

Ray-Vac Quick Troubleshooting Guide

Circling Ray-Vac - What to do?

The Ray-Vac is a pressure side pool cleaner that uses a venturi action to create suction to remove dirt and debris from a pool and trap the dirt in the belly of the cleaner. The transporter jet, located within the head of the Ray-Vac, provides both the propulsion to power the head and the jet action for the venturi.

On the Ray-Vac hose are three (3) additional jets. These jets keep the hose moving when and if the Ray-Vac head is lodged in a corner. This is what is called a powered feeder hose. Both the head and the hose are in balance when the Ray-Vac is first installed in the pool. What causes the system to go out of balance and therefore circle, is discussed below.

Screen - blocked with fine dirt or algae:

The screen, within the Ray-Vac head, is designed to trap and hold large debris and fine dirt without inhibiting the flow of water through the head. If the screen becomes coated with very fine dirt or algae, the Ray-Vac will begin to circle.

To determine if the screen is the cause of circling, remove the screen from the head, replace the bottom and operate the Ray-Vac without the screen. If it doesn't circle the problem is the screen and it should be thoroughly cleaned or replaced.

Transporter Jet - plugged or fuzzy:

The Transporter Jet, located inside the Ray-Vac head, has six (6) orifices which provide the pressure to power the Ray-Vac head. These jets are in balance with the three (3) Line Jets which power the feeder hose. If any of the Transporter Jet orifices become plugged or fuzzy the thrust of the head will be reduced and the speed of the hoses will over-come the head thus causing circling.

To determine if a Transporter Jet orifice is damaged, remove the bottom, remove the screen from within the Ray-Vac head, aim the rear of the head toward the pool and turn pressure on to the Ray-Vac. Look through the Ray-Vac body at the Transporter Jet sprays. Compare each spray of water. They should all be equal and at the same angle. If any jets appear fuzzy, plugged or aiming at an odd angle, replace the Transporter Jet.

Transporter Jet Sleeve - sloppy:

The Transporter Jet sleeve allows the Transporter Jet to swivel. The swiveling action at the head relieves torque built up during normal operation of the Ray-Vac. During the life of the cleaner this sleeve can become worn. If the sleeve becomes excessively worn the Transporter Jet will not spray directly out the rear of the Ray-Vac, but the jets will hit the sides of the Ray-Vac body thus reducing the thrust of the cleaner.

Check the Transporter Jet Sleeve by grasping the Transporter Jet and moving it from side to side within the sleeve. If the movement of the jet exceeds 10% or any of the jets spray onto the sides of the venturi tube the sleeve should be replaced.

Swivels and Hydro Timer - leaking:

Loss of pressure to the head caused by leaking swivels or a Hydro Timer which is constantly discharging water out the backup hole will cause the head to circle.

Check swivels by lifting them out of the water while the cleaner is on. Swivels can be rebuilt, parts are available from your distributors.

If the Hydro Timer is constantly discharging water, remove the six screws which hold the lid in place. Remove the lid and gear assembly. Inspect the gear assembly for damage, worn bearings or mis-aligned gears. If the gear assembly appears undamaged, flush it with clean water and reinstall it. If it still discharges a lot of water, replace the gear assembly.

Hoses - holes:

Since the Ray-Vac head travels over steps and love seats, its hoses are very susceptible to wear caused by abrasive surfaces. The three pieces of silicon hose, located near the head, are needed to provide the flexibility to maneuver the cleaner out of corners. Each of these three hoses is a specific length to maintain the proper geometry between each Line Jet and the Transporter Jet. If a hole develops in a hose the pressure to the head will be reduced and the head will circle. Likewise if a section of hose is cut to remove a hole the geometry of the system will be effected and the head will circle.

Line Jets - orifice diameter has increased:

The Line Jets and the Transporter Jet are in balance to insure the cleaner travels to all parts of the pool without circling. This balance can be effected by an increase in the Line Jet orifices without an equal increase in the Transporter Jet size.

A circling problem can occur when the Transporter Jet is replaced without replacing the Line Jets on a older cleaner. Erosion of the Line Jets over time can increase the opening of the jet orifices. When these jets are combined together with a standard size Transporter Jet, the thrust of the hose can be greater than that of the head, and circling may result.

