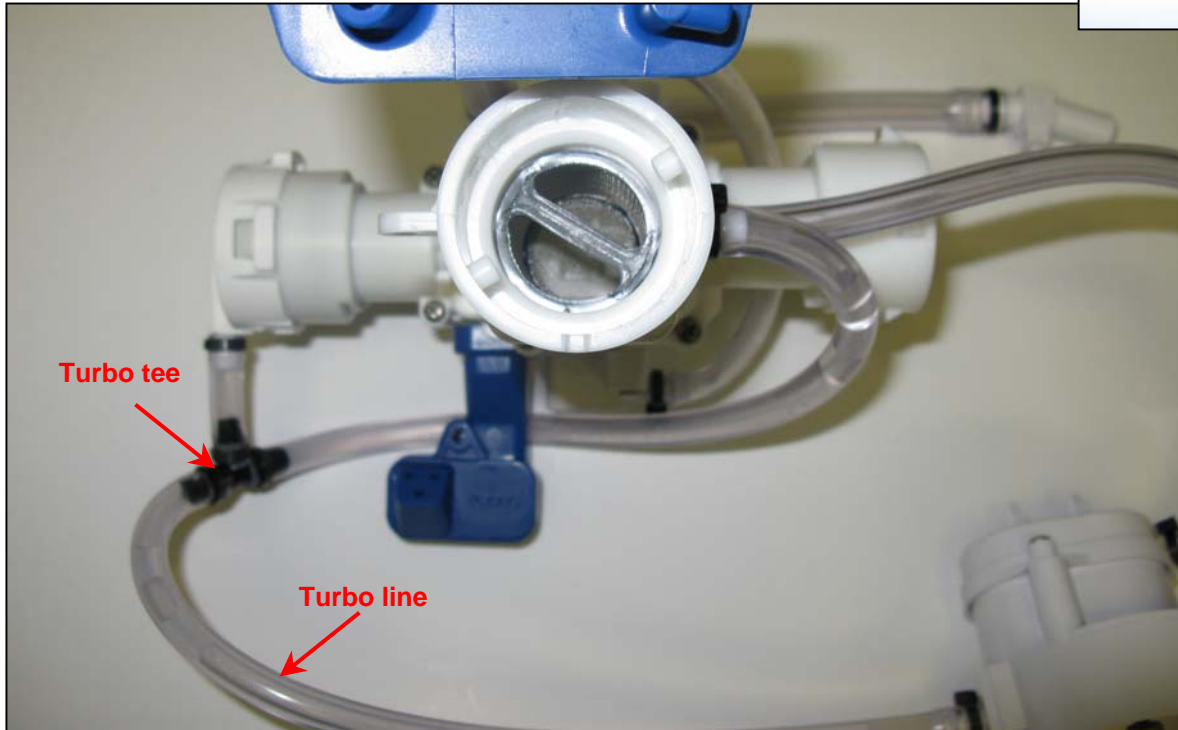
As the water flows

through these lines, a negative pressure (vacuum) is created in the tee below the piston cap. This negative pressure helps evacuate the water on top of the piston and in turn helps the piston to move quickly within the piston cylinder for Spin-Out mode.

This "Turbo" boost of pressure creates a large amount of force, easily being able to move the piston.

