

Polaris 9300 & 9400 Series Robotic Cleaner



 **9300** SPORT



 **9300xi** SPORT



 **9400** SPORT

Zodiac Pool Systems, Inc.
1-800-822-7933
www.ZodiacPoolSystems.com

Regional Extension _____

Instructor _____ ext. _____

Sales Representatives _____ ext. _____

_____ ext. _____

Service Manager _____ ext. _____

_____ ext. _____

IMPORTANT SAFETY INSTRUCTIONS

The information contained in this technical guide is intended for Zodiac trained service personnel only. Electrical installation and repairs should only be performed by a certified electrician or Zodiac trained professional, and must comply with all national electric codes (NEC, Canadian, etc.), state and local law, ordinances, codes and regulations.

If you have not received training, **do not attempt any of the electrical repairs presented in this document.** Contact Zodiac Pool Care, Inc. at 1-800-822-7933 for assistance.

Read and follow all instructions carefully.

When servicing equipment, basic safety precautions should always be followed including those listed below.



WARNING

Failure to heed the following warnings could result in property damage, permanent injury or death.

TO REDUCE THE RISK OF ELECTRICAL SHOCK:

- Disconnect main power to pool equipment area prior to any service or repairs.
- Keep all electrical equipment at least 10 feet (3 m) from inside wall of pool or spa.
- Connect equipment only to a receptacle (cord models) or circuit (hardwired) protected by a ground fault circuit interrupter (GFCI).
- Use only copper conductors and supply wires suitable for the specific device.
- Replace damaged power cord(s) immediately and use only identical replacement parts.
- Do not bury power cord(s). Position cord(s) to minimize abuse from lawn mowers, hedge trimmers and other equipment.
- Do not install or service equipment if precipitation is present or imminent.

TO REDUCE EQUIPMENT WATER PRESSURE HAZARD:

- Always turn pump off to release pressure prior to removing or installing in-line equipment.
- To avoid equipment damage, do not exceed water pressure (psi) specifications for the device.

To reduce the risk of injury, do not permit children to operate, handle or play on equipment.

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FEATURES, and BENFITS



- Powder coated alloy caddy is included.
- 60' Cord on the 9300 & 70' Cord on the 9300xi and 9400. (Interchangeable)
- Simple top access to “shake & spray filter canister. Never touch pool debris again.
- Retail ready packaging
- Features Vortex Vacuum Technology. Collects debris and does not lose suction.
- Adjustable cleaning cycles.



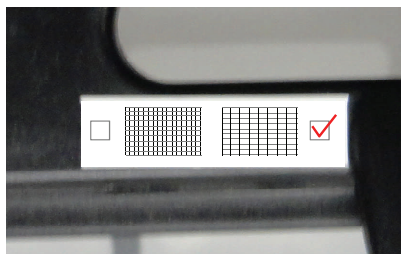
- New Wheel design.

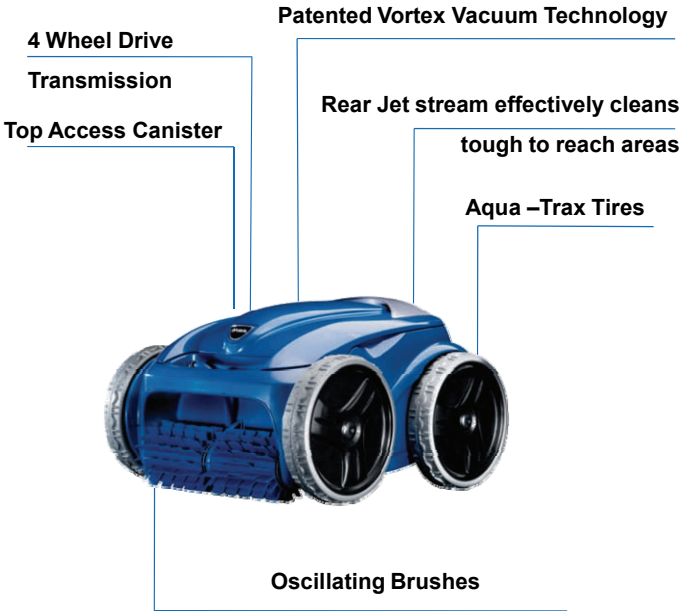


- New filter canister color.



- New 60 micron and 200 micron filter canister. (Sold Separately).





