



[Inground swimming pool pumps](#) are designed to create a suction vacuum to lift pool water vertically from the pool drain and skimmers, and then push it through the filter and back to the pool returns.

Pool pumps truly are the ‘heart’ of the pool circulation system. And like your own beating heart, cardiac distress can lead to a whole host of other physical issues – and quickly.

That is why inground pool pump problems are urgent and need to be addressed fast. With diminished pump circulation, or a complete lack of circulation, the filter shuts down, and pool sanitizers quickly become overwhelmed by accumulating solids in the water.

### How to Prime an Inground Pool Pump

1. Remove the pump cover lid and fill the pump and pipes with water.
2. Replace pump lid tightly.
3. Open air bleeder on filter tank and turn on pool pump.
4. If pump does not catch prime within 60 seconds, repeat steps 1-3.



Lube [pump lid o-ring](#) and tighten the pump lid very tightly. Check the areas before the impeller for air leaks; the pump needs to be air-tight on the suction side of the impeller.

### How to Remove a Stuck Pump Cover or Lid

1. Open the filter air bleeder to release a vacuum air lock.
2. Close suction and return valves to remove a water lock.
3. For lids with raised edges, lay a long screwdriver or board between the edges.
4. For lids with lock rings, try a large strap wrench, or wrap a cloth around the ring.
5. When all else fails, tap lid gently with a rubber mallet, in a ccw direction.



Clean your pump lid o-ring with a soft rag, and keep lubricated with a Teflon [pool lube](#) for smooth operation, better sealing and o-ring protection.

### How to Clean a Clogged Pool Pump Impeller

1. Remove pump lid and pump basket.
2. Reach into impeller housing with a small screwdriver; rotate in a ccw direction.
3. Scoop out floating and sunken debris by hand.
4. Reassemble and start pump to see if filter pressure is normal.

5. When all else fails, open up pump by separating the seal plate and motor from the pump, removing the diffuser, and reaming the impeller vanes with a stiff wire.



Be sure the [pump basket](#) is seated fully and oriented properly, some have a front hole, and some lock into place with a quarter turn or align with a ridge in the pump body.

### How to Empty a Pool Pump Basket

1. Shut off pump, close off skimmer and drain valves.
2. Remove pump lid cover.
3. Lift pump basket straight out (some baskets twist  $\frac{1}{4}$  turn to unlock first).
4. Gently tap the basket upside down to remove debris.
5. Replace basket correctly and fully, replace pump lid tightly.



When replacing the [pump lid](#), check the pump lid o-ring or gasket, to be sure it is clean and seated properly in the groove.

### How to Find a Pool Pump Air Leak

1. Check that the pool water level is at the normal level.
2. Check that skimmer weirs are not stuck in an up position, blocking water flow.
3. Shut pump off, clean and lubricate pump lid o-ring, and replace pump lid very tightly.
4. With pump running, shut off power while looking closely for a quick spurt of water, from around the pump lid or from the pipe that comes into the pump.
5. Spray foam shaving cream around the pipe that leads into the pump, to see if it sucks into the pump slowly, while the pump is running.
6. Pressurize the system with a Drain King™ in the skimmer, and a closed filter valve or return valve, after the pump.



The most common air leak is a loose pump lid, and the second most common is a loose incoming [pipe fitting](#). Bubbles in the pool, or difficulty priming a pump are signs of an air leak, which will always be on the suction side of the impeller.

### How to Wire an Inground Pool Pump

1. Shut off power to the pump timeclock or switch by flipping the circuit breaker.
2. Remove the rear cover of the new inground pump motor.
3. Remove the conduit connector from the old motor, and screw into the new motor.
4. Push the 3 wires through the connector and tighten the lock nut.

5. Connect the green wire to the ground screw, and the other two wires to the large brass screws or spade terminals, labeled L1 and L2 (either wire).
6. Connect the bare copper wire, the bonding wire, which connects the filter and other equipment, to the brass bonding lug on the front/top area of the pump motor.



[Inground pool pumps](#) come ready to wire 230V. Reversible motors allow a switch to 115V, following instructions on the motor label plate.

### How to Replace an Inground Pool Pump Motor

1. Buy a correct inground pump motor (frame, voltage, hp), and shaft seal.
2. Shut off power at breaker, remove pump housing bolts, or a clamp ring or lock ring.
3. Slide motor and seal plate backwards, out of the pump housing.
4. Remove the impeller by preventing the shaft from turning, with an open end wrench on the rear of the shaft, then spinning the impeller off in a ccw direction.
5. Remove the 4 bolts that connect the motor to the seal plate; remove the seal plate. Knock out the old shaft seal half in the center of the seal plate.
6. Remove motor cover plate, disconnect wires, loosen conduit connector lock nut, slide the wires out of the motor. Remove the conduit connector and screw into new motor.
7. Press the round ceramic shaft seal half into the seal plate; bolt seal plate to new motor.
8. Slide the spring shaft seal half over the impeller, and spin the impeller onto the shaft.
9. Push wires through the conduit connector and connect the ground wire to the green ground screw, and the other two wires to terminals L1 and L2 (either wire).
10. With diffuser and o-rings in place, slide the motor back into the housing, and clamp or bolt the seal plate to the pump housing. Fill pump with water and test operation.



Be sure to select an exact match motor for your inground [pool pump motor](#). You cannot increase horsepower without also replacing the pump impeller.

### How to Replace an Inground Pump Shaft Seal

1. Buy the correct OEM or generic shaft seal for your inground pump.
2. Shut off power at breaker, remove pump housing bolts, clamp ring or lock ring.
3. Slide motor and seal plate backwards, out of the pump housing.
4. Remove the impeller by preventing the shaft from turning, with an open end wrench on the rear of the shaft, then spinning the impeller off in a ccw direction.
5. Remove the 4 bolts that connect the motor to the seal plate; remove the seal plate. Knock out the old shaft seal half in the center of the seal plate.
6. Press the round ceramic shaft seal half into the seal plate; bolt seal plate to new motor.

7. Slide the spring shaft seal half over the impeller, and spin the impeller onto the shaft.
8. With diffuser and o-rings in place, slide the motor back into the housing, and clamp or bolt the seal plate to the pump housing. Fill pump with water and test operation.



[Shaft seals](#) are two pieces, the spring half and the ring half. The spring half has a hard plastic side that makes contact with the ceramic face of the ring half.

### How to Replace a Pool Pump Capacitor

1. Buy an exact replacement capacitor by matching the MFD rating.
2. Shut off power to the pump timeclock or switch, by flipping the circuit breaker.
3. Remove the rear cover of the new inground pump motor.
4. Use a ¼" nutdriver to loosen the capacitor retainer band.
5. Use needle nose pliers to remove each wire, making note of their location.
6. Replace each wire onto the new capacitor in the exact same location as before.
7. Reattach capacitor retaining band and motor rear cover.



Remove and replace each wire one at a time, or make a diagram, to prevent mis-wiring. Before replacing cover, tuck [capacitor](#) wires properly to avoid contact with cover or switch.

Inground pool pump troubles can happen to anyone at any time. The motors will usually last for 10 years, before they burn out, or begin to run very loudly, indicating worn bearings. At this point you can replace just the motor and shaft seal, or replace the entire pump.

For more assistance with your inground pool pump troubleshooting, give us a call or send us an email with details of your difficulties. We're glad to help you with any type of pump problem!