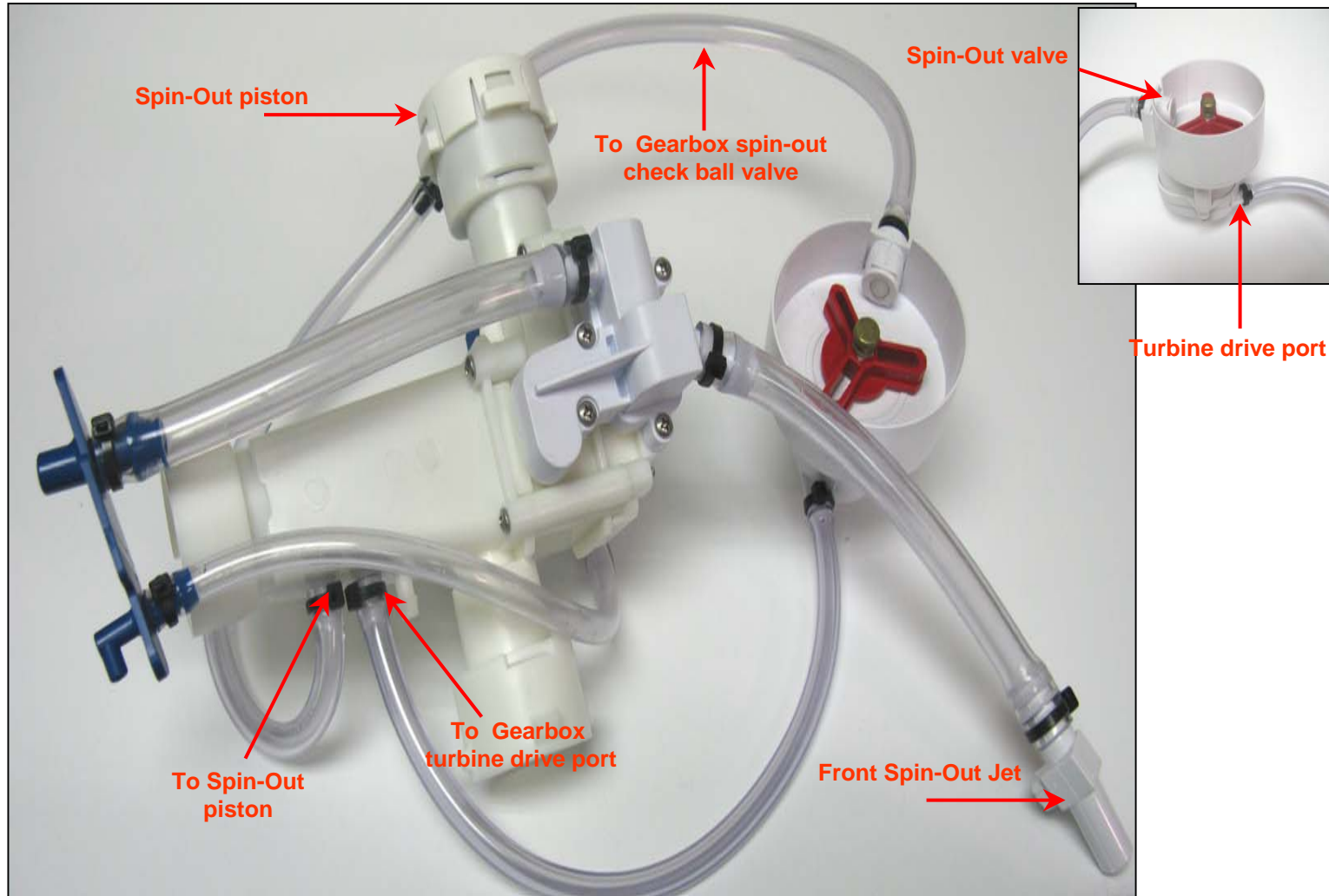


Turbo tee, note arrow points in direction to gear box.