Never Touch Pool Debris



Includes Caddy

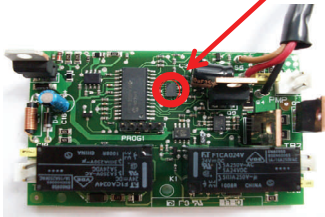
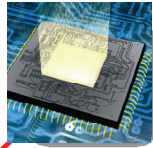


4 WHEEL DRIVE BENEFITS

- Improved performance over obstacles (main drain, safety ledges, steps, slope break...)
- More aggressive scrubbing
- 20% Faster Cleaning – Cleans in reverse

ActivMotion Sensor actively tracks and adjusts cleaner position for optimized cleaning

- Prevents Looping
- Reduces Cable Tangling
- More effective Cleaning



ActivMotion Sensor

- the 3D sensor communicates the cleaner's position to the microprocessor
- the looping is immediately stopped
- the cleaner rebalances and finds an upright position

COMPONENTS

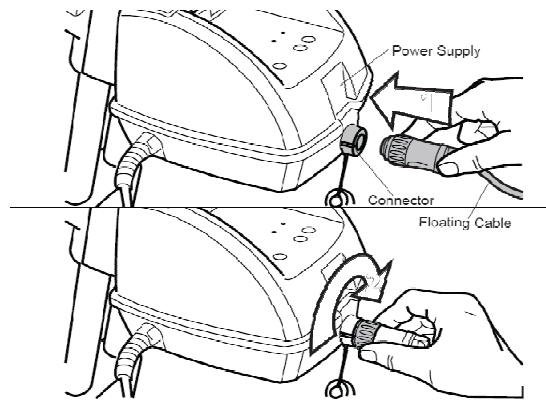
Components



Notes:

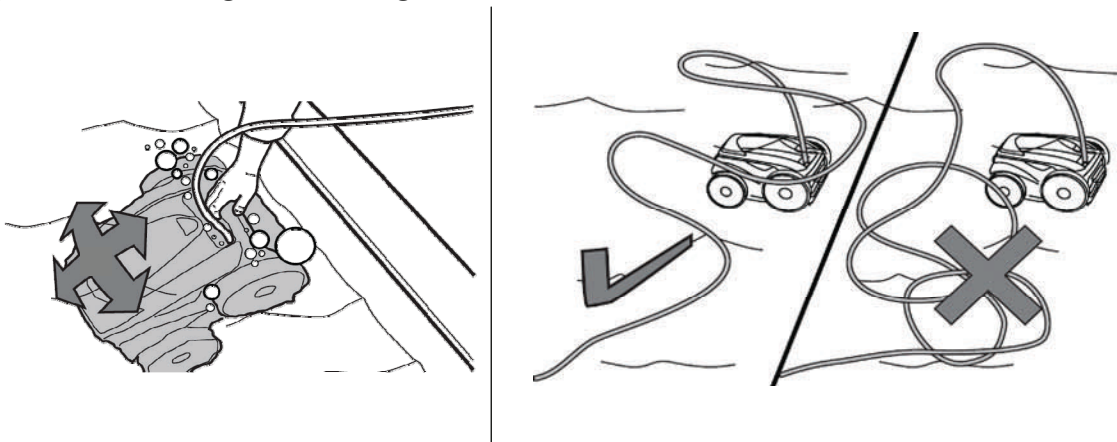
Installation:

- 1- Assemble the caddy.
- 2- Attach the Power Pack to the caddy.
- 3- Connect 8' Cord to a GFCI Outlet.
 - Keep the Power Pack 5' from the edge of the pool.
 - Do Not Use an Extension Cord.
- 4- Connect the Floating Cable to the Power Pack snugly.



Installation:

- 5- Submerge the cleaner by the side of the pool.
 - Turn the cleaner head over under the water to insure all air has been removed.
 - Allow the cleaner to sink to the bottom of the pool.
 - Do Not Throw the cleaner into the pool.
- 6- Spread the floating cord around the pool evenly to prevent coiling or kinking.

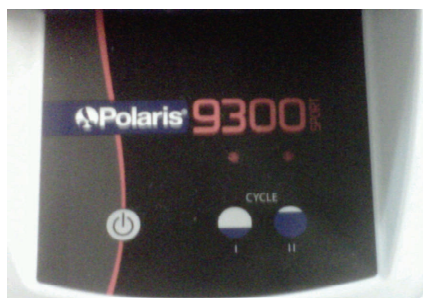


OPERATION

Operation:

Standard operation for both 9300 & 9300xi

- Select Cycle:
 - Cycle I is 1.5 Hours and concentrates on the bottom of the pool.
 - Cycle II is 2.5 Hours and allows for both the bottom and walls of the pool.



9300 Power Pack Shown

- The cleaner will move forward and backward and periodically turn left and right during the cycle. Debris will be captured in the filter canister.
- Upon completion of the cycle, the light on the power pack will flash for 15 minutes and then go out completely.

