



**OPERATIONS & PROCEDURES
MANUAL**

Snohomish Aquatic Center



210 Westbourne Street, La Jolla, CA 92037

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1. DISCLOSURE AND STATEMENT OF PURPOSE

This manual provides guidelines and rules for the safe and efficient operation and maintenance of the Wave Loch FlowRider®. However, the included operating criteria and procedures are a generic guideline. They are not intended to be exhaustive. In order to address your specific site conditions, we highly recommend that you augment these operating procedures with input from your selected safety consultant.

The Wave Loch FlowRider® attraction simulates the experience of riding a wave in a stable environment. To this end, the attraction is designed with the safety of the rider as a primary concern, and it is the desire of Wave Loch, Inc. that its equipment always be operated with the safety of the rider in mind. However, we also wish to call your attention to the Release of Liability contained in this manual which identifies certain risks associated with the operation of the Wave Loch FlowRider®. It is important for our mutual benefit that all parties are informed of the risks inherent with participation in this interactive sporting attraction.

As the licensed operator of a FlowRider®, it is your responsibility to advise your patrons of these risks and also to take appropriate steps to minimize risk. In addition to the steps to insure safety contained in this manual, it is strongly recommended that you utilize the services of a recognized safety consultant in the planning of the safety procedures to be followed when the attraction is operating to help ensure that your operation of the attraction complies with your state, county and local health and safety laws that may specifically apply to your facility's operations and your individualized use of the attraction. We recommend that you use your consultant to confirm the appropriate signage you may be required to post under state, county and local health and safety laws to alert potential users to the potential risks associated with the FlowRider® attraction. We also suggest that bodyboard patrons using the FlowRider® sign the Waiver and Release of Liability forms contained in this manual. However, due to the inherent greater risk of sport related injury, Wave Loch requires that you obtain and preserve a signed Waiver and Release of Liability for any patron who attempts stand-up riding.

The undersigned authorized representative acknowledges that the operator has received and understands this disclosure and has read and will comply with the operations and procedures contained within this manual.

Performed by: Greg Lazarus

Accepted by: Snohomish Aquatic Center

Signature: _____

Name: _____

Title: _____

Date: _____

2. FLOWRIDER® DESCRIPTION

The Wave Loch FlowRider® simulated surfing attraction is designed to allow the rider, in a controlled environment, to simulate the experience of surfing a wave. The attraction operates by high volume pumps generating a continuous sheet of flowing water (approximately two-and-one-half inches thick by up to thirty+ feet wide) over a tension fabric riding surface. This stationary "sheet wave" can be ridden just like a similarly shaped wave that moves in the ocean. Gravity allows the rider to 'drop in' from the crest of the wave and slide down to the wave trough. The rider can ride up the wave surface by setting an edge and letting the water pressure push him/her back up the inclined wave surface. Skill is required to control one's position on the wave, and a movement too far in any one direction will result in a "wipe-out", i.e., out of the power-flow and into the ride exit areas. However, in just a few rides, the novice can quickly learn how to turn, drop and climb on the wave face, and perform maneuvers, e.g., carving turns.

The FlowRider® is a high thrill attraction where participants use either a Bodyboard (prone or kneeling) or a Flowboard (stand-up) for a riding device. Minimum ride participant height requirement for a bodyboarder is 42" tall and a flowboarders (stand-up) is 52" tall. Users must be free from health or biomechanical limitations, nervous disorders, or any other medical condition that compromise the user's ability to participate in a very aggressive and tumbling whitewater experience. It is highly recommend that pregnant women or individuals with back or neck problems do not participate on this ride.

3. FLOWRIDER® PRE-OPERATING INSPECTION

The Wave Loch is an engineered system unique in the world of water park attractions. Thousands of hours of design improvements are embodied in the attraction design configuration and materials specification. The following inspection, start-up, operation, and shut-down procedures are intended to insure the proper maintenance and long-term safety for the attraction operator and guest participant.

A. INSPECTION PROCEDURES

Whenever maintenance, inspection, or work of a mechanical nature is to be performed on the attraction, **all power and controls must be locked-out** to place the ride in a zero-energy state using an approved lock-out procedure. Locking-out the controls serves to prevent injury to the person(s) performing the work. These procedures also serve to prevent possible damage to the attraction.

Prior to operating the attraction each day, the following inspections should be completed by a trained operations supervisor or mechanic.

- 1) The external structure housing the FlowRider® including the Power Controls should be checked for structural integrity. All structural elements should be visually checked for signs of stress or cracking.
- 2) Special attention should be focused on the nozzle discharge orifice. It is important to make sure that no debris or objects have become trapped in the nozzle that could later be propelled out into the riding environment. Lift up the nozzle flap and inspect the orifice with a flashlight.
- 3) The grates should be properly seated and secured. The pump itself is not accessible. It is protected by a set of grates that must be in place and secure prior to any operation of the attraction. Check that all grates are secure in their mountings, bolts tightened and that they are in good condition.
- 4) The pump controls should be checked to ensure that all buttons, switches and indicator lights are in good condition and easily accessible and operable.
- 5) Inspect the vinyl fabric ride surface of the sheet wave and all exit/transition areas. The complete ride surface must be checked for cuts, tears, cracking, or any other defect, damage, debris or wear on the surface of the ride. **The ride surface phase of the daily inspection is extremely important.** Small cuts, tears, or cracking in the surface of the vinyl ride-surface, if left

Untreated, can lead to major problems. If any of the above damage or defects is found contact your manager immediately. Special attention should be given to all seams in the fabric; look out for delamination of the fabric, however, minor fraying along fabric edges is standard and is not cause for concern. Wave Loch, Inc. recommends that any defects found in the ride surface or its seams should be repaired prior to further operation of the sheet wave attraction.

- 6) Inspect the padding around the ride surface and all exit/transition areas. This must be checked for tears, cracking, pinholes, or any other defects, damage, debris or wear. If the above problems are left untreated, they can lead to major problems. Wave Loch, Inc. recommends that any defects found in the foam surface be repaired prior to further operation of the sheet wave attraction.
- 7) Inspect the safety barriers and rider loading area, including the queue line. The rider loading area should be clean and free of debris or trash and all queue line handrails should be tight and secure in their foundations. The queue line handrails should also be inspected for sharp edges, burrs, splinters or damage.
- 8) The Flowboard/bodyboards should be inspected prior to rider usage. The boards should be in good condition, and those boards showing damage that may injure a rider should be removed from service. Creases on the bottom of the bodyboards are standard and not cause for concern. Only Wave Loch, Inc. approved Flowboard/bodyboards should be used on the attraction. No leashes of any type are permitted on the Flowboard/bodyboards used on the attraction.
- 9) Inspect the viewing areas for hazardous conditions, including any bleachers provided for the riders. All areas associated with the attraction, especially any drain-through matting, should be clean, free of trash or debris, and in good condition for use by the riders.
- 10) At least once a day, verify that the Emergency-Stop button (the E-Stop) functions to shutdown the pumps.
- 11) Check and ensure that the water quality abides by local codes prior to allowing anyone to become submersed in the water. If the chemical readings are out of the below ranges, DO NOT open the wave. Notify a manager IMMEDIATELY: Acceptable Chlorine Range: 2.0-4.0 PH

Range: 7.2-7.8

The pre-opening inspection checklist and water quality check list should be completed and reviewed by the supervisor. Any defects or problems found during the course of inspection should be brought to the attention of the proper authority and corrected prior to the operation of the attraction.

4. FLOWRIDER® OPERATOR POSITION DESCRIPTIONS

There are several position descriptions used to describe the operational function of personnel on the FlowRider®. These positions can be performed by different people or by the same person at differing times. Here follows a job description for each functional position.

A. WAVE PROCESSOR

1) Equipment Needs:

- a. FlowRider® Release of Liability Forms (see below).
- b. Pens
- c. Copy machine to photocopy rider's driver's license or other ID
- d. File Cabinet with folders
- e. Colored Numbered Wrist bands
- f. Wristband log sheets (lists all wristbands in numeric order with a space for rider name and security person initials)

2) Wave Processor is responsible for:

- a. Verifying completion of release forms.
- b. Verifying the authenticity of the identification document.
- c. Confirming that the document matches the customer.
- d. Confirming that the customer's signature matches both digital and hard copy.
- e. Photocopying identification/supporting documents.
- f. For participants under the age of eighteen (18), the following is required:
 - (1) Photo identification of participant e.g. driver's license, student identification with photo.
 - (2) Completed Release of Liability Form signed by parent/guardian.
- g. Writing customer time and date on wristband.
- h. Logging customer into the wave registration system.
- i. Affixing wristband to customer
- j. Communicating with management for any security/safety incidents that need immediate attention/intervention.
- k. Providing NEW RIDER ORIENTATION (See further detail below.)

WAVE OPERATOR/LIFEGUARD

- 1) Equipment Needs:
 - a. Whistle
 - b. Walkie-Talkie/Radio
- 2) Wave Operator/Lifeguard is responsible for:
 - a. Ensuring that there is only one rider on the wave at a time
 - b. Monitoring the safe entry and exit of a rider prior to allowing next rider into wave.
 - c. Calling the next rider from the front of the queue
 - d. Ensuring that the rider is wrist banded
 - e. Determining the rider's level of experience and assisting that rider if necessary. See below for assistance instructions.
 - f. Observing the rider to ensure that the rider exits the wave safely via one of the recovery areas.
 - g. Enabling the next rider's entry onto the wave once the previous rider has safely exited the ride.

When a participant begins his/her ride, the Lifeguard is focused on the rider, monitoring and anticipating their every move so as to be prepared if and when they fall.