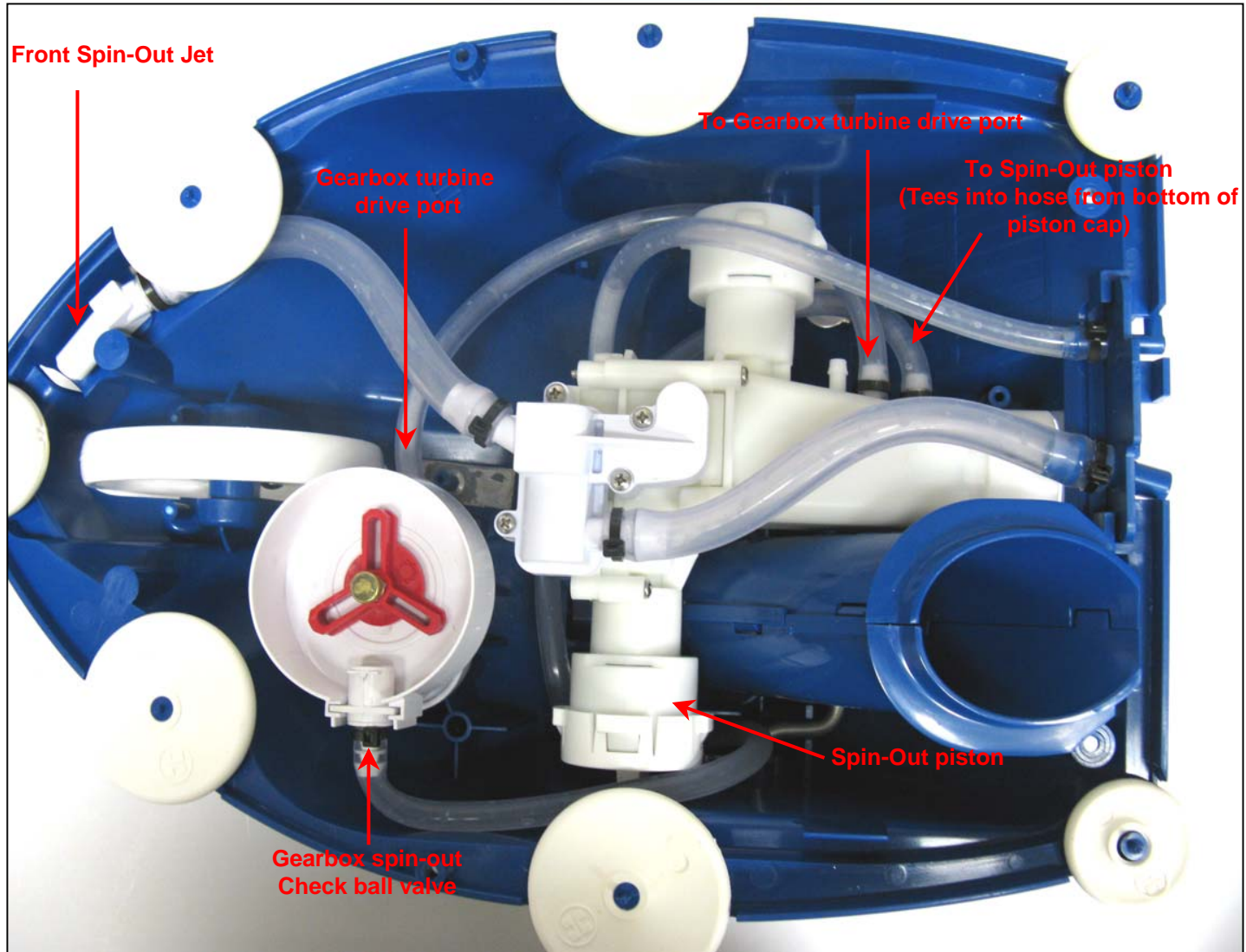




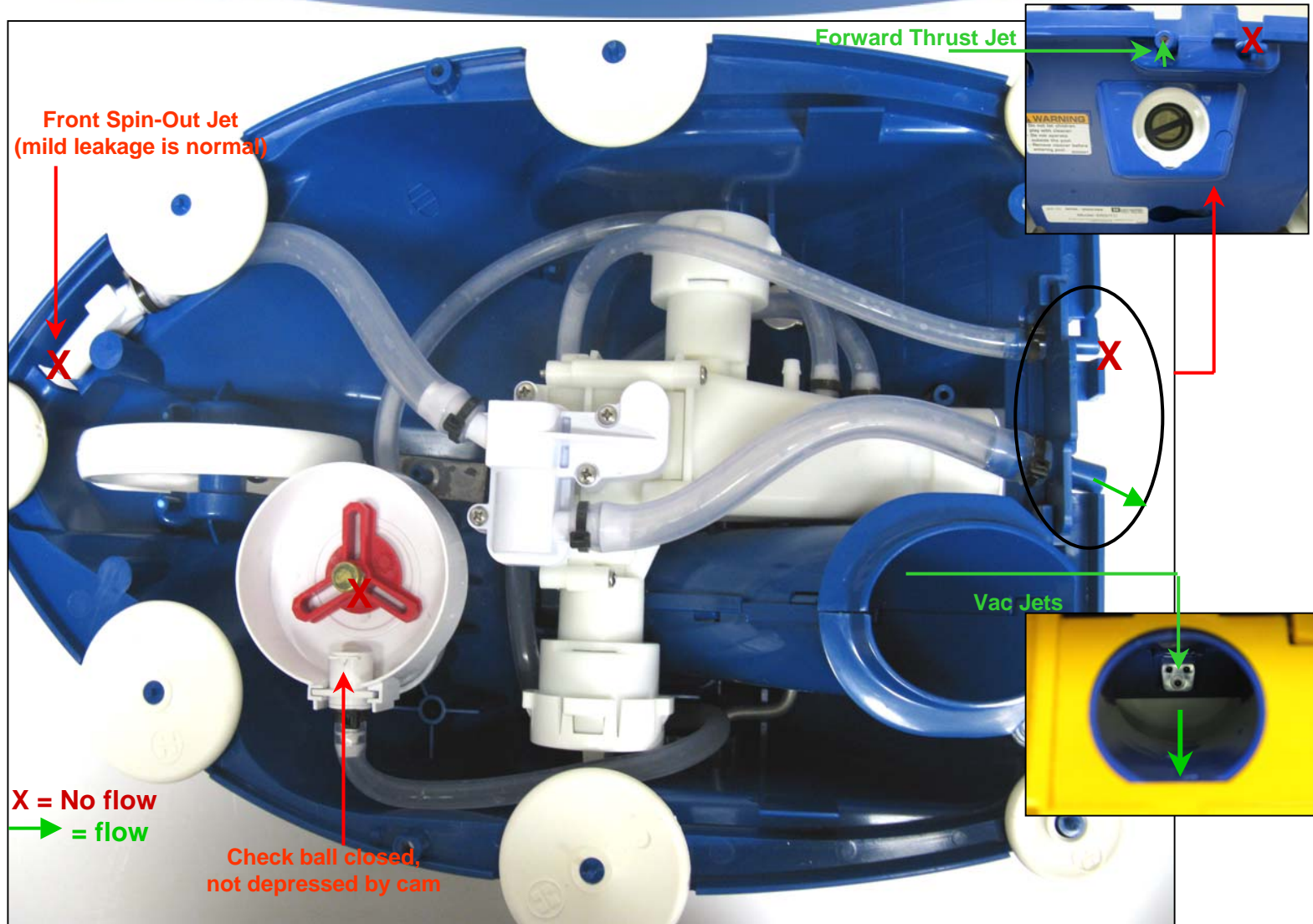
# Tube Installation Guide Viio Manifold & Gearbox