Note: To turn the cleaner off mid cycle, press the power button, .

Operation:

Automatic Start Mode (9300xi only)


The 9300xi has an Automatic Start Mode application if you GFCI outlet is hooked up to a time clock or relay from a control system. This will allow the cleaner to automatically start when power is supplied to the power pack.




9300xi Power Pack Shown

- 1- Decide which cycle you would like to run.

Note: This feature will run for 2.5 hours in both Cycle I and Cycle II. Cycle I will concentrate on the floor of the pool while Cycle II will go over the whole pool including the walls.

- 2- Hold the timer button , and the cycle button of choice down for 3+ seconds. The 2 lights on either side of the timer button will flash once indicating the timer mode is activated. Now the cleaner will come on whenever power is applied to the power pack.

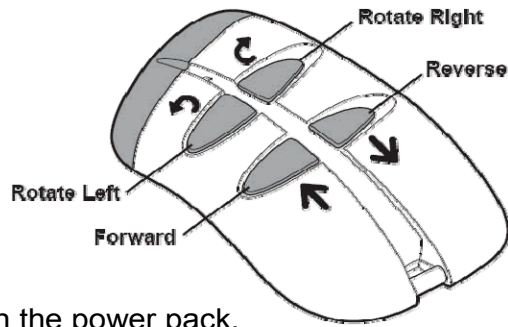
To cancel the timer mode:


- 1- Turn on power to the power pack.
- 2- Hold the power button, , down for 6+ seconds. The two lights on either side of the power button will blink once indicating the timer mode is deactivated.

Operation:

Wireless Remote (9300xi only)

The 9300xi has a wireless remote feature that allows you to move the cleaner into specific sections of the pool.



- 1- Turn on the cycle of choice on the power pack.
- 2- While cleaner is moving, point the remote at the power pack, and press the direction of choice on the remote. Continue holding the button down until the cleaner has completed the movement you want. While the remote buttons are pressed the two lights on either side of the timer button, , will blink.
- 3- The cleaner will resume its cycle after 45 seconds if the remote is not used.

Notes:

- The Wireless Remote for 9300xi is always enabled for use while either cycle on the power pack is activated.
- The Remotes each have a unique ID at 433.92MHZ. Because of this, if a remote is replaced, it must be synchronized with the power pack. (See Troubleshooting).
- The replacement battery is **L1028 (12V 23A)**

Notes:

Maintenance

Note: The pictures in the maintenance are those of the 9300. The 9300xi tear down is the same, except that some of components look different. Always consult the individual breakdowns for 9300 and 9300xi before replacing any part.

Maintenance:

Removing and cleaning the Canister

- 1- Press button to open cover.
- 2- Lift out Filter Canister.



Notes:

Maintenance:

Removing and cleaning the Canister

3- Open by pressing the button on the canister support.

4- Lift Separate Filter Canister, empty and gently rinse with water and replace.



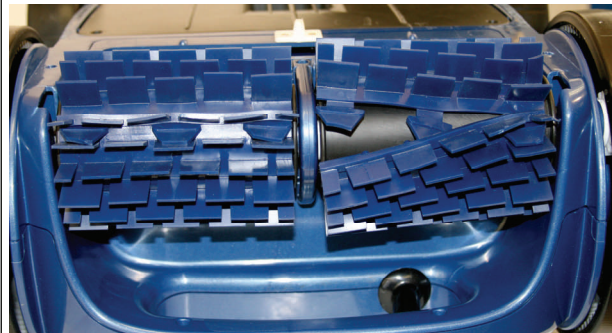
Maintenance:

Replacing worn Brushes

1- Locate the seam of the brush and separate the tab from the slot.

2- Slide the new brush onto the roller and insert the tab into the slot.

3- Trim excess material off of the tab.



9300 Brushes



9300xi Brushes

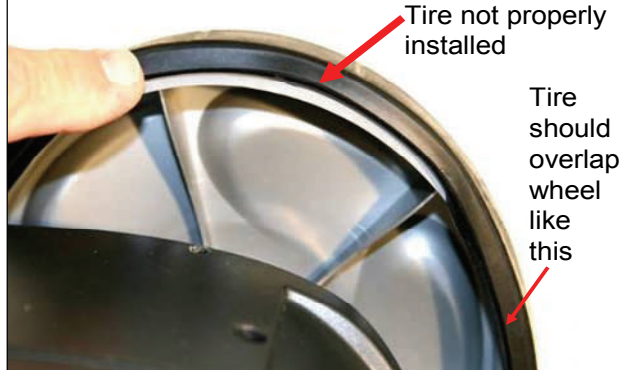
MAINTENANCE

Maintenance: Replacing worn Tires

- 1- Pull off worn tire.
- 2- Stretch the new tire onto the wheel insuring that the outside edge faces you.
- 3- Make sure the lip of the tire completely overlaps the rim of the wheel.