Speed - too slow, will circle:

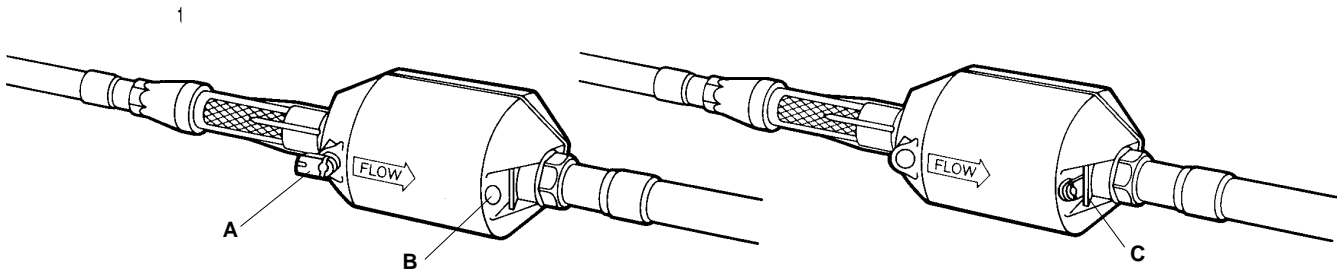
When asked what pressure the Ray-Vac should run at, most installers answer 20 PSI. That is the correct answer if the pool is 17' x 35', the cleaner wall mounting is in the center of the long wall, the equipment is no more than 50' from the pool, and the equipment is approximately level with the pool surface. But if the pool is 20' x 40', the wall mounting is off center, the equipment set is a long distance from the pool, or the equipment is located below pool level, the pressure to operate the Ray-Vac would be greater than 20 PSI.

The true determination of whether the pressure to the Ray-Vac is set correctly is how the Ray-Vac head moves in the pool. If all the above mentioned potential problems have been corrected, the final step is to set the pressure. When the Ray-Vac head is operating properly it should travel up the deep end wall to the tile line, but not breach the surface of the water. If the head flips on its back, and does the back stroke across the pool, the pressure is set to high. If the Ray-Vac head begins to ove up the deep end wall and then stops or turns off halw way up the wall, the pressure is to low.

Increasing the back of the Ray-Vac:

If the Ray-Vac sticks in an obstacle (i.e. corners, ladder, skimmers, etc.) it is possible to increase the pull out by changing the back up jet size.

1. Remove Jet "A" from its holder and place it in the discharge hole "B".
2. Use a flat head screwdriver to turn the tab under the locking tab "C".



Extended out of pool storage:

If the Ray-Vac is out of the pool for an extended period, store the hoses straight and flat or in a very large (4' diameter) loops. Do not store in original shipping box or hang over hooks or nails as this will cause kinks in the hose.

<u>Problem</u>	<u>Cause</u>	<u>Solution</u>
Pool Cleaner stalls in corner.	Corner restricting movement of movement of Ray-Vac. Nose caster wheel jammed with debris. Increase backup.	No adjustment needed. Wait until backup jet pulls unit out of the corner. Clean or replace. See instructions under Speed Adjustment.
Pool Cleaner stalls in skimmer.	Skimmer opening is larger than Ray-Vac. Increase backup.	No adjustment needed. Wait until backup jet pulls unit out of corner. Add optional skimmer guard. See instructions under Speed Adjustment.
Cleaner stops moving.	Filter system off. Unit in backup cycle. Dirty Finger Screen or Energy Filter. Hole in hose. Backup Hydro-Timer releasing most of the water out of the discharge hole. Transporter jet plugged.	Check time clock. Normal operation. Clean Finger Screen or Energy Filter. Replace defective hose. Replace defective backup jet gear assembly. Clean or replace the transporter jet.
Cleaner moves very slowly.	Debris chamber full. Finger Screen, Energy Filter, main filter, or filter pump strainer is dirty. Insufficient speed. Hole in hose. Water in head float. Pressure gauge has false reading.	Clean chamber. Clean as necessary. Increase speed by increasing pressure to cleaner. Replace defective hose. Replace defective head float. Replace pressure gauge
Hose tangles.	Debris chamber full. Cleaner moves too slowly. Feed hose too long. Frozen swivels. Bent or irregular hose. Water in head float. Floation incorrect.	Clean chamber. Speed up cleaner by increasing pressure to cleaner. Recheck hose length. Check and/or replace swivels. Straighten or replace hose. Replace defective head float. See "Hose Length adjustment" section.
Dirt accumulates near main drain.	Insufficient suction on the main drain. Cleaner is not operating long enough.	Reset suction so at least 50% of the circulation water is sucked from the main drain. Increase running time of the cleaner by adjusting time clock to operate longer.
Finger Screen is often found dirty.	Energy Filter element is damaged. Debris is passing by main filter. Valve to Ray-Vac was not closed.	Check Energy Filter element and replace if necessary Main filter element damaged. Replace as necessary. Close valve to Ray-Vac before cleaning the main filter.
Cleaner beaches on top step.	Insufficient water above top step.	Cleaner needs a minimum of 5" of water to operate properly.
Cleaner stops on main drain.	Too much suction through main filter.	Reset suction on main drain.
Cleaner tangles in ladder.	Ladder/skimmer guard not installed.	Install optional ladder/skimmer guard.