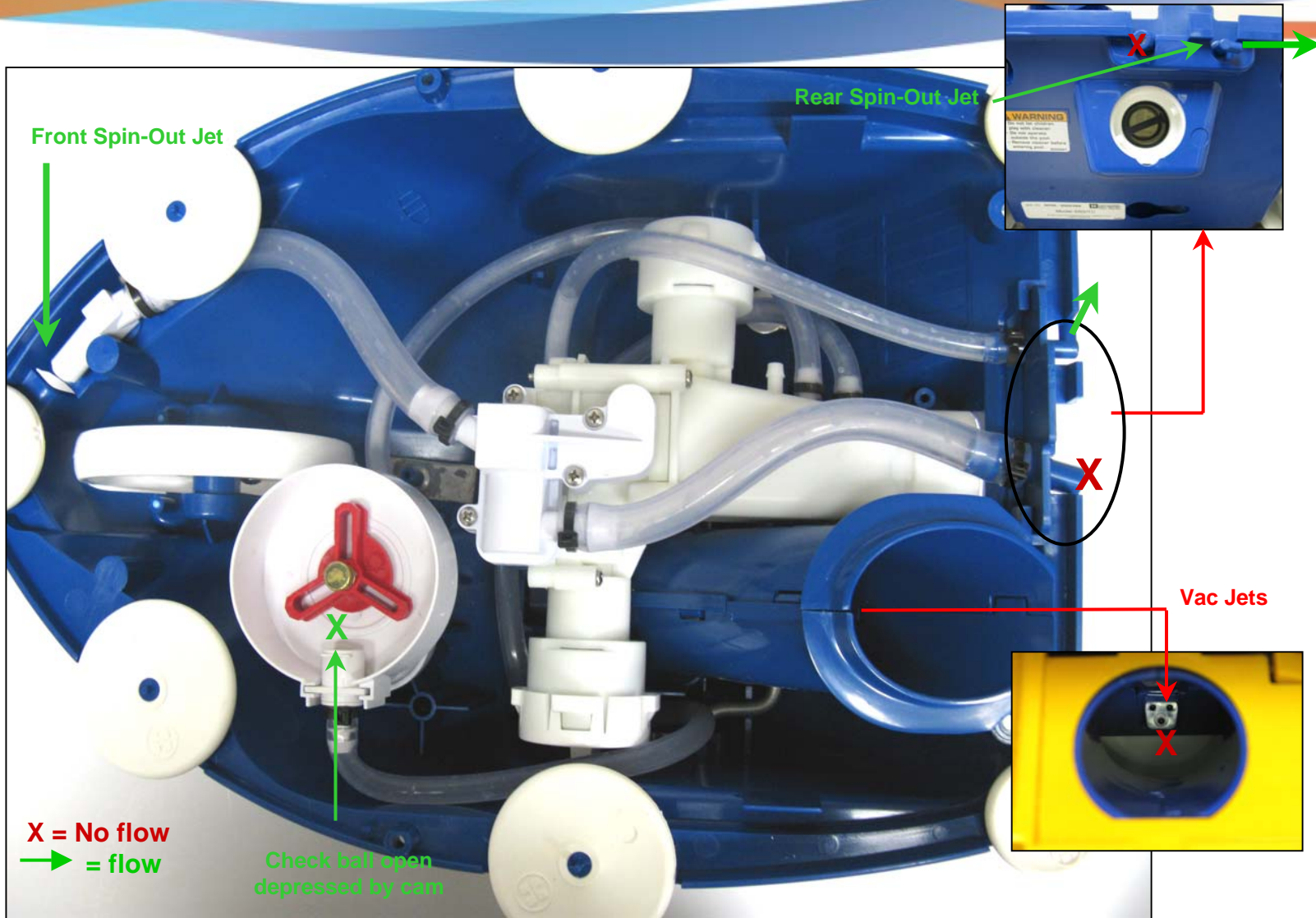
# Tube Layout & Routing Viio Cleaner



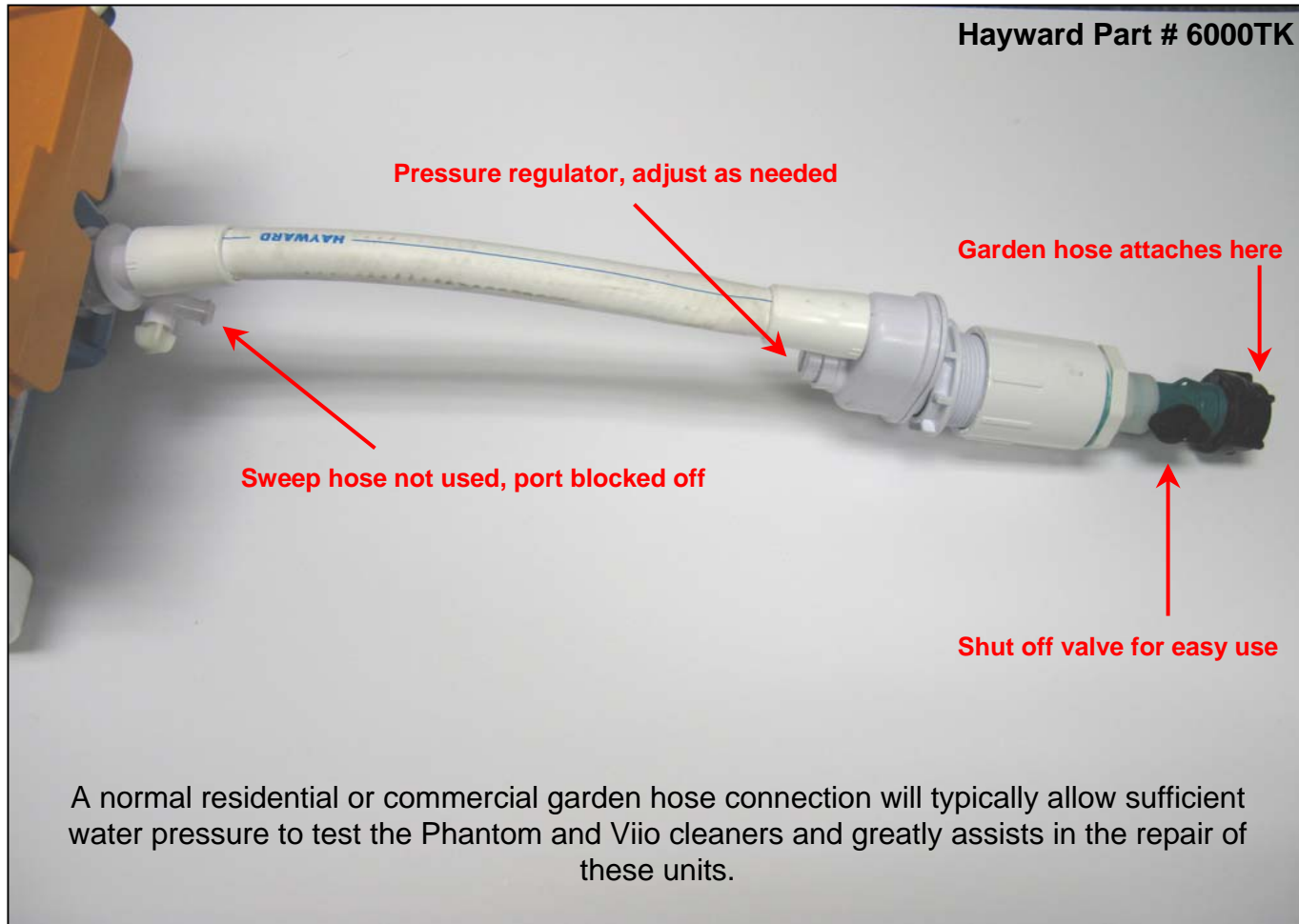
# Water Flow Forward