*New 2011 tire design
for the 9300 and 9300xi*



Notes:

Maintenance:

Cleaning Debris from the propeller

1- Remove the screw from the flow outlet screen.

2- Pinch the sides of the screen and lift off.



Maintenance:

Cleaning Debris from the propeller

3- Lift off the locking tab of the flow and slide it out of the cleaner.

4- Pull the propeller off of the motor shaft.

5- Remove any debris.



Disassembly

Note: The pictures in the tear down are those of the 9300. The 9300xi tear down is the same, except that some of components look different. Always consult the individual breakdowns for 9300 and 9300xi before replacing any part.

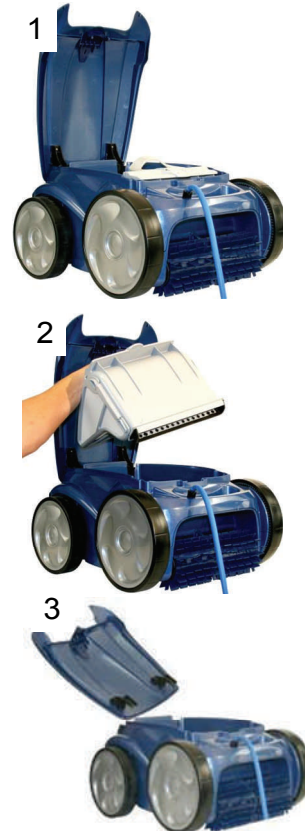
Tools needed:

- 5/32" T-handle Allen wrench
- Rubber mallet
- Phillips head screw driver

Disassembly:

Removing the Filter Canister, Cover, and Propeller

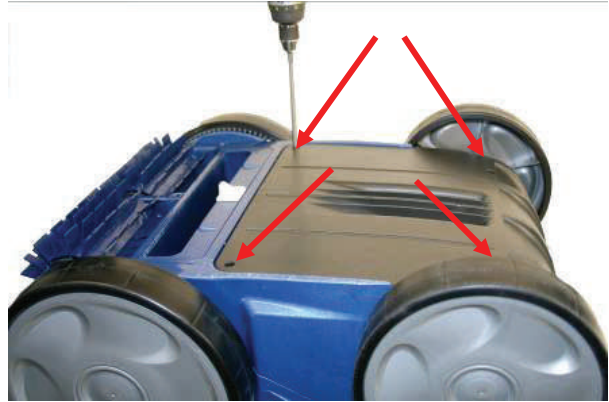
- 1- Open cover.
- 2- Remove canister.
- 3- Grasp cover at the top and quickly pull backward to release hinges and snap off cover.
- 4- Remove propeller. (As shown in maintenance).



Notes:

Disassembly:
Removing the Motor Block

- 1- Turn the cleaner upside down.
- 2- Remove 4 screws
- 3- Lift out motor block.



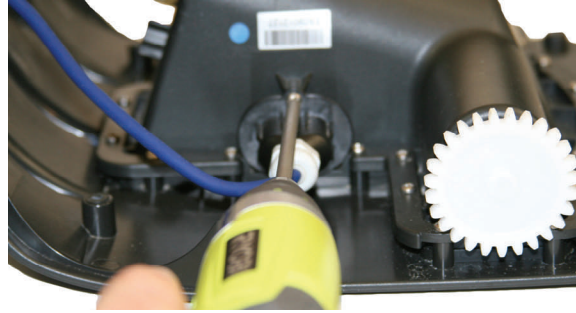
Notes:

DISASSEMBLY

Disassembly:

