

Playing It Safe with Pools and Spas

Pools and spas are fun for everyone. Knowing and following safety guidelines will help everyone enjoy their leisure hours safely. This brochure presents basic information on the main hazards associated with the mechanical equipment used with a pool or spa:

1. Pump suction (from the main circulating pump);
2. Compressed air trapped in the filter system;
3. Fire, explosion, or asphyxiation from a gas-fired pool heater;
4. Electricity.

Please read this brochure, and then make a habit of practicing basic safety in the use and care of pool and spa equipment. Also, read your equipment owner's manuals carefully. Keep them handy and refer to them for detailed maintenance instructions and safety information. Contact your pool professional or dealer if you need advice or to replace a lost manual. Please take time to review these guidelines now, and keep safety in mind at all times in and around pools and spas. Taking the time periodically to inspect your equipment will result in many hours of carefree relaxation. Safe and Happy Swimming!

Routine Maintenance Tasks

Routine maintenance helps keep your pool and spa system operating safely and efficiently. Have your pool professional perform the following tasks regularly:

- Make sure that each suction outlet has a cover that is installed correctly, screwed down, unbroken, and certified for that application.
- Make sure that all skimmer covers are in place, screw-fastened and unbroken.
- Make sure that the filter pressure gauge is in good working condition and that the filter pressure is within the operating range specified in your filter owner's manual.
- Make sure that filter O-rings are sealing properly and in good condition.
- Bleed off accumulated air from the system.
- Empty the skimmer baskets and the pump strainer basket of debris.
- Remove any debris or obstructions from the main drain cover. Remove obstructions and combustibles from around the pump motor air vents.
- Make sure that all chemicals are properly stored (away from equipment).
- Make sure that the heater is functioning properly.
- Make sure that there is no gas smell around the heater.
- Make sure that all grounding and bonding wires are connected and in good condition.
- Make sure that all wiring connections are tight and clean and that all wiring and electrical equipment are in good condition.

Routine Equipment Safety Checklist:

- Is there a complete, readable Owner's Manual kept handy for each piece of equipment?

- Are Skimmer Deck Covers NSF Certified and all Suction Fittings and Main Drain Outlet Covers IAPMO certified as anti-entrapment and anti-hair-entanglement?
- Are Skimmer Deck Covers and Main Drain Outlet Covers in place and screwed down?
- Are Skimmer Deck Covers and Main Drain Outlet Covers deteriorated, cracked, or weathered? If so, replace them. (On outdoor pools, all Plastic Skimmer or Drain Covers should be replaced every 3-4 years, especially in the "Sun Belt.")
- Are Skimmer Baskets clean and in place?
- Are Filter Tank Clamps and Bolts in place, in good physical condition, and correctly tightened? (Don't try to adjust clamps while the filter is under pressure.)
- Are FilterTank O-Rings sealing properly?
- Are Filter Tank Pressure Gauge and Air Release Valve in place and working?
- Is Pool Heater area clear of leaves, flammable material, and debris?
- Are Heater, Vent Pipe, and Gas Line in good physical condition?
- Is the entire Pool area free of any smell of gas?
- Is all visible Electrical Equipment and Wiring (including pool lights and niches) in good physical condition?
- Do Ground Fault Circuit Interrupters (GFCIs) test OK? (Most GFCIs have a 14 test" button; see the instructions with the GFCI.)
- Are Motors, Equipment Rooms, etc., clear of leaves, debris, and combustibles?

1. Pump Section (from the main circulating pump)

Your pool or spa's main circulating pump pulls in water by means of a strong vacuum through the main drain. The vacuum is so strong that anyone lying on an 8" diameter main drain while the pump is running could be held down on the drain by a force of up to seven hundred pounds (that's right, 700 pounds). This is enough force to trap adults or children underwater, or even to eviscerate them. Have your pool professional examine your pool or spa for the following points:

1. There must be at least two suction outlets from the pool to the main circulating pump. Each outlet must have a cover fastened down with screws. Either one of these outlets should be able to supply the pump by itself without exceeding the flow rating of its cover. (Many above-ground pools use the skimmer as the suction outlet and have no main drain; these pools don't require a second suction outlet.) Read the pump owner's manual for flow requirements for your installation.
2. All suction outlet covers (for instance, grates, anti-vortex covers, etc.) must be designed so that they won't trap body parts or hair, and must be certified by a nationally recognized testing laboratory. Plastic deck and drain covers may deteriorate and crack or break from exposure to sunlight or weather. Routinely replace them every 3-4 years.
3. An emergency shut-off switch for the pool circulation pump and the spa jet pump should be in an easily accessible, obvious place near the pool or spa. Bathers should know where it is and how to use it. Use the switch in case of emergency.
4. Most pool cleaners and all pool vacuums use the pump suction to clean the pool. Because of the strength of the suction and the possibility of entrapment underwater, keep everyone out of the pool during cleaning or vacuuming. Read the cleaner or

vacuum owner's manual for safe operating information. Never play with the pool cleaner, the vacuum, or their hoses - they are not toys.