Mode



# Spin-Out Mode Water Flow



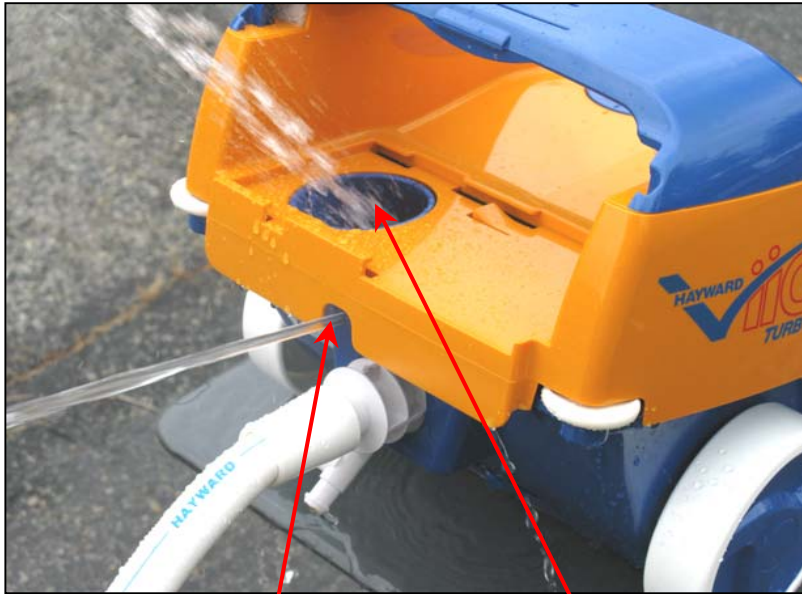
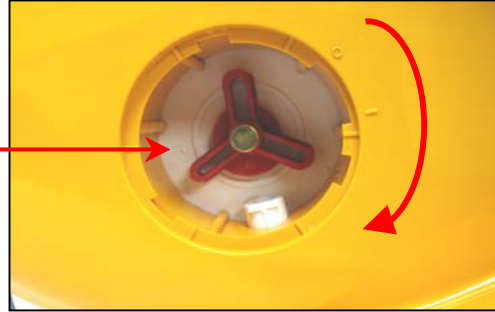
# Phantom/Viio Test Adaptor