Removing the Floating Cable from the Cleaner Housing

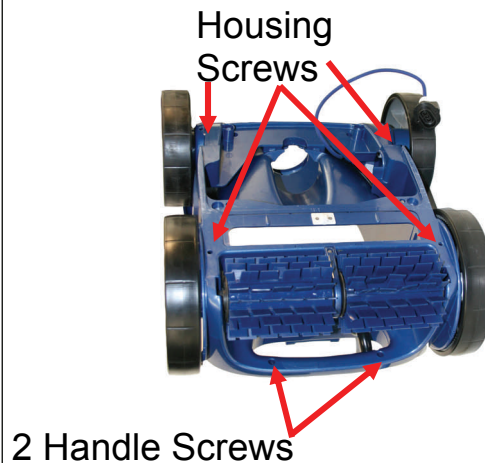
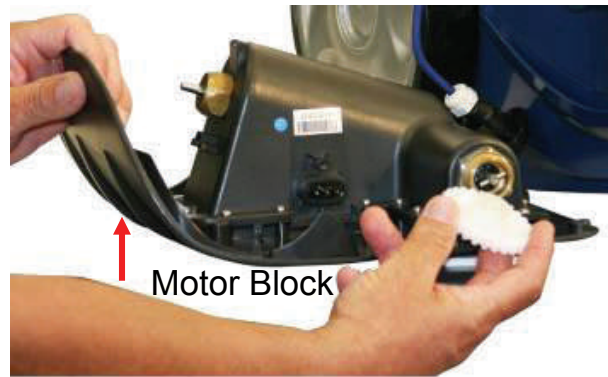
- 1- Remove the 2 screws securing the floating cable to the motor block and disconnect the plug.
- 2- Remove and save the o-ring.



Disassembly:

Removing the Floating Cable from the Cleaner Housing

- 3- Remove the 2 drive gears and clean or replace as needed.
- 4- Remove both brushes. (As shown in maintenance)
- 5- Remove 2 handle screws and 4 housing screws.



Disassembly:
Removing the Floating Cable
from the Cleaner Housing

6- Separate the top and
bottom housing.

7- Remove screw holding
the cable tie to the
housing and lift the cable
out.



Notes:

DISASSEMBLY

Disassembly: Removing the Wheels

Note:

- The wheels are attached to the bottom housing by a 2-piece keyed wheel bushing.
- The lever on the wheel bushing locks the wheel onto the housing.



Disassembly: Removing the Wheels

- 1- Insert the Allen Wrench into the access hole at each wheel and press down firmly on the locking lever.
- 2- Strike the inner edge of the wheel with a mallet to release the wheel.
- 3- Pull the wheel off the housing.



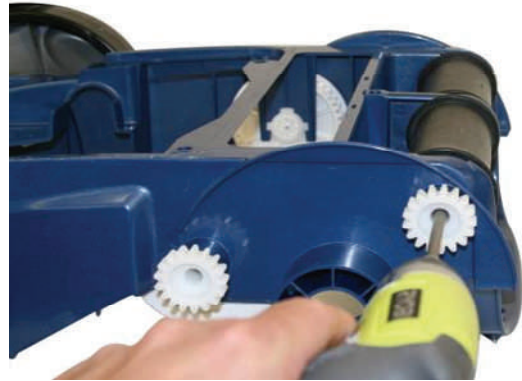
- Tools Needed:**
- 1- Rubber Mallet (Or Equivalent)
 - 1- 5/32" T-Handle Allen Wrench (Or Equivalent)



Disassembly:

**Removing the Rollers and
Roller Bushings**

1- Remove the screws holding the small roller transmission gears into the roller and pull the gears off.



Disassembly:

**Removing the Rollers and
Roller Bushings**

2- Remove the single screw holding the brush separator to the housing.

3- Lift both rollers and brush separator out.

4- Separate the rollers & bushings and clean or replace as needed.



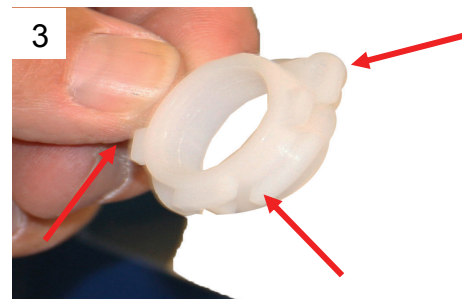
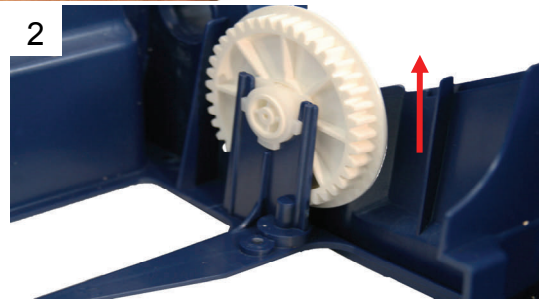
DISASSEMBLY

Disassembly: Removing the Large Transmission Gears

1- Remove the screw in the small transmission gear while holding the large gear.

2- Lift the large gear out of the housing.

3- Remove the bushing from the large gear.