2. Compressed Air Trapped in System

Water under pressure doesn't present much of a hazard. But the piping and filtering systems on pools and spas can trap and hold large bubbles of air until they build up enough explosive potential to blow the tops off of filters, strainers, and separation tanks. The owner's manual for your filter, separation tank, and pump will tell you how to safely bleed the air out of your filter system. For safety's sake, review the following points:

1. Read the owner's manual carefully to learn how to operate your filter system safely. Try to adjust or service your pool or spa filter unless you have read the owner's manual and understand how to release all pressure from the system (shut off the power and release the pressure first).
2. When starting up the system after a period of non-use (for instance, after a winter shut-down), read the start-up instructions in the owner's manuals for the equipment involved so that you can purge all the air from the system before it builds up to dangerous pressures
3. Never connect your pool or spa filter system to a household water system -the pool equipment is designed to run at much lower pressures and may split or burst if subjected to household water system pressures.
4. To avoid a dangerous pressure buildup in the filter, make sure that any shutoff valves downstream of the filter always remain open during system operation.

3. Fire, Explosion, or Asphyxiation from a Gas-Fired Pool Heater

LP gas (propane) and natural gas are safe fuels as long as they are used correctly. Read your heater owner's manual carefully, and remember that gas heaters require a trained technician for service and repair. Remember that gas is highly flammable, and that LP gas is heavier than air - it will collect in low spots.

If you suspect a gas leak or smell gas, immediately clear the area and call the gas company from a telephone that is away from the area of the suspected leak. If you suspect a problem with your heater, don't take chances by trying to fix it yourself - call your heater professional or the local gas company. Have your heater professional verify these points about your installation:

Make sure that there is no leakage of exhaust gases into any building. This is especially important if the heater is installed indoors. Improper venting or damaged or rusted-out venting can cause serious injuries, illness, or death from carbon monoxide poisoning.

1. Your installation should comply with the requirements of the local and national codes that apply.
2. The heater exhaust vents should be located away from windows, air conditioners, or roof overhangs so that exhaust gases (which are poisonous) will not enter any buildings

in the area. Check with your local building inspector for regulations concerning the location of heater exhaust relative to buildings.

3. If your heater is located indoors, review the venting information in the heater owner's manual and, again, make sure that all vent pipes, air intakes, gas line installations, etc., meet all local and national code requirements.

4. Electricity

Mixing electricity and water is always hazardous. In a pool or spa situation, underwater lights, deck lights, the motor on the circulating pump, or any other accessory requiring electricity may pose a safety threat to people in the water if the wiring is incorrect or faulty. Read the owner's manual for each piece of equipment to get information about electrical requirements. To make sure your pool or spa is electrically safe, ask your pool builder or professional service person to verify these points:

1. The power supply circuit for each piece of electrical equipment should include a GFCI for protection against tiny - but dangerous - leaks of electricity to ground ('ground faults'). If these tiny ground faults travel through the human body, they can damage the nerves controlling the heart and cause cardiac arrest (heart failure). A GFCI will sense ground faults and disconnect the power supply. This protects you from a dangerous and possibly fatal electrical shock.
2. All electrical equipment and wiring must meet the requirements of the local and national codes which apply.
3. All electrical equipment must be grounded. All metal objects (ladders, diving platforms, etc.) must be electrically bonded together.
4. Never use extension cords around a pool or spa. If they get wet, it's an invitation to a shock - possibly a fatal shock.

In Conclusion...

We hope you enjoy the relaxation of your pool and spa. Remember that these safety tips - and a good knowledge of your equipment (read your owner's manual) - can enhance the fun of a swimming pool or the warm, relaxing effects of a spa. Your enjoyment will be increased by knowing that your equipment is well-maintained and safe.

While the suggestions outlined in this brochure will make pool and spa use safer and more enjoyable, we cannot guarantee that accidents will not happen. The precautions outlined in this brochure cover only the basics. This brochure is not intended to replace instructions you receive from your owner's manuals or pool professional. By using a little common sense, taking proper safety precautions and having your pool professional do regular maintenance and safety inspections, your pool and spa mechanical equipment should provide trouble-free enjoyment for years to come.

Please be careful, and remember - always play it safe!