**A must have tool for testing and repairing the Viio pressure cleaner**

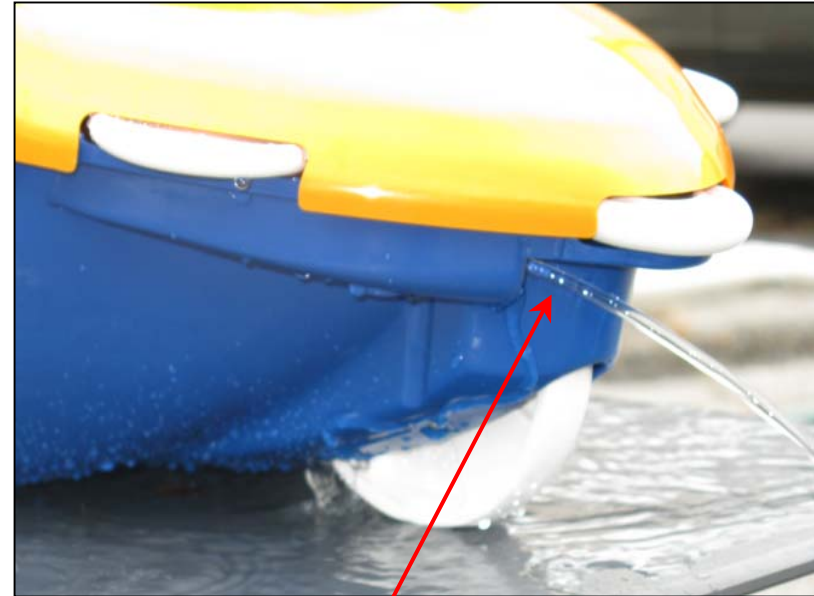
# Viio Diagnostics-Water Test Forward Mode

Always check rotation of cam.  
Cam is always rotating when  
cleaner is operating.  
Slight water leakage around check  
ball and cam post is normal.



Forward thrust jet  
water flow

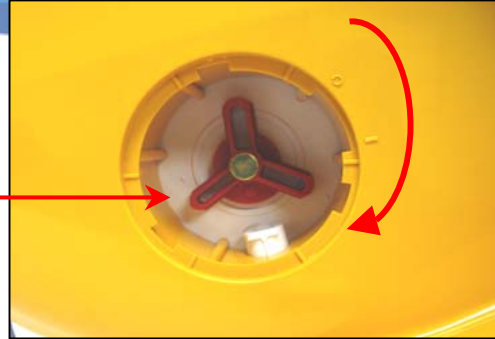
Bottom Vac jets water  
flow



Slight leakage from Spin-Out jet normal

# Viio Diagnostics-Water Test Spin-Out Mode

Always check rotation of cam.  
Cam is always rotating when  
cleaner is operating.  
Slight water leakage around check  
ball and cam post is normal.



Normal front Spin-Out jet



Normal rear Spin-Out jet



# Viio Diagnostics

## Complaint

### Slow or no forward motion

- Low water pressure at head – test and adjust. See Figure 1.
- Clogged filter screen, primary in-line or secondary manifold screen – inspect and clean. See Figure 2.
- Poor connection of hose to head or heavy leakage at connection. Leakage at wall fitting. See Figure 3.
- Thruster tubes off at manifold or thruster. See Figure 4.
- Water leakage at cut, rolled or damaged o-rings of rigid pipe, leakage at swivels or other hose connections– test and repair. See Figure 5.
- No booster pump, poor pressure from booster pump or plumbing issue.



Figure 1

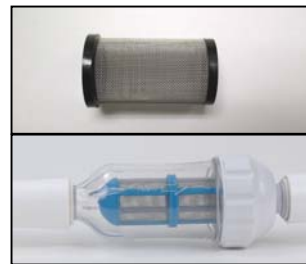


Figure 2

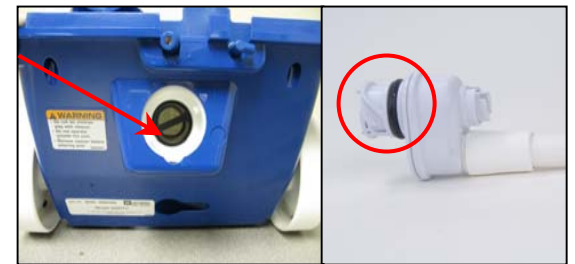


Figure 3

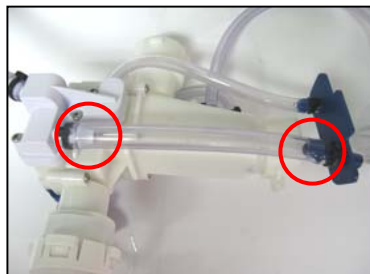


Figure 4



Figure 5



# Viio Diagnostics

## Complaint

### Stays in Spin-Out, turning in circles

- Water pressure not set correctly, low. Adjust to approximately 27 psi. Insure there is no leakage at tube connections.
- Gearbox failure, and gearbox failed with cam depressing check ball. Remove access cover and see if cam is depressing check ball. If so, connect tester and visually check to see if cam is rotating. See Figure 1. If cam is not rotating, remove top deck and insure water drive tube to turbine is attached to manifold and gearbox. See Figure 2.
- Ensure piston cap is connected and secure. See Figure 3.
- Spin-Out tube from Spin-Out piston is off at piston cap on manifold or gearbox. Inspect tube ends to be sure they are connected and secure. See Fig 4.
- Spin-Out check ball valve failure or debris behind check ball preventing full closure of check ball in valve. Inspect valve for damage or debris behind ball preventing a good seal. Slight leakage is OK. See Figure 5. If check ball and tubes are OK, replace manifold.

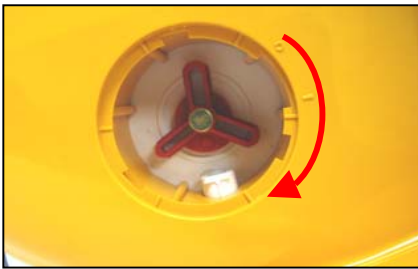


Figure 1

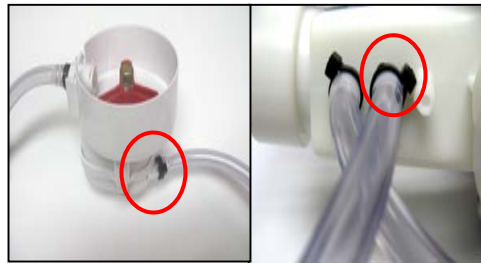


Figure 2



Figure 3

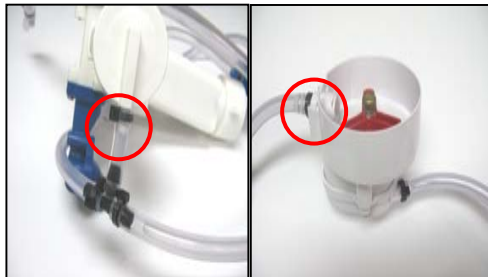


Figure 4



Figure 5

# Viio Diagnostics

## Complaint

### Will not Spin-Out

- Water pressure not set correctly. Test and adjust to approximately 27 psi. Insure there is no leakage at tube connections.
- Gearbox failure. Remove access cover, connect tester and visually check to see if cam is rotating. Also insure cam is properly placed on gearbox square post. See Figure 1. If cam is not rotating, remove top deck and inspect water drive tube to turbine port and insure it is attached to the manifold and gearbox. See Figure 2. Replace gearbox if tubes are attached.
- Front, rear or both Spin-Out tubes are not attached. See Figure 3. If all hoses are attached and gearbox rotates, replace manifold.