Notes:

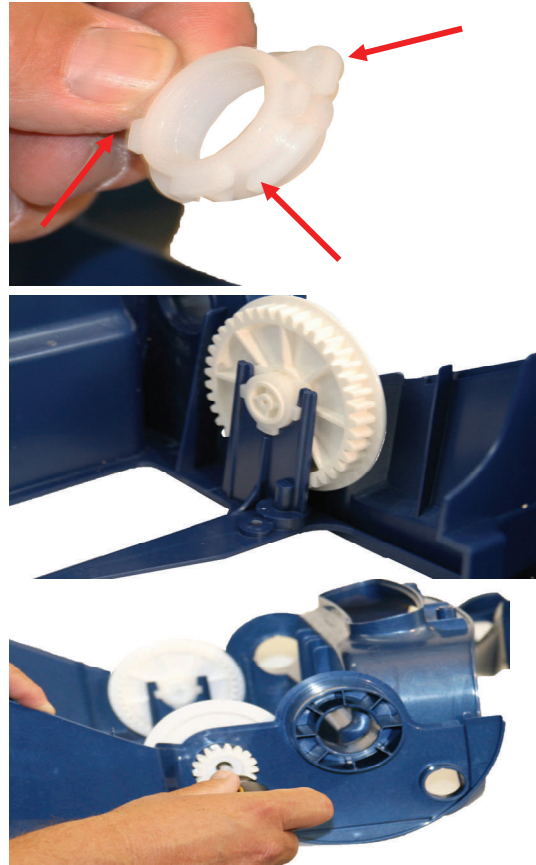
Assembly

Note: The pictures in the maintenance are those of the 9300. The 9300xi tear down is the same, except that some of components look different. Always consult the individual breakdowns for 9300 and 9300xi before replacing any part.

Assembly:

Replacing Large Transmission Gears

- 1- Replace the bushing onto the large gear with the small tabs out.
- 2- Slide the large gear into the housing.
- 3- Screw in the small transmission gear screw while holding the large gear.



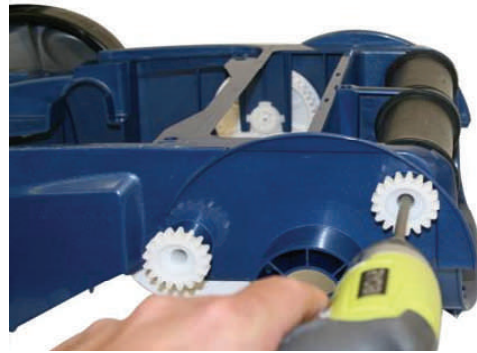
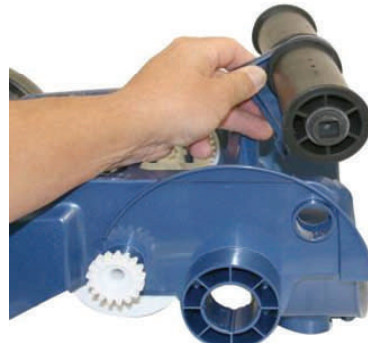
Notes:

ASSEMBLY

Assembly:

Replacing the Rollers and Roller Bushings

- 1- Reconnect the rollers and bushings.
- 2- Put both rollers onto the brush separator and insert into the housing.
- 3- Screw in the single screw holding the brush separator to the housing.
- 4- Insert the small roller transmission gear through the housing into the rollers.
- 5- Holding the small roller transmission gear, screw the gear to the rollers.



Assembly:

Replacing the Wheels

- **IMPORTANT:** Insure that the 3 keys of the bushing are aligned with the 3 grooves in the housing. If the wheel is replaced without aligning the keys, the wheel can not be removed in the future. Push the wheel into the housing until it locks into place.

Align keys
into grooves
on housing

Grooves in
Housing



Assembly:

Replacing Floating Cable in the Cleaner Housing

1- Lay the cable into the top of the main housing and wedge the clamp into the notch and seat the cable anchor.

2- Replace the screw at the cable tie

Note: Replacement Cable comes complete with plug, cable ties and cable anchor.



Assembly:

Assembling the Housing

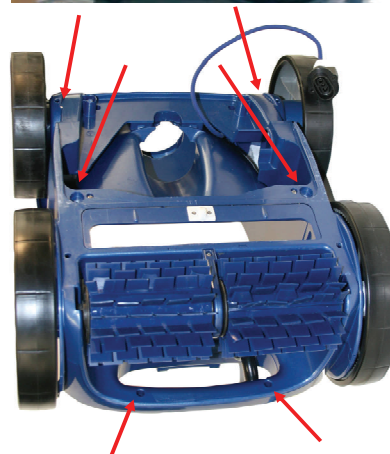
1- Set the top housing on a workbench upside down.

2- Guide the floating cable through the motor block opening of the bottom housing.

3- Seat the bottom and top housing together and replace the 6 screws.

(When using a motorized screwdriver, engage screw first and use a low torque to prevent cross threading and stripping).