- When watching a rider fall, the Lifeguards must situate themselves in a position that allows immediate access to the probable location where the fallen rider will be washed. The Lifeguard is responsible for observing any conspicuous abnormalities in the fall so as to anticipate any potential for injuries.
- Upon the rider's arrival in the Recovery Area, the Lifeguard should confirm the rider's safe riding experience and may assist the rider's departure from the wave. The Lifeguard should also be available to get the loose board from the recovery area of the ride. If a board is stuck, press on the downward side of the board to get the upward side to release, then pull up.
- Because riders ride either right foot forward (regular foot) or left foot forward (goofy foot), there should be Lifeguards on both side of the ride with goofy and regular foot riders queuing up correspondingly. This will help maximize the efficiency of the ride (on busy days) and the lifeguards can keep the "flow" of riders moving constantly from either side of the FlowRider. As one rider wipes-out, the responsible Lifeguard can make sure the rider and board are clear of the recovery area while the other Lifeguard is preparing the next rider's entrance.

B. WAVE ENTRANCE MONITOR

If the FlowRider® is operating at capacity and further assistance is needed to cope with the large numbers of riders then a Wave Entrance Monitor may be required to assist the Wave Operator / Lifeguard:

- 1) Equipment Needs:
 - i. Whistle
- 2) Wave Entrance Monitor is responsible for:
 - a. Ensuring that all riders in the wave line up are banded with authentic wristbands.
 - b. Ensuring that the queue is organized so the riders proceed in the order in which they entered the queue.
 - c. Ensuring there is buffer space between the riders in the queue and the Wave Operator/Lifeguard position to maintain easy access to all participants.
 - d. Controlling the orderly movement of riders to and from the entry area.
 - e. In the event of an emergency, directing the queue to a designated holding area of the walkway to allow clear access for emergency responders.

C. POSITION CHAIN OF COMMAND WHEN RESPONDING TO INCIDENTS OR EMERGENCIES

- 1) In the event of an injury or other emergency, the closest Wave Operator/Lifeguard to the rider is the primary responder and begins intervention while the second (if staffed) Wave Operator/ Lifeguard or Wave Entrance Monitor (if staffed) assists. The primary responding Wave Operator/ Lifeguard is responsible for notifying the other wave operations staff by blowing their whistles and/or calling with the Walkie Talkie/Radio.
- 2) As soon as the whistle is blown the ride is stopped and all wave operations stop until the emergency has been identified and resolved.
- 3) If the Wave Operator/Lifeguard determine more advanced emergency response is necessary, the primary Wave Operator will ask (if available) the second Wave Operator/Lifeguard or Wave Entrance Monitor to call the emergency responders and the Staff Supervisor. If the Wave Operator / Lifeguard is alone, he or she will either use the whistle or call with the Walkie Talkie / Radio to notify Supervising personnel.

5. FLOWRIDER® START-UP PROCEDURES

The Wave Operator/Lifeguard or Wave Entrance Monitor operates the FlowRider® using the Wave Operation Console that controls the pumps. These controls include:

- A green "Start" button
- A red "Stop" button
- A red "E-Stop" button (mushroom shaped)

A. STARTING THE FLOWRIDER®

- 1) Ensure that the initial inspection procedures are complete;
- 2) Ensure that the Water Quality test has been completed and abides by local codes;
- 3) Ensure the wave is currently turned off and the "Emergency Stop" button on the console is depressed
- 4) Ensure Flowboards/bodyboards have been brought up to the wave ride surface area
- 5) Pull out the "Emergency Stop" button to activate the console
- 6) Press the green start button on the electronic console to activate the flow of water

6. FLOWRIDER® OPERATION PROCEDURES

A. OPERATION OVERVIEW

- 1) Members of the operations staff must remain alert and attentive at all times when operating the attraction. Wave Loch, Inc. recommends that the water safety staff members assigned to operate the attraction be certified or licensed by a nationally recognized training agency, trained in water safety procedures, able to recognize riders needing assistance and trained to react to that need in a proper manner.
- 2) It is also recommended that an assignment rotation and break schedule be implemented for the water safety staff members, to prevent boredom. It is suggested that station and assignment rotations occur a minimum of once every hour or as dictated by the aquatics carrier (i.e. Red Cross, Ellis & Associates, etc.).
- 3) Management must ensure that each rider reads and understands the signage surrounding the attraction prior to dispatching the rider onto the sheet wave. Control of the environment must be maintained at all times whenever the attraction is operational. All rules must be strictly enforced in order to prevent injury to riders and/or damage to the attraction itself.

B. NEW RIDER ORIENTATION

Conducted by trained staff or shown in a Wave Loch Approved Orientation Video.

"Welcome to the Wave Loch FlowRider®. This attraction combines elements and skills from a variety of board sports, such as snowboarding, boogie boarding, surfing, skateboarding, and wakeboarding. However, participating in this attraction is quite different from each of these activities; and hence in order to maximize your enjoyment and minimize the risks involved, please listen carefully to the following information and safety instruction.

The surface of the attraction is a steel reinforced structure, covered with either one-inch thick polyurethane foam, a layer of vinyl tensioned fabric, or one-half inch of vinyl tube matting over fiberglass grating or concrete. As such, the surface should be viewed as similar to a skateboard ramp. In other words, even though the attraction involves water, and waves that simulate the ocean, you cannot dive like you are going to penetrate the water, when you become separated from your board. Rather, when you fall, react as if you are falling on a hard surface and carefully brace your landing.

When you become separated from your board, and/or wipe-out, do not attempt to body surf. Keep your arms, elbows and other extremities as close to your body as possible, to minimize single point contact with the hard surface of the attraction. Keep your eyes open, and orient your feet to contact first.

If you are 'flowboarding' (stand-up riding), the basic technique is to keep nearly all your weight on the back foot, perform your turns off the back foot, and use your front foot for stabilizing the board. Unlike a surfboard, flowboards do not have fins. You have to use the edges/rails of the board to carve turns. This takes practice, and the only way to get better is by doing it.

Riding this attraction involves certain inherent risks of injury. However, the fact that you are here proves that the benefits of this attraction, for you, outweigh these risks. And although many before you have ridden unscathed, severe injury is possible... HAVE FUN!"

C. GENERAL OPERATING PROCEDURES AS APPLICABLE TO ALL RIDERS

- 1) Riders should be informed that they are entering a high speed, turbulent flow of water. A board can easily slip away from an inattentive rider and become submerged, causing the board (because of its' buoyancy) to bounce back at will, which risks the potential of injury. Anyone can lose control upon entry, causing this reaction to occur. All riders should be warned to enter with care

- 2) Ensure that the flow of water remains in a steady state to allow users to safely participate on the wave. If odd fluctuations in the flow are noticed, immediately shut the water flow and notify the maintenance supervisor.
- 3) If the rider is wearing unusually loose jewelry, unsecured glasses, booties/aquatic footwear or other abnormal attire, it is recommended that the operations staff member notify the rider of their assumption of risk in the event of potential injury, loss or damage.
- 4) During standard operations, only one rider at a time is to be permitted on the sheet wave ride surface, i.e. multiple single riders or tandem riding is strictly prohibited (except during professional demonstrations). While the divider is in place two riders are allowed on the ride. If someone breaks the rule and jumps on the wave while another rider is riding the Wave Operator/Lifeguard is responsible for shutting down the wave and removing the offending rider prior to a re-start.
- 5) A rope may be an effective tool for helping inexperienced riders maintain their balance as they learn to stand up ride. Certain common sense guidelines should however be followed if the Operator approves the use of a rope as a training tool:
 - The rope must not exceed fifteen feet (15') in length and must not have a diameter less than three-fourths of an inch ($\frac{3}{4}$ ").
 - The Wave Operator/Lifeguard should always check the rope to make sure it is not frayed and is free of knots, loops, handles, etc. The Wave Operator/Lifeguard must not use a rope if it has knots, loops, handles, etc. or is frayed.
 - **The Wave Operator/Lifeguard and the Rider must not wrap the rope around their hands, wrists or other parts of their bodies. They must be able to immediately let go of the rope if the rider falls.**
 - The Wave Operator/Lifeguard must tell the rider to immediately let go of the rope when the rider begins to fall. If the rider does not let go of the rope when he or she falls, then the Wave Operator/Lifeguard should immediately let go of the rope.
- 6) The Wave Operator/Lifeguard must closely monitor the rider on the riding surface until his or her ride is completed. A rider's ride on the sheet wave may be considered complete when the rider has been swept into the rear or front Recovery Areas with no possibility for re-entry onto the wave. The Wave Operator/Lifeguard who is controlling the ride entry point must make sure that the previous rider has completed his or her ride before dispatching the next rider onto the riding surface. Watch the rider constantly until he/she has left the back or front catch basin. Do not allow another rider to enter the flow until the previous rider is safely out of any potential impact area.

- 7) If there is flow decay (as defined herein), the rider gets stuck in any location on the wave, or there is a threatening situation then the Wave Operator/Lifeguard is responsible for immediately pressing the "Emergency Stop" button.

D. SPECIFIC BODYBOARD OPERATING PROCEDURES

- 1) To ensure rider safety, each rider must use a Wave Loch-approved bodyboard to enter the attraction sheet wave area.
- 2) If this is the riders first time they should be encouraged to review the Instructional and Tip Signage after every ride. If operational practical, the Lifeguard / Wave Operator may also explain the BED principle:
 - B = Belly on the board. Place your belly on the middle to back of the board.
 - E = Elbows in. Keep your elbows in, tight against the body
 - D = Drag your legs. Keep your legs in the water like a rudder.
- 3) Just prior to a bodyboarder's entry into the sheet flow, the Wave Operator/Lifeguard must visually verify that the flow is unobstructed. Upon safety verification, the rider should then be instructed to step up to the edge of the flow holding the bodyboard with:
 - a. The embossed "FlowRider®" logo facing upwards.
 - b. The round tail of the bodyboard should be positioned closest to the feet.
 - c. The squared edge of the bodyboard nose should be positioned closest to the chest.
- 4) The bodyboard user should gently push out into the flow and Aim towards the center of the ride facing the water issuing from the nozzle.

E. EXPLANATORY DIAGRAMS: BODYBOARDING



BELLY ON THE BOARD
PLACE THE BASE OF THE BOARD
JUST BELOW YOUR STOMACH



GENTLE ENTRY
PLACE YOUR BOARD INTO THE FLOW
AIM TOWARD THE MIDDLE AND ENTER



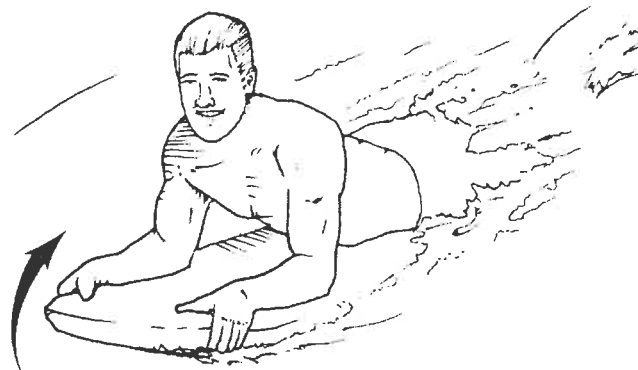
YOUR LEGS ARE RUDDERS
CONTROL YOUR MOVEMENT BY
USING YOUR LEGS AS RUDDERS



ELBOWS IN
KEEP YOUR ELBOWS IN AND
ON THE RAIL OF THE BOARD



PUSH DOWN = GO DOWN
 TO GO DOWN ON THE RIDE PUSH
 DOWN ON THE FRONT OF THE BOARD



PULL UP = GO UP
 TO GO UP ON THE RIDE PULL
 UP ON THE FRONT OF THE BOARD



LEAN TO TURN
 POINT THE BOARD IN THE DIRECTION
 YOU WANT TO GO AND THEN LEAN



USE THE RAIL TO TURN
 PULL THE RAIL UP WITH YOUR
 HAND TO TURN HARDER

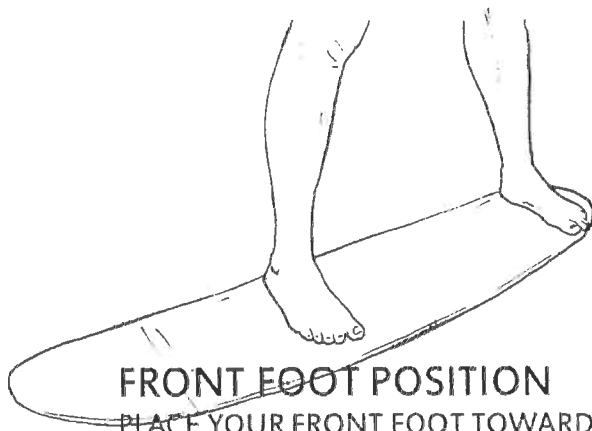
F. SPECIFIC STAND-UP OPERATING PROCEDURES

- 1) To ensure rider safety, each rider must use a Flowboard to enter the attraction sheet wave area. This Flowboard must be a Wave Loch-approved Flowboard.
- 2) If this is the riders first time they should be encouraged to review the Instructional and Tip Signage after every ride.
- 3) Beginners should enter from the side near the bottom. The side of entry will depend on rider preference, but usually a Regular Foot (left foot forward rider) will enter (if one is facing the nozzle) on the left side of the ride and a Goofy Foot (right foot forward rider) will enter on the right side of the ride. Assuming a regular foot, the rider will hold the nose of the board up in the air with the left hand, while placing the tail of the board into the edge of the power flow. Then, the rider must put his right foot approximately 2 inches from the tail edge of the board while simultaneously lowering the nose of the board towards the flow. When the board begins to set flush to the flow, the rider steps the left foot onto the upper middle of the board, but keeping all weight on the back foot. The nose of the board should be kept pointed straight at the nozzle, but the rider should gently lean the back foot towards the center of the flow, maintaining the majority of weight on the back foot. Instructions for Goofy Foot riders are mirrored, but on the right side of the flow.
- 4) The rider must be informed that they are entering a high speed, turbulent flow of water. The board can easily slip away from an inattentive rider and become submerged, causing the board (because of its' buoyancy) to bounce back at will, which risks the potential of injury. Anyone can lose control upon entry, causing this reaction to occur. Please enter with care.

The life guard should only hold onto the nose of the board and not the person during operation. Holding onto the person can cause a Lifeguard to be pulled into the attraction with the possibility of injury to both rider and Lifeguard.

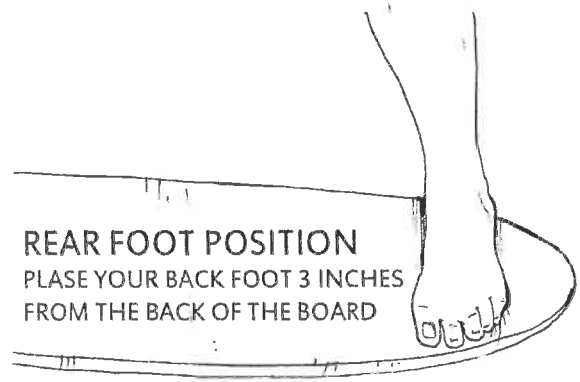
- 5) Advanced riders can either enter from the front or rear of the ride.

G. EXPLANATORY DIAGRAMS: FLOWBOARDING



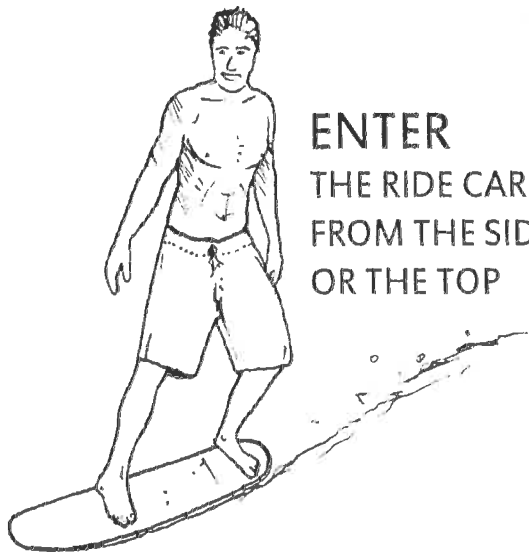
FRONT FOOT POSITION

PLACE YOUR FRONT FOOT TOWARD
THE MIDDLE OR FRONT OF THE BOARD



REAR FOOT POSITION

PLASE YOUR BACK FOOT 3 INCHES
FROM THE BACK OF THE BOARD



ENTER
THE RIDE CAREFULLY
FROM THE SIDE
OR THE TOP

BACK FOOT
PUT MOST OF YOUR
WEIGHT ON YOUR
BACK FOOT



**BEND KNEES
TO HELP BALANCE**



**PRACTICE
AND TRY TO
RELAX**



**TURN BACK
BY PUTTING YOUR
WEIGHT ON YOUR
HEAL EDGE**



**TURN FRONT
BY PUTTING YOUR
WEIGHT ON YOUR
TOE EDGE**



H. EMERGENCY ACTION PLAN

1) IN THE RIDER PROCESSING AREA

a. FIRE/EARTHQUAKE/FIGHT OR RIOT/SEVERE WEATHER

- All Staff calmly assist dispersing persons to safety
- If any person is injured, notify the supervisor and emergency responders immediately
- Identify any injured persons and offer assistance, but only if the scene is safe to stay with them until help arrives

b. MEDICAL EMERGENCY

- The first staff member to identify the emergency will respond and instruct the other staff member to call the emergency response services and the supervisor
- The other staff member then calls the emergency response services and the supervisor
- Maintain a clear space around the injured individual and try to keep the person calm
- Administer emergency aid as needed, while waiting for trained emergency response personnel to arrive

2) IN THE WAVE AREA

a. FIRE

- The staff member who detects the emergency blows a whistle to stop all wave riding activity, moves all ride participants to a zone of safety and radios to the supervisor informing him or her of the situation and requesting emergency responders be called
- The Wave Operator/Lifeguard ensures the wave is off, then monitors the area to ensure the wave is not reactivated during the emergency

b. LIGHTNING (OUTDOOR INSTALLATIONS ONLY)

- The staff member who detects the emergency blows a whistle to stop all wave riding activity, moves all ride participants to a zone of safety and radios to the supervisor informing him or her of the situation
- The Wave Operator/Lifeguard ensures the wave is shut down with the E-Stop activated.

c. EARTHQUAKE

- The staff member who detects the emergency blows a whistle to stop all wave riding activity, moves all ride participants to a zone of safety and radios to the supervisor informing him or her of the situation
- The Wave Operator/Lifeguard ensures the wave is shut down with the E-Stop activated

d. FIGHT/RIOT IN THE VIEWING AREA

- The staff member who detects the emergency blows a whistle to stop all wave riding activity, moves all ride participants to a zone of safety and radios to the supervisor informing him or her of the situation
- The Wave Operator/Lifeguard ensures the wave is shut down with the E-Stop activated.

e. SERIOUS INJURY ON THE WAVE

- Lifeguard / Wave Operator immediately blows their whistle, shuts the wave off, and orders the area clear, and calls for medical support back-up.
- Lifeguard stabilizes the rider to prevent the rider from suffering additional injury. Once stabilized, the victim is administered the appropriate care that the procedures of First Aid and CPR and/or Emergency Response dictate
- All other staff members control the ride area to maintain a clear area, prohibit crowding and provide clear access for emergency medical personnel
- Concurrent with the above, the Manager on Duty calls emergency responders, designates a staff member to run to the emergency responders to secure medical help, and then calls the emergency contact person listed with the victim's information on file
- The Lifeguard / Wave Operator informs the emergency personnel upon their arrival of the condition of the injured party.
- Once the emergency medical staff and victim are safely out of the wave area, then, a supervisor should inspect the wave area to make sure that all is clear. When all Incident Reports are complete and a supervisor gives the all-clear notice, then, the Lifeguard / Wave Operator may restart the ride.

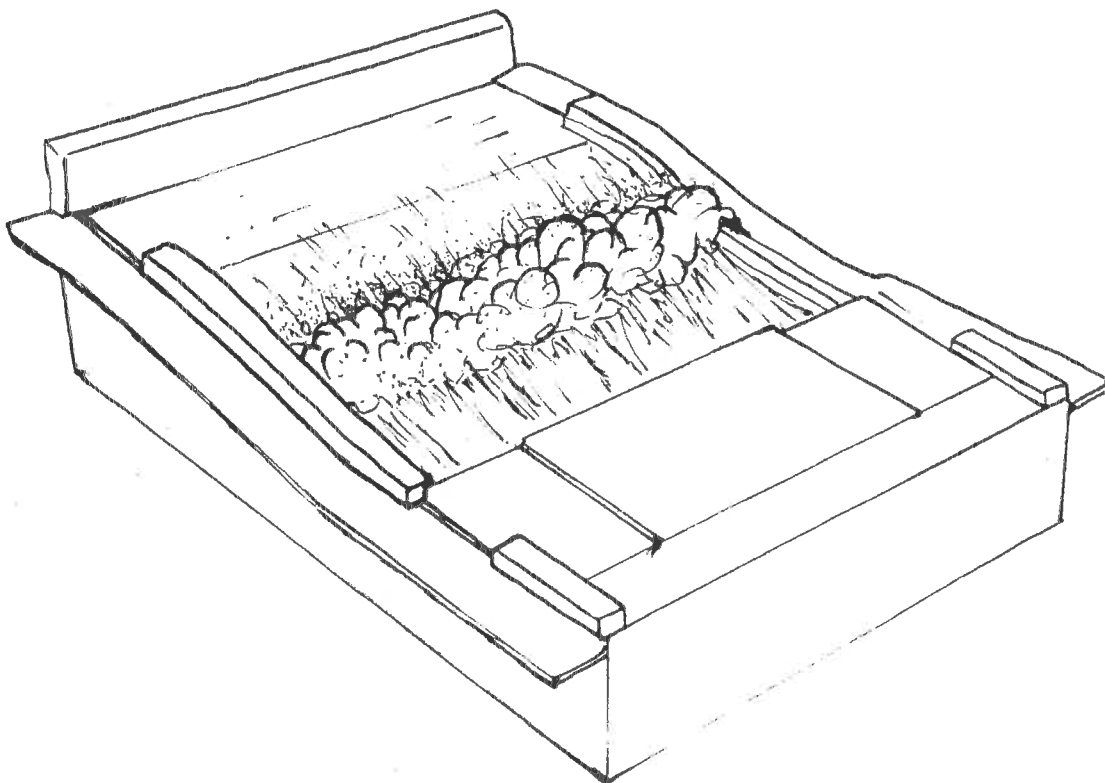
I. OPERATIONAL RESTRICTIONS DUE TO WEATHER

There are no operational restrictions due to the following if the ride is situated indoors.

- Wind: Wind does not have an adverse effect on the operation of the FlowRider®.
- Lightning: The operation of the FlowRider® should be suspended during any storm or weather condition where lightning may occur.
- Rain: Rain does not have an adverse effect on the operation of the FlowRider®.

J. FLOW DECAY

A continuous and sustained sheet flow over the surface of the ride attraction is important to the safe operation of the FlowRider®. If during operation the water supply is restricted or the actions of a rider cause the sheet flow to collapse and break down into a tumbling mass of whitewater in the trough of the wave, the Wave Operator/Lifeguard must immediately turn the ride off and suspend operations until the decayed water is clear. Thereupon, the ride Wave Operator/Lifeguard can commence the standard start-up procedures.



7. FLOWRIDER® SHUT DOWN

A. STANDARD SHUTDOWN

At the conclusion of the operating day, the attraction is turned off and secured. Be sure no one is on the ride surface when conducting a shutdown procedure. Shut down procedures for the FlowRider® are as follows:

1. Press the red "Stop" button.
2. Press the red "Emergency Stop" button.
3. If instructed by Supervisor, turn off the main breaker on the Electrical Control Panel.

Ensure that all the boards are put away and inventoried. Loose Flowboard/bodyboards should be stored in a well ventilated area in a vertical position on a soft padding to facilitate proper drying and avoid mildew damage.

B. EMERGENCY SHUTDOWN

If any problems develop with the characteristics of the sheet-flow of water on the FlowRider®, or with the rider on the ride, the attraction can be immediately shutdown by utilizing the emergency stop located at the console or a remote E-stop box (if applicable). Whatever assistance is needed should be immediately rendered to the rider and a supervisor summoned. **CAUTION: THE SURFACE OF THE SHEET WAVE PORTION OF THE ATTRACTION IS SLIPPERY.** Use care at all times when walking on the ride surface. The rider may need to be assisted out of the catch basin by the safest means possible.

The attraction should not be restarted following an emergency stop until Management or Supervision is present, the situation that caused the emergency stop has been corrected, and it has been determined that it is safe to restart.

8. FLOWRIDER® MAINTENANCE

Wave Loch, Inc. strongly recommends that all conditions requiring attention following an inspection be repaired as soon as possible, and in any case before further operation of the attraction.

In addition, it is recommended that all repairs of any kind performed on the attraction be documented to provide a complete safety record for the ride. To illustrate, a sample Ride Maintenance Log form is provided below.

Local jurisdictions may require additional inspections and the operator to affix an inspection and maintenance tag or sticker to the documentation or operating element itself. Check with local authorities for requirements in your area.

A. MAINTENANCE INSTRUCTIONS FOR PADDED AREAS AND COMPOSITE MEMBRANE RIDE SURFACE (CMRS):

DAILY MAINTENANCE

Daily inspection of the ride surface is very important. In the inspection of the system, check for dirt or foreign objects and remove immediately. Check especially for sharp or pointed edges, as these can damage the system and cause injuries if not removed. Instruct lifeguards to make sure that persons using the system do not have sharp or pointed items on their clothing, shoes, back pockets, etc. In the daily inspection of the system, if you determine there is damage, take care of this problem as soon as possible. If immediate attention is not given, this can result in bigger problems if left unattended. Some of the things to look for are cuts, cracks, delaminating, and bubbles.

Ride Surfaces should be inspected at the following frequency:

- Daily
- Incidentally, after contact from sharp or heavy objects

Ride Surfaces should be inspected for the following conditions:

- Tears/Cuts
- Peeling/Delamination
- Dirt build up

REPAIRS

Recommended procedure for repairing small cuts and tears:

- Clean and dry damaged surface and surrounding area
- Cover the damaged area with a strip of 0.019" thick clear vinyl
- Apply heat using an industrial strength hot air blower

- Apply pressure with a roller until the vinyl strip has bonded to surface
- Continue to roll out the vinyl until the edges are smooth
- Allow ten minutes to cool

Recommended procedure for repairing delamination and peeling:

- Clean and dry damaged surface and surrounding area
- Apply PVC glue (HH66) between the delaminated surfaces
- Apply pressure to the glued area for 1 hour
- Allow 24 hours to fully cure

CLEANING

Recommended procedure for cleaning heavy dirt or grease:

- Use a soft nylon brush or a soft sponge
- Use soapy water
- Rinse thoroughly with clear water

Do NOT use the following:

- Abrasive powders/sponges
- Pressurized steam (or any form of heat)
- Chemical products (acetone, gasoline, benzene, fuel, kerosene, perchlorethylene, turpentine, toluene, trichloroethylene, oil, petrol, ammonia, nitric acid, sulfuric acids, acetic acid, chlorhydric acid, soda, caustic soda, liquid bleach, or similar products)

SEASONAL NOTE:

In very cold temperatures, (below freezing) it is recommended not to walk on the ride surface. Cracking may result.

ANNUAL MAINTENANCE

Each year at the end of the season it is recommended that the entire ride surface be cleaned, rinsed and then coated with a Vinyl Cleaner and Restorer similar to what is used on an Inflatable Boat. Just prior to start-up for the new season, it is recommended that the entire surface be cleaned and rinsed to restore sheen and "slipperiness" to the ride surface.

B. CARE AND MAINTENANCE: ITT FLYGT PUMPS

SERVICE/INSPECTION

Flygt recommends a preventive maintenance program based on Intermediate and Major Services at regular intervals. For pumping applications where the temperature of the pumped liquid is 40°C or less an Intermediate Service should be performed every 5000 hours or once a year, whichever occurs first. A Major Service should be performed after 25000 working hours or every 5 years.

It should be observed, however, that these are general recommendations based on experience from the most frequent applications for these pumps. For specific applications or operating conditions other service intervals may be recommended. For example a storm water pump that works mainly during a part of the year an Intermediate Service should be performed before and after this main working period.

SERVICE CONTRACT

Flygt or its agent offers service agreements in accordance with a preventive maintenance plan. For further information, please contact your Flygt representative.

STANDARD INTERMEDIATE AND MAJOR SERVICES INCLUDE THE FOLLOWING ITEMS:

Pump: Intermediate Service 5,000 working hours/once a year.

- Junction box: Check that it is clean and dry. If wet, check cable entry. Replace O-rings. Fitting of new O-rings should be made to all O-ring seals joints opened during the inspection.
- Terminal board: Check that the electrical connections are properly tightened.
- Isolation check: Check that the resistance between earth and phase lead is more than 5 M Ω for drive unit 905 - 945, 965, 975. For 1,2 - 6,6 kV drive units 950, 960, 985, 995 the resistance value is related to motor voltage and should have min. value of 5 M Ω /Kv at a temperature of 25oC (77oF). E. g. for 6 kV motor the resistance between earth and phase lead should be more than 30 M Ω . Recommended test voltage 500 V DC (max. 1000 V DC).
- Cable: Check that the rubber sheathing (jacket) is undamaged.
- Oil housing: Check the oil quality.
 - If there is water in the oil, drain the oil and replace with new. After one week of operation check the oil quality again. If again there is water in the oil, change the seals.
 - If the oil is free from water, fill to correct oil level if necessary. Replace the filling plug O-rings.
- Stator housing: Check that it is clean and dry.
 - If there is oil in the stator housing, drain and clean. After one week of operation check again. If again there is oil in the stator housing, change seals.
 - If there is water in the stator housing and there was water in the oil, change seals immediately.
 - If there is water in the stator housing but there was no water in the oil, check all other connections. Replace the O-rings.

- Sensors: Check stator temperature, bearing temperature and FLS sensors. For details, see "Service instructions"
- Impeller/Propeller: Check general impeller/propeller and wear ring status. Change if necessary. If applicable, check O-ring.
- Zinc anodes: Check and change if necessary.
- Screw joints: Check all externally accessible screw joints and tighten if necessary to correct torque. See torque table and parts list.
- Lifting handle: Check its condition and replace if necessary.
- Rotation direction: Check impeller/propeller rotation direction.

Pump station: Intermediate Service 5,000 working hours/once a year.

- Lifting device: Check that local safety regulations are followed.
- Electrical cabinets/panels: Check that they are clean and dry.
- Connection to power: Check the cable connections power. Tighten if necessary.
- Overload and other protections: Check settings.
- Personnel safety: Check guard rails, covers and other protections.
- Level regulators: Check condition and function.

Pump: Major Service 25,000 working hours/every 5 years.

- Isolation check: Check that the resistance between earth and phase lead is more than 5 MΩ for drive unit 905 - 945, 965, 975. For 1,2 - 6,6 kV drive units 950, 960, 985, 995 the resistance value is related to motor voltage and should have min. value of 5 MΩ /kV at a temperature of 25°C (77°F). E. g. for 6 kV motor the resistance between earth and phase lead should be more than 30 MΩ. Recommended test voltage 500 V DC (max. 1000 V DC).
- Cable: Check that the rubber sheathing (jacket) is undamaged. Change if necessary.
- Oil housing: Drain the oil.
- Dismantling and cleaning: Total dismantling of the pump. Cleaning of all parts.
- Bearings: Replace.

- O-rings and other rubber sealing parts: Replace.
- Reassembly: Reassemble the pump.
- Seals: Replace.
- Sensors: Check stator temperature, bearing temperature and FLS/CLS sensors. For details, see "Service instructions."
- Oil: Fill new oil.
- Impeller/Propeller: Check general impeller/propeller and wear ring status. Change if necessary.
- Zinc anodes: Check and change if necessary.
- Screw joints: Check all externally accessible screw joints and tighten if necessary to correct torque. See torque table and parts list.
- Lifting handle: Check its condition and replace if necessary.
- Painting: Touch up painting if necessary.
- Rotation direction: Check impeller/propeller rotation direction.
- Voltage and amperage: Check running values.
- Lifting device: Check that local safety regulations are followed.
- Electrical cabinets/panels: Check that they are clean and dry.
- Connection to power: Check the cable connections. Tighten if necessary.
- Overload and other protections: Check settings.
- Personnel safety: Check guard rails, covers and other protections.
- Level regulators: Check condition and function.

SAFETY PRECAUTIONS

WARNING!

Before starting work on the pump, make sure that the pump is isolated from the power supply and cannot be energized.

NOTE!

This applies to the control circuit as well. Follow all health and safety rules and local codes and ordinances.

NOTE!

Before starting service on the pump, make sure that the motor has cooled down sufficiently to carry out the service work.

C. CARE, OPERATION AND MAINTENANCE: ELECTRICAL CONTROLS

ELECTRICAL CONTROL MAINTENANCE GUIDE

Do you know how to maintain ELECTRICAL CONTROLS? Doing so is easier than you might think. By integrating some simple, logical steps into your preventative maintenance program, you can ensure your drives provide many years of trouble-free service.

A QUICK OVERVIEW

The Electrical Controls operate the speed, torque and direction of an AC Induction motor.

Fairly involved control circuitry coordinates the switching of power devices, typically through a control board that dictates the firing of power components in the proper sequence. A microprocessor or Digital Signal Processor (DSP) meets all the internal logic and decision requirements.

From this description, you can see an Electrical Control Panel is basically a computer and power supply. And the same safety and equipment precautions you'd apply to a computer and to a power supply apply here. Maintenance requirements fall into three basic categories:

- **KEEP IT CLEAN;**
- **KEEP IT DRY; AND**
- **KEEP THE CONNECTIONS TIGHT**

Let's look at each of these.

KEEP IT CLEAN

Most Electrical Control Panels fall into the NEMA 1 category (side vents for cooling airflow) or NEMA 12 category (sealed, dust-tight enclosure). Drives that fall in the NEMA 1 category are susceptible to dust contamination. Dust on electrical controls hardware can cause a lack of airflow, resulting in diminished performance from heat sinks and circulating fans (Photo 1).

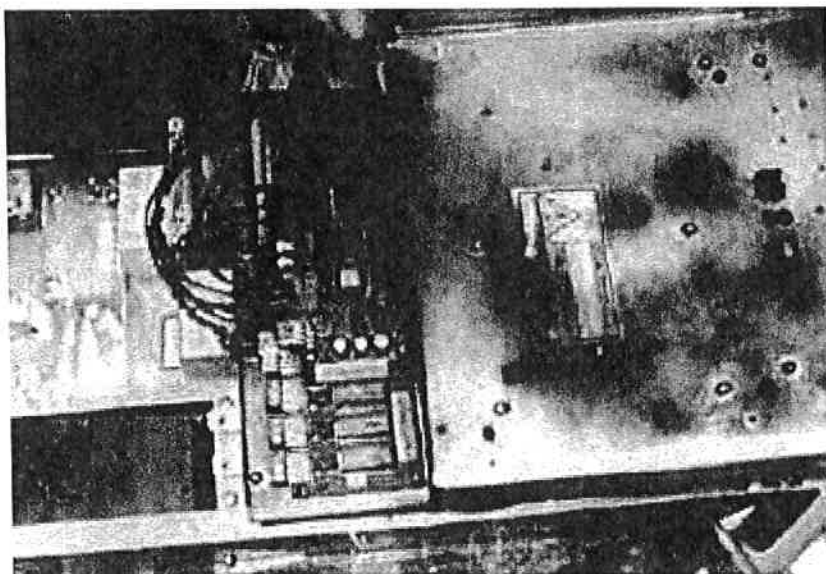


Photo 1, Fan Injecting Dust into Drive Enclosure

Dust on an electronic device can cause malfunction or even failure. Dust absorbs moisture, which also contributes to failure. Periodically spraying air through the heat sink fan is a good PM measure.

Discharging compressed air into the controls is a viable option in some environments, but typical plant air contains oil and water. To use compressed air for cooling, you must use air that is oil-free and dry or you are likely to do more harm than good. That requires a specialized, dedicated, and expensive air supply. And you still run the risk of generating electrostatic charges (ESD). A non-static generating spray or a reverse-operated ESD vacuum will reduce static build-up.

Common plastics are prime generators of static electricity. The material in ESD vacuum cases and fans is a special, non-static generating plastic. These vacuums, and cans of non-static generating compressed air, are available through companies that specialize in static control equipment.

KEEP IT DRY

In Photo 2 you can see what happened to a control board periodically subjected to a moist environment. Initially, this unit was wall-mounted in a clean, dry area of a mechanical room and moisture was not a problem. However, as is often the case, a well-meaning modification led to problems.

In this example, an area of the building required a dehumidifier close to the mechanical room.

Since wall space was available above the controls, this is where the dehumidifier went. Unfortunately, the panel was a NEMA 1 enclosure style (side vents and no seal around the cover). The obvious result was water dripping from the dehumidifier into the drive. In six months, the controls accumulated enough water to produce circuit board corrosion.

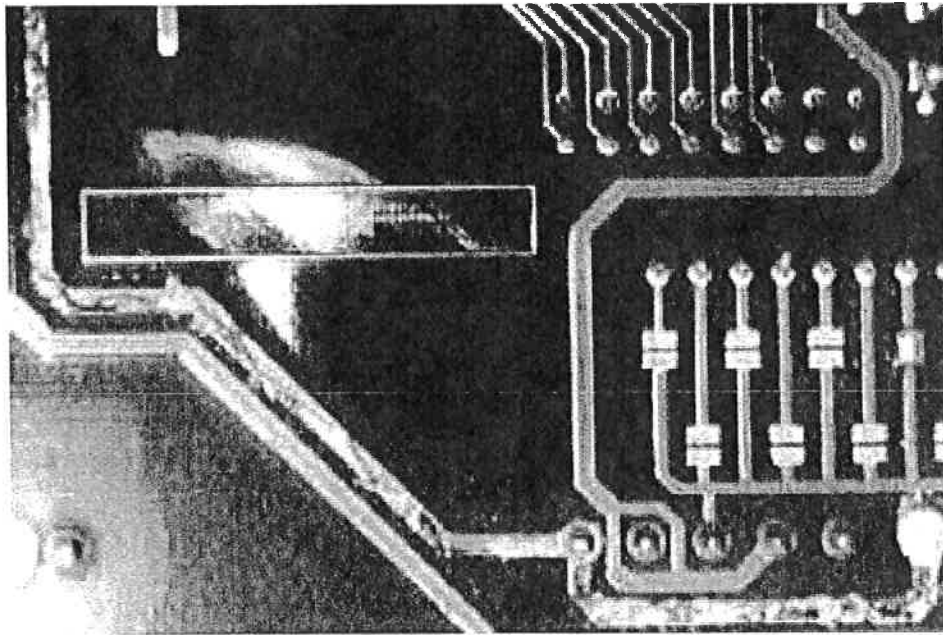


Photo 2, Corrosion on Board Traces Caused by Moisture

What about condensation? Some Electrical Control Panel manufacturers included a type of "condensation protection" on earlier product versions. When the mercury dipped below 32 degrees Fahrenheit, the software logic would not allow the drive to start. Controls seldom offer this protection today. If you operate the panel all day every day, the normal radiant heat from the heatsink should prevent condensation.

Unless the unit is in continuous operation, use a NEMA 12 enclosure and thermostatically controlled space heater if you locate it where condensation is likely.

KEEP CONNECTIONS TIGHT

While this sounds basic, checking connections is a step many people miss or do incorrectly - and the requirement applies even in clean rooms. Heat cycles and mechanical vibration can lead to substandard connections, as can standard PM practices. Re-torquing screws is not a good idea, and further tightening an already tight connection can ruin the connection.

Bad connections eventually lead to arcing. Arcing at the input could result in nuisance over voltage faults, clearing of input fuses, or damage to protective components. Arcing at the output could result in over-current faults or even damage to the power components. Photos 3 and 4 show what can happen.

Loose control wiring connections can cause erratic operation. For example, a loose START/STOP signal wire can cause uncontrollable stops. A loose speed reference wire can cause the drive speed to fluctuate, resulting in scrap, machine damage, or personnel injury.

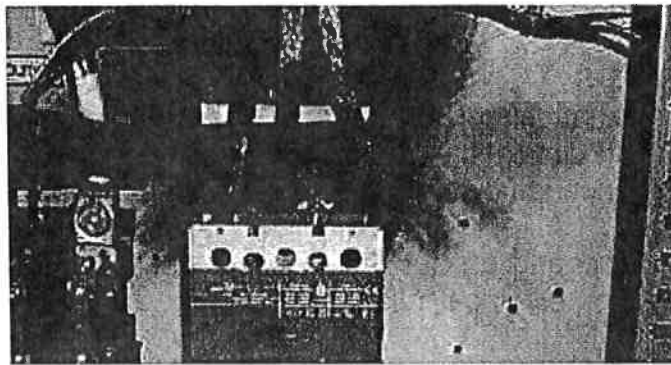


Photo 3, Arcing Caused by Loose Input Contacts

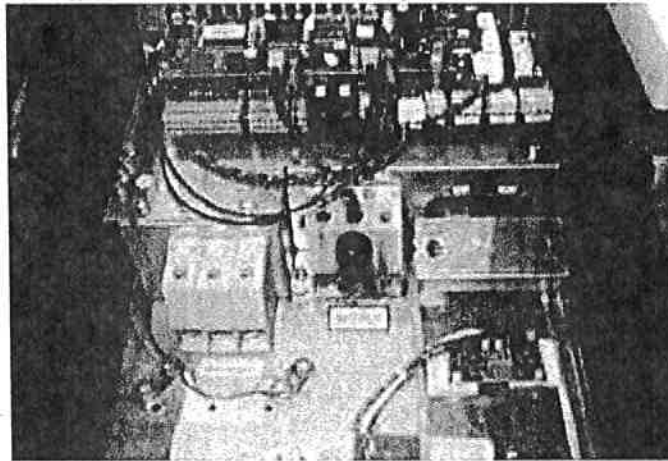


Photo 4, Arcing Caused by Loose Output Contacts

Re-torquing - A Screw Practice

Although "re-torquing" as a way of checking tightness is common in many PM procedures, it violates basic mechanical principles and does more harm than good. A screw has maximum clamping power at a torque value specific to its size, shape, and composition.

Exceeding that torque value permanently reduces the clamping power of that screw by reducing its elasticity and deforming it. Loosening and then re-torquing still reduces elasticity, which still means a loss of clamping power. Doing this to a lock washer results in a permanent 50% loss. What should you do? Use an infrared thermometer to note hot connections. Check their torque. If they have merely worked loose, you can try retightening them. Note which screws were loose, and be sure to give them an IR check at the next PM cycle. If they are loose again, replace them. Finally, don't forget the "tug test." This checks crimps, as well as screw connections. Don't do this with the drive online with the process, though, or you may cause some very expensive process disturbances.

ADDITIONAL STEPS

1. As part of a mechanical inspection procedure, don't overlook internal components. Check circulating fans for signs of bearing failure or foreign objects - usually indicated by unusual noise or shafts that appear wobbly.
2. Inspect DC bus capacitors for bulging and leakage. Either could be a sign of component stress or electrical misuse. Photos 5 and 6 show fan and capacitor stress problems.

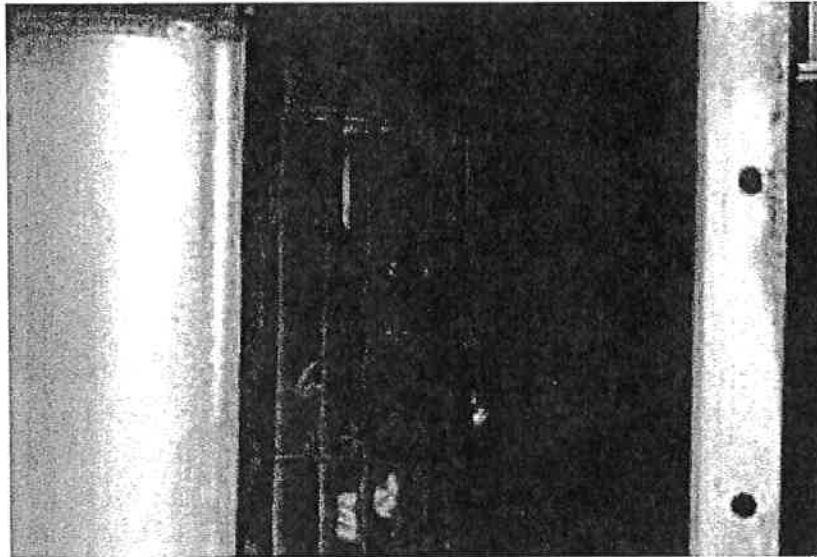


Photo 5, Foreign Object in Fan

3. Take voltage measurements while the unit is in operation. Fluctuations in DC bus voltage measurements can indicate degradation of DC bus capacitors. One function of the capacitor bank is to act as a filter section (smoothing out any AC ripple voltage on the Bus). Abnormal AC voltage on the DC bus indicates the capacitors are headed for trouble.

Most manufacturers have a special terminal block for this type of measurement and also for connection of the dynamic braking resistors. Measurements more than 4VAC may indicate a capacitor filtering problem or a possible problem with the diode bridge converter section (ahead of the bus). If you have such voltage levels, consult the manufacturer before taking further action.

With the controls in START and at zero speed, you should read output voltage of 40VAC phase-to-phase or less. If you read more than this, you may have transistor leakage. At zero speed, the power components should not be operating. If your readings are 60VAC or more, you can expect power component failure.

4. What about spare controls? Store them in a clean, dry environment, with no condensation allowed.
Place this unit in your PM system so you know to power it up every 6 months to keep the DC bus capacitors at their peak performance capability. Otherwise, their

charging ability will significantly diminish. A capacitor is much like a battery-it needs to go into service soon after purchase or suffer a loss of usable life.

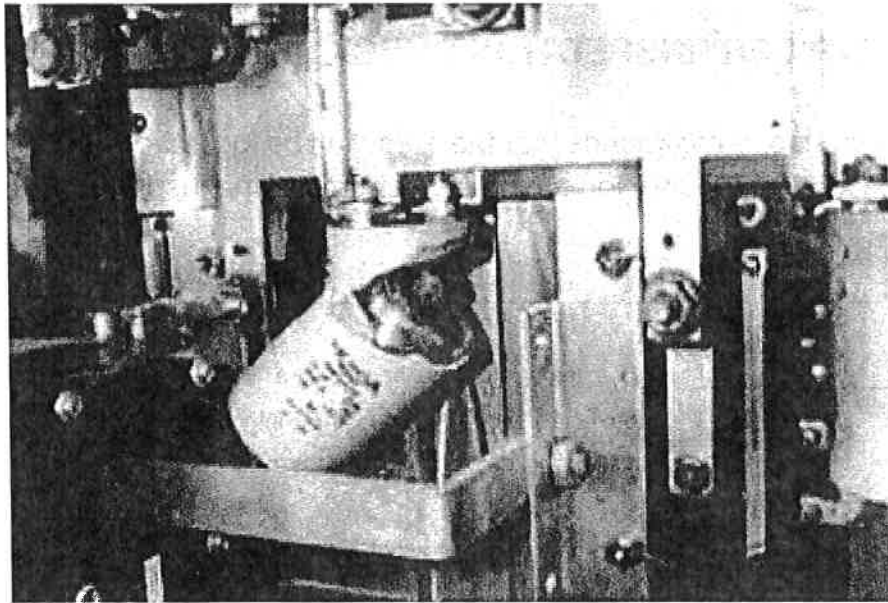


Photo 6, Capacitor Failure

5. Regularly monitor heat sink temperatures. Most manufacturers make this task easy by including a direct temperature readout on the Keypad or display. Verify where this readout is, and make checking it part of a weekly or monthly review of operation. You wouldn't place your laptop computer outside, on the roof of a building or in direct sunlight, where temperatures could reach 115 degrees Fahrenheit or as low as -10 degrees Fahrenheit. An Electrical Control Panel, which is basically a computer with a power supply, needs the same consideration. Some manufacturers advertise 200,000 hours-almost 23 years-of Mean Time between Failures (MTBF). Such impressive performance is easy to obtain, if you follow these simple procedures.

9. IMPORTANT FORMS, CHECKLISTS AND OTHER DOCUMENTS

A. FLOWRIDER® INSPECTION CHECKLIST

Wave Loch, Inc. recommends that the attraction be locked-out and placed in a zero-energy state to safeguard the employee performing the inspection.

	OK	Needs Attention	
1)	<input type="checkbox"/>	<input type="checkbox"/>	The external structure housing the FlowRider® including the Power Controls should be checked for structural integrity. All structural elements should be visually checked for signs of stress or cracking.
2)	<input type="checkbox"/>	<input type="checkbox"/>	Special attention should be focused on the nozzle discharge orifice. It is important to make sure that no debris or objects have become trapped in the nozzle that could later be propelled out into the riding environment. Lift up the nozzle flap and inspect the orifice with a flashlight.
3)	<input type="checkbox"/>	<input type="checkbox"/>	The grates should be properly seated and secured. The pump itself is not accessible. It is protected by a set of grates that must be in place and secure prior to any operation of the attraction. Check that all grates are secure in their mountings and that they are in good condition.
4)	<input type="checkbox"/>	<input type="checkbox"/>	The pump controls should be checked to ensure that all buttons, switches and indicator lights are in good condition and easily accessible and operable.
5)	<input type="checkbox"/>	<input type="checkbox"/>	Inspect the vinyl fabric ride surface of the sheet wave and all exit/transition areas. The complete ride surface must be checked for cuts, tears, cracking, or any other defect, damage, debris or wear on the surface of the ride. The ride surface phase of the daily inspection is extremely important. Small cuts, tears, or cracking in the surface of the vinyl ride-surface, if left untreated, can lead to major problems. If any of the above damage or defects is found contact your manager immediately. Special attention should be given to all seams in the fabric; look out for delamination of the fabric fraying along the edges is standard and is not cause for concern. Wave Loch, Inc. recommends that any defects found in the ride surface be repaired prior to further operation of the sheet wave attraction

	OK	Needs Attention	
6)	_____	_____	Inspect the padding around the ride surface and all exit/transition areas. This must be checked for tears, cracking, pinholes, or any other defect, damage, debris or wear. If the above problems are left untreated, they can lead to major problems. Wave Loch, Inc. recommends that any defects found in the foam surface be repaired prior to further operation of the sheet wave attraction.
7)	_____	_____	Inspect the safety barriers and rider loading area, including the queue line. The rider loading area should be clean and free of debris or trash and all queue line handrails should be tight and secure in their foundations. The queue line handrails should also be inspected for sharp edges, burrs, splinters or damage.
8)	_____	_____	The flowboards/bodyboards should be inspected prior to rider usage. The boards should be in good condition, and those boards showing damage that may injure a rider should be removed from service. Creases on the bottom of the bodyboards are standard and not cause for concern. Only Wave Loch, Inc. approved flowboards/bodyboards should be used on the attraction. No leashes of any type are permitted on the flowboards/bodyboards used on the attraction.
9)	_____	_____	Inspect the viewing areas for hazardous conditions, including any bleachers provided for the riders. All areas associated with the attraction, especially any drain-through matting, should be clean, free of trash or debris and in good condition for use by the riders.
10)	_____	_____	At least once a day, verify that the Emergency-Stop button (the E-Stop) functions to shutdown the pumps.

The pre-opening inspection checklist should be completed and reviewed by the supervisor. Any defects or problems found during the course of inspection should be brought to the attention of the proper authority and corrected prior to the operation of the attraction.

Additional Comments:

Inspected By: _____

Date: _____

A1. WATER QUALITY CHECK LIST

Wave Loch, Inc. recommends that the Operator works with their local health department to come up with a Water Quality Check list that abides by local codes. Below is a sample check list:

Time: _____

Wave Operator: _____

If the chemical readings are out of the following ranges, DO NOT open the wave. Notify a manager IMMEDIATELY: Acceptable Chlorine Range: 2.0-4.0 PH Range: 7.2-7.8

Notes: _____

PLEASE NOTE FIRST SESSION _____ HRR: _____ Water

Temp: _____

HOUR Alkanity: _____ Calcium: _____

9:00 AM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

10:00 AM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

11:00 AM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

12:00 PM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

1:00 PM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

2:00 PM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

3:00 PM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

4:00 PM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

5:00 PM FAC: _____ TAC: _____ CC: _____ PH: _____ INT: _____

B. DISCLOSURE OF RISK AND RELEASE FORMS

FlowRider® Voluntary Acknowledgement of Risks, Release of Liability and Indemnity Agreement

First Name	Last Name	Middle Initial
Street Address, City and Zip		Birth Date
Emergency Contact Name		Emergency Contact Telephone

RIDING ON THE FLOWRIDER® IS AN EXTREME SPORT AND HIGH RISK RECREATIONAL ACTIVITY. SHEET WAVE SURFING ON OR IN PROXIMITY TO THE FLOWRIDER® MAY RESULT IN PHYSICAL OR MENTAL INJURY, ILLNESS OR DISEASE, OR DEATH.

This document affects your legal rights. By writing your signature below, you acknowledge that you have read and understood the disclosures of risks, voluntarily accept those risks, and agree to be bound by all terms of this Release of Liability and Indemnity Agreement

My signature acknowledges that I or the minor for whom I am a legal guardian (collectively referred to as "I", "me", or "my") have voluntarily chosen to participate in the sheet wave surfing attraction known as the FlowRider® or use a Flowboard™ (collectively referred to as the "Activities") and to use the facilities at [Insert Facility Name], including but not limited to the FlowRider® (collectively referred to as the "Facilities").

In consideration for the permission to participate in the Activities and use the Facilities, I acknowledge, agree, promise and covenant on behalf of myself, my heirs, assigns, personal representatives and estate with WAVE LOCH, INC., AQUATIC DEVELOPMENT GROUP, INC. and [Insert Owner Name] each of their lessors, parent companies, subsidiaries, related companies and business concerns, past and present, and each of them, as well as each of their partners, trustees, directors, officers, members, intellectual property holders, agents, attorneys, servants and employees, past and present, and each of them (collectively, "Releasees") as follows:

ACKNOWLEDGEMENTS OF RISKS: I UNDERSTAND AND ACKNOWLEDGE that the Activities in which I am about to voluntarily engage bear certain **known risks and unanticipated risks** that could result in PHYSICAL OR MENTAL INJURY, DEATH, ILLNESS OR DISEASE, OR DAMAGE to me or my property. I understand and acknowledge those risks may result in claims against Releasees. However, I am making an informed choice to voluntarily accept such risks due to the thrills, excitement and benefits of the Activities, and I agree that the benefit of the Activities outweigh the risks, which include but in no way are limited to:

(1) The acts, omissions or negligence in any degree of Releasees, or their agents or employees; (2) the risks inherent in the Activities, including but not limited to any injuries such as a) broken bones, b) dislocations, c) torn ligaments and tendons, d) sprains and strains, e) cuts to the head, body and/or limbs, f) torn nails, and g) bumps and bruises suffered while riding these extreme sporting attractions; (3) latent or apparent defects or conditions of the Activities or the Facilities; (4) improper or inadequate instruction or supervision regarding the Activities or use of the Facilities; (5) the behavior of co-participants; (6) accidents or incidents in the Facilities, including but not limited to accidents or incidents in wet areas, such as pool decks, tiled, concrete or other wet surfaces; and/or (7) first aid, emergency treatment or services rendered or failed to be rendered by Releasees, or their agents or employees.

I UNDERSTAND AND ACKNOWLEDGE that the above list is not complete or exhaustive, and that other risks, known or unknown, identified or unidentified, **anticipated or unanticipated** may also result in injury, death, illness, disease, or damage to me or to my property. I FURTHER ACKNOWLEDGE that I am in good physical and mental health, and not suffering from any condition, disease or disablement which would or could potentially affect participation in the Activities or use of the Facilities. Further, I acknowledge that I am not purchasing or leasing the Attraction, but rather, am being afforded a non-exclusive right to use the attraction. Additionally, I acknowledge that Releasees are providing recreational services.

VOLUNTARY ACCEPTANCE AND ASSUMPTION OF RISK AND RESPONSIBILITY: I EXPRESSLY AND VOLUNTARILY AGREE, COVENANT AND PROMISE TO ACCEPT AND ASSUME ALL RESPONSIBILITIES, AND RISK FOR INJURY, DEATH, ILLNESS OR DISEASE OR DAMAGE to me or to my property arising from the participation in the Activities or use of the Facilities.

RELEASE AND INDEMNITY: I VOLUNTARILY RELEASE AND FOREVER DISCHARGE AND COVENANT NOT TO SUE Releasees and all other persons or entities affiliated therewith, from any and all liability, claims, demands, actions or rights or action, which are related to, arise out of, or are in any way connected with the participation in the Activities or use of the Facilities, **including, but specifically not limited to any and all negligence or fault of Releasees.** I UNDERSTAND THIS IS A RELEASE OF LIABILITY THAT IS VALID FOREVER, and will apply to all current and future participation in the Activities or use of the Facilities. I understand that this RELEASE OF LIABILITY will prevent me, my child, my heirs or my estate from bringing any action at law, suit in equity, or other jurisdictional proceeding or making any claim for damages, injury or death in the event of damage, injury or death arising from participation in the Activities or use of the Facilities.

I FURTHER AGREE, PROMISE AND COVENANT TO HOLD HARMLESS AND TO INDEMNIFY Releasees, and all other persons or entities from all defense costs, including attorneys' fees, or any other costs incurred in connection with claims for mental or bodily injury, wrongful death or property damage that may be filed by me, my child, my heirs or my estate. Such indemnity and defense obligation shall further extend to any claim, loss or lawsuit which alleges that I negligently or intentionally caused any injury, death or damage to spectators or other third parties in the course of my participation in the Activities.

AUDIO AND PHOTOGRAPHIC IMAGE RELEASE: I agree to a blanket release of all of my audio, video, and photographic image rights arising out of my participation in or around the Activities and I hereby grant to Releasees the right to use my audio video, and photographic images in perpetuity (no matter by whom taken or recorded) in any manner for publicity, promotions, advertising, marketing, trade or commercial purposes, without reimbursement of any kind due to me or the need to pay me any fee whatsoever.

ENTIRE AGREEMENT, SEVERABILITY AND VENUE: I understand that this is the entire Agreement between the undersigned and Releasees, and that it cannot be modified or changed in any way by the representations or statements of Releasees or any employee or agent of Releasees, or by the undersigned. I understand and agree that this Agreement is severable and that if any clause is found to be invalid, the balance of the contract will remain in effect and will be valid and enforceable. I agree that any action will be brought in a court in the County of San Diego, State of California or alternatively, in a court of competent jurisdiction in the State of California. Any disputes will be subject to and determined under the laws of the State of California.

I have read this entire document, understand it completely, and agree to be bound by its terms.

Participant's Legal Name (please print): _____

Participant's Signature: _____ Date: _____

(If Participant is a minor) Legal Guardian Name: _____

(If Participant is a minor) Legal Guardian Signature: _____ Date: _____

AFFIDAVIT OF PARENT OR LEGAL GUARDIAN

I, the undersigned, declare that I am the parent of, or the legal guardian of, the below named minor, and have the capacity to execute documents on behalf of such minor. I understand that as a condition to participate in sheet wave surfing on the FlowRider® the parent or legal guardian of the minor participant must sign certain legal documents, including but not limited to Acknowledgements of Risks, Releases, and Indemnity Agreements. I am signing those documents, freely, without any fraud or duress and acknowledge that I have read and understand the same.

In the event that it is determined that I am not the parent or legal guardian of the minor, or did not have the legal capacity to execute the documents on behalf of said minor, then I agree to defend and indemnify: WAVE LOCH, INC., AQUATIC DEVELOPMENT GROUP, INC. and [Insert Owner Name], each of their lessors, parent companies, subsidiaries, related companies and business concerns, past and present, and each of them, as well as each of their partners, trustees, directors, officers, members, intellectual property holders, agents, attorneys, servants and employees, past and present, and each of them, if any litigation is instituted, as a result of any injury or death or claim for damage arising out of, relating to, or in any way connected with, minor's participation in sheet wave surfing on the or FlowRider® or use of the Facilities. I understand that this indemnity provision is in addition to (and not in lieu of) any other indemnity provision found in this document.

Participant's Legal Name (please print): _____

Legal Guardian Name: _____

Legal Guardian Signature: _____ Date: _____

C. RULES, REGULATIONS, AND RECOMMENDED SIGNAGE:

NOTICES, INSTRUCTIONS & WARNINGS

1. This is a very strenuous ride. The moving water is extremely turbulent.
2. Bodyboarding or Flowboarding on this sheet wave is a body-active, participatory sport. As with all sports, care must be taken to avoid a mishap.
3. Riders must be in good physical condition and free from any physical limitations to participate. Pregnant women and persons with or having a history of heart, back, neck, shoulder or joint problems should not ride.
4. Riders must be as tall as their Flowboard (52")/ Bodyboard (42") to participate.
5. Jewelry, hats, foot wear, eye glasses, or loose articles of any type are not recommended on the ride as they may injure the participant.
6. Bathing suit tops, bottoms and loose clothing may be pulled off by the flowing water. Cover-ups are suggested.
7. Entering the ride. Upon receiving instruction from the lifeguard,
 - a. Bodyboarding: place your bodyboard onto the flow of water slick side down. Lie down on your stomach, head facing the flow of water, with your hips along the rear edge of the board. Your legs should be extended straight behind you to serve as a rudder. Your hands should grab the forward rails of the board. Keep fingers, hands and elbows on top of your board to minimize water splashed into eyes. Gently push into the flow. You may ride in a kneeling position.
 - b. Flowboarding: holding the nose of the board, place your flowboard onto the flow of water slick side down. Place your back foot approximately at the tail of the board, and position your front foot above the mid-point of the board. Place your weight primarily on your back foot. Gently push into the flow. Remember – keep your weight on your back foot at all times.
8. Avoid jumping into or entering the ride at high speed; avoid weight on front foot -- YOU WILL WIPE OUT!
9. Steer your board into the center of the flowing water. You can control your board by gently shifting your weight. Try to keep your board pointed in the direction of the oncoming flow of water. Edge control is the key. Keep weight on your back foot!
10. If you wipe out, do not hold your board. Release board immediately, cover your head, and keep limbs close to body and try to brace for impact with feet first.
11. Single riding only is permitted. No tandem riders or multi-person riding is allowed.
12. CAUTION! The ride surface of this ride is very slippery. DO NOT attempt to walk on the ride surface. You may only stand to walk and exit after coming to a complete stop on the dark blue drain grating.
13. Obey the lifeguard at all times.

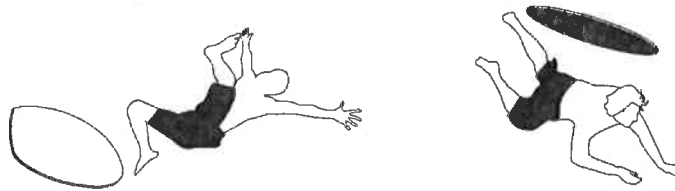
NOTICES, INSTRUCTIONS & WARNINGS



WARNING

WHAT ARE THE RISKS?

- RIDING THE FLOWRIDER IS AN EXTREME SPORT AND HIGH RISK RECREATIONAL ACTIVITY. YOU WILL FALL:



- FALLING MAY RESULT IN THE BOARD STRIKING YOUR BODY; OR YOUR BODY STRIKING THE SURFACE OF THE FLOWRIDER WITH GREAT FORCE:



- BEFORE ATTEMPTING TO RIDE, WATCH THE SAFETY VIDEO AND UNDERSTAND THE RISKS OF THIS ACTIVITY
- READ AND OBEY ALL POSTED SIGNS AND PICTORIALS
- OBEY ALL LIFEGUARD INSTRUCTIONS
- FAILURE TO COMPLY WITH SIGNS OR INSTRUCTIONS MAY INCREASE THE RISK OF SEVERE PERMANENT INJURIES OR EVEN DEATH

THERE ARE INHERENT RISKS IN THE PARTICIPATION OF ANY AMUSEMENT RIDE, DEVICE, OR ATTRACTION. YOUR PARTICIPATION IN THIS ACTIVITY IS VOLUNTARY, AND AS SUCH, YOU ARE ASSUMING SUCH RISKS.

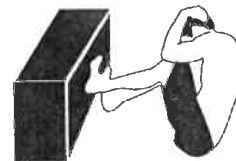
THE FOLLOWING TECHNIQUES MAY HELP MINIMIZE THE RISK OF INJURY:



TUCK INTO A BALL AS YOU BEGIN TO FALL



COVER YOUR HEAD & FACE WITH BOTH ARMS & HANDS



TRY TO ORIENT FEET FIRST BEFORE HITTING ANY SURFACE

WHO CAN RIDE THE FLOWRIDER®

For your safety, participate only if in good health. Only YOU know your physical condition or limitations. If you suspect that your health or safety could be at risk, or you could aggravate a pre-existing condition of any kind, DO NOT RIDE!

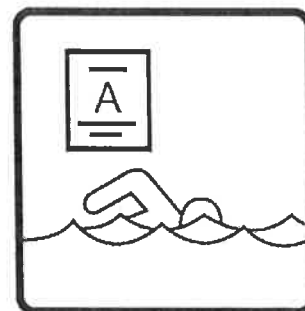
Minimum Requirements:



You must be at least
42" to bodyboard

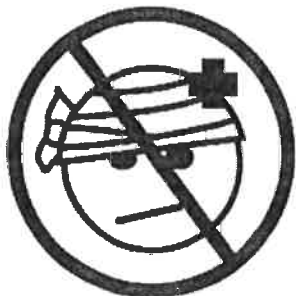


You must be at least
52" to stand-up ride



You must be able to swim in
fast moving turbulent water

Do NOT participate if you have any of the following conditions:



Recent Surgery or Illness



Heart Condition



Neck, Back or Bone Ailments



Pregnancy



High Blood Pressure
or Aneurysms



Under the Influence of
Drugs or Alcohol

HOW TO BODYBOARD



PROPER BOARD POSITION
PLACE SLICK SIDE FACING DOWN
FLOWRIDER LOGO FACING UP
BOARD'S ROUND TAIL AT STOMACH



GENTLE ENTRY
PLACE BOARD INTO FLOW AND
AIM TOWARD THE FRONT-CENTER



USE OF LEGS
CONTROL YOUR MOVEMENT BY
USING YOUR LEGS AS RUDDERS



ELBOWS AND HANDS ON TOP
KEEP YOUR ELBOWS IN AND FINGERS
ON TOP OF BOARD RAIL



PUSH DOWN = GO DOWN

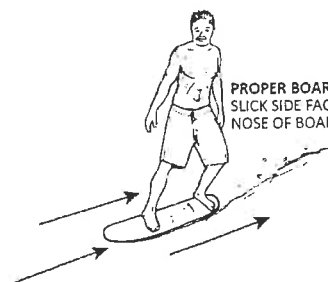


PULL UP = GO UP

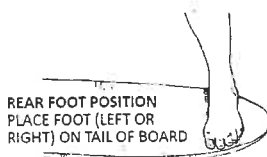


LEAN TO TURN

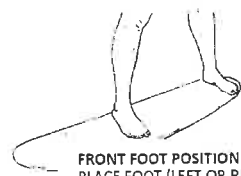
HOW TO FLOWBOARD "Stand-up"



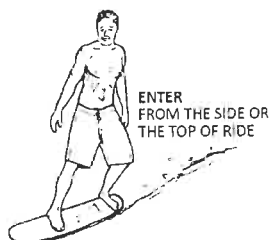
PROPER BOARD POSITION
SLICK SIDE FACING DOWN
NOSE OF BOARD FACING FLOW



REAR FOOT POSITION
PLACE FOOT (LEFT OR