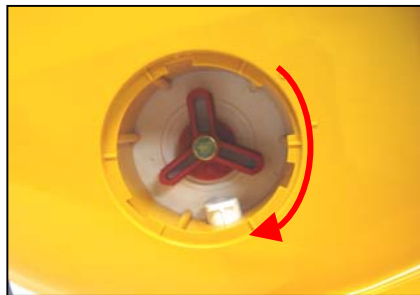


Figure 1



Figure 2

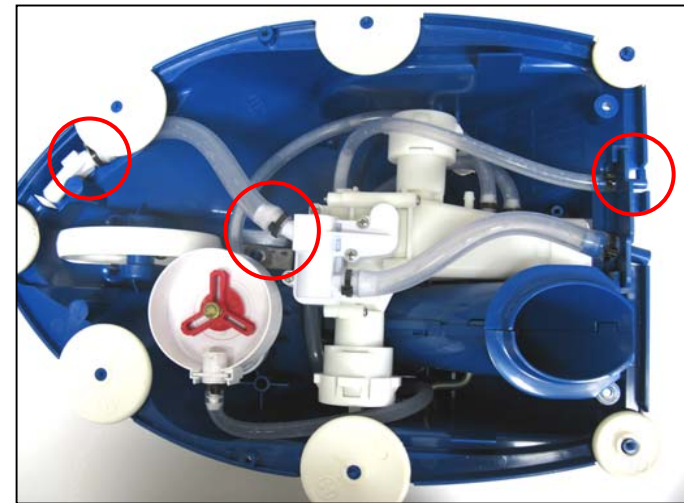


Figure 3

# Viio Diagnostics

## Complaint

### Rigid pipes/hose will knot/tangle

- One or more skim jet holes clogged. See Page 20.
- Leakage in o-rings at rigid pipe connections or at hose swivels. See Page 20.
- Hose length not correct. Use measuring tape included with Viio and adjust to required length.
- Too frequent or too long a Spin-Out. Change to cam with lower number of prongs or switch to summer mode. See Figure 1.
- Sweep hose not working or moving too slowly. Check for clogs or missing nozzle. If nozzle is fine and there are no clogs, increase pressure to sweep hose. See Figure 2.
- Float not centered on flexible hose section nearest cleaning head. Center float. See Figure 3.
- When assembling hose sections with swivels, insure the swivel portion is positioned toward the wall fitting end of the hose. See Figure 4.

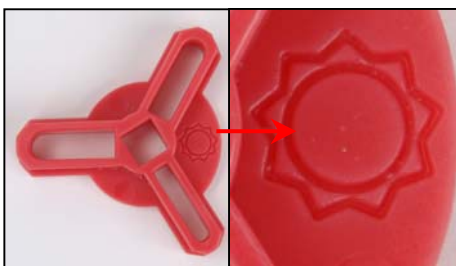


Figure 1

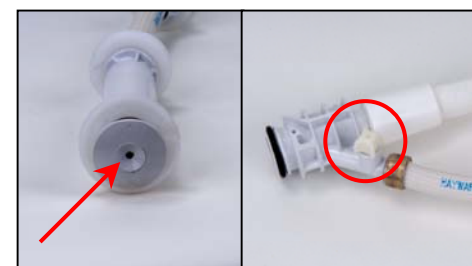
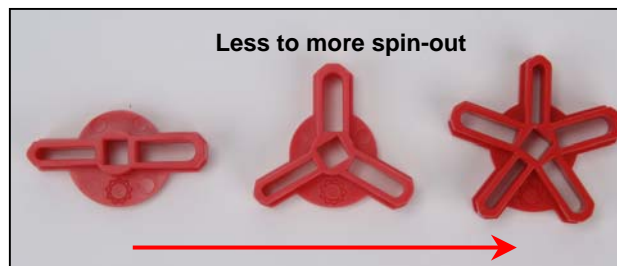


Figure 2



Figure 3

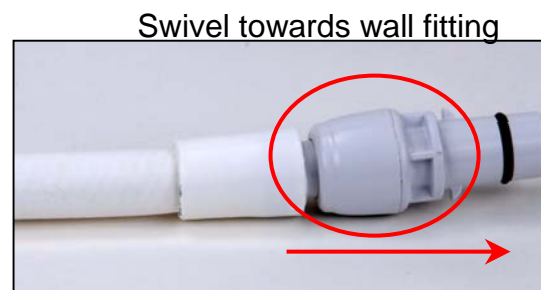


Figure 4

# Viio Diagnostics

## Complaint

### Cleaner does not reach all areas of pool, stays in deep end.

- Hose length not correct. Use measuring tape included with Viio and adjust to required length.
- In pools with a particularly steep slope from the deep end to the shallow end, it is best to use a cam with the next lower number of legs (less frequent Spin-Outs) in order to allow for longer straight runs of the cleaner. See Figure 1.
- If the hose length is correct, it may be spinning-out too frequently. Change Spin-Out cam to the 2 or 3 leg cam, whichever is not being used. If 5 leg cam is being used, first try 3 leg, then if needed 2 leg cam. See Figure 1.



Figure 1

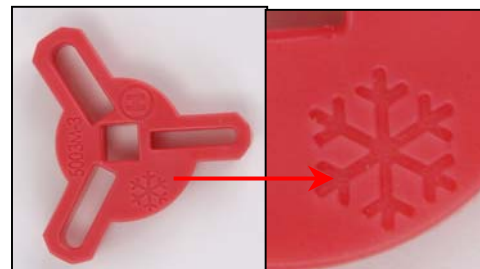


Figure 2

## Complaint

### Cleaner cannot escape corners or spends a large amount of time in corners.

- Water pressure not set correctly. Adjust to approximately 27 psi. Insure there is no leakage at hose connections. See Page 20.
- Confirm that both Spin-Out jets are operating. See page 14.
- Spin-Out time needs to be increased. Change current cam position to the winter mode to increase the length of time the unit is in Spin-Out. See Figure 2.