4- Replace brushes by sliding tabs through the slots.



ASSEMBLY

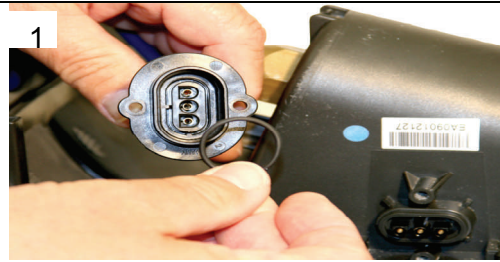
Assembly:

Replacing the Motor Block

1- Press the o-ring into the groove of the cable socket and plug into the motor block.

2- Screw the cable socket into the motor block evenly with the 2 screws to create a good seal.

3- Feed the excess cable into the wheel well and lower the motor block into place.



Assembly:

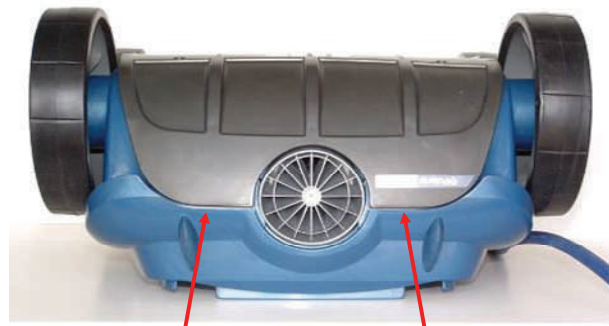
Replacing the Motor Block

4- Insure the back of the motor block properly seated to prevent propeller damage.

5- Replace the 4 screws in the motor block.



A gap here means motor block is not seated & propeller will rub housing.



Properly seated into housing

Assembly:**Replacing the Propeller**

- 1- Turn the cleaner right side up.
- 2- Press the propeller onto the motor shaft.

Note: If the propeller rubs against the bottom housing, the motor block is not correctly seated. Remove the motor block screws and adjust the position of motor block. Retighten the screws. (As shown in steps 5 & 6 of the Motor Block Reassembly).

**Assembly:****Replacing the Propeller**

- 1- Replace the flow outlet and flow outlet screen.
- 2- Tighten screw to housing.



ASSEMBLY

Assembly:

Replacing the Propeller

- 1- Insert Canister.
- 2- Push cover hinges straight down into slots.



Notes:

Troubleshooting:

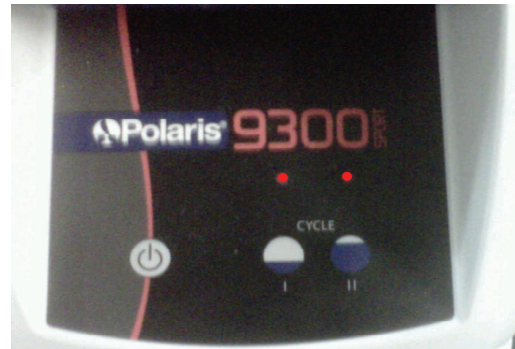
Flashing Cycle Lights

Flashing cycle lights are an indicator of one or more of the following:

- Flow obstructions in the cleaner
- Dirty canister filter
- Trapped air in the body of the cleaner
- Poor cable connection at the motor block
- Short circuit of the motor or PCB
- Floating cable problem
- Software bug in the power pack

Note: The Program lights will flash if the cleaner pulls air for approximately 1 minute. Before proceeding to the following steps, make certain that all of the air has been expelled and that the cleaner is fully submerged.

9300 Power Pack Shown

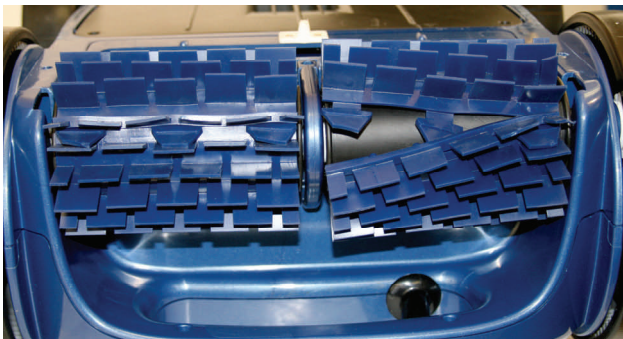


Troubleshooting:

Flashing Cycle Lights

Step 1:

- Check for debris clogging the brushes or propeller. Remove obstruction and test the cleaner.
- Check the canister for fine debris. Try running the cleaner without the canister for a short period, 15 to 20 minutes, to see if the problem persists. If the problem does not return, the cleaner is picking up very fine sediment and/or algae. Clean the canister more frequently or vacuum the pool if necessary before operating the cleaner again.



If problem persists, continue to step 2.

TROUBLESHOOTING

Troubleshooting: Flashing Cycle Lights

Step 2:

- Press the off button, disconnect the power supply from the outlet and disconnect the floating cable from the power pack.
- Re-connect the floating cable to the power pack, plug in power supply and press one of the cleaning cycles.
- If the cleaner stops working within 15 minutes, replace the floating cable, part number R0516800, and test the cleaner again.

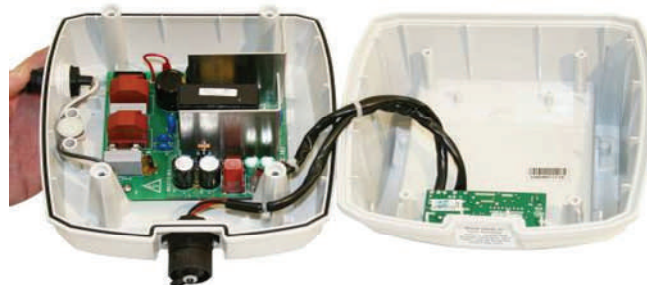


If problem persists, continue to step 3.

Troubleshooting: Flashing Cycle Lights

Step 3 (Inspection of the Power Supply):

- 1- Disconnect power and the floating cable from the power supply.
- 2- Remove the 4 screws from the bottom of the power supply and separate the top and bottom of the power supply.
- 3- Inspect the power supply PCB and keyboard PCB for visible water damage and/or power surge. Replace board(s) as needed.
- 4- Check fuse for continuity on power supply PCB. If fuse is blown, replace Power Supply PCB Touch Pad Kit, part number R05066.

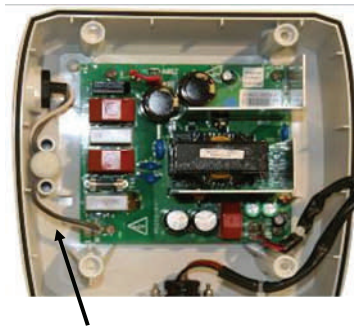


If visual inspection does not show a problem, continue to step 4.

Troubleshooting:
Flashing Cycle Lights

Step 4 (Checking Power Cord):

- 1- Disconnect power cord from the wall.
- 2- Disconnect the Line and Neutral from the power supply PCB.
- 3- Check continuity between the plug end and the wire Terminal. Replace power cord, part number R05068, as needed.



Line and Neutral



If continuity is correct, continue to step 5.

Troubleshooting:
Flashing Cycle Lights

Step 5:

- If steps 1 – 4 do not correct the problem, a software malfunction in the power supply may exist.
 - Replace the complete power supply, (part number R0516500 for the 9300 or R0528600 for the 9300xi).
- or
- Replace both the keyboard card kit, (part number R0516300 for the 9300 or R0528400 for the 9300xi), & power supply PCB touch pad kit, (part number R05066).



Power Supply
Touch Pad Kit

Keyboard
Card Kit



TROUBLESHOOTING

Troubleshooting:

Motor Issues

Symptoms of a shorted motor:

- Only one wheel turns.
- Does not go into reverse.
- Propeller does not rotate.
- Propeller rotates too slow, preventing thrust.

Should any of the symptoms persist for more than 5 minutes:





- 1- Inspect wheels, brushes and propeller for debris and or restriction.
- 2- Reboot the cleaner:
 - Disconnect the power supply from the wall GFCI.
 - Disconnect the floating cable from the power supply.
 - Reconnect the floating cable to the power supply.
 - Reconnect the power supply to the wall GFCI.
 - Make certain the cleaner is in the pool.
 - Start either cycle on the power supply.
- 3- If the problem persists, replace the motor block.

Notes:

Troubleshooting:

Wireless Remote (9300xi only)

Confirm the remote is synchronized with the Power Pack:

- 1- Connect the 9300xi sport to the power pack, then plug the power pack to the GFCI receptacle.
- 2- Press the power, , & the Cycle I buttons together for more than 6 seconds until both lights on either side of the timer, , button flash once.
- 3- Press and hold the “rotate right” button on the remote control unit.
- 4- The light on the right of the timer button, , will flash 5 times then both lights on either side of the timer button, , will flash together.
- 5- The synchronization procedure is now completed when both lights switch off.

Notes:

- The Remotes each have a unique ID at 433.92MHZ. Because of this, if a remote is replaced, it must be synchronized with the power pack.
- The replacement battery is **L1028 (12V 23A)**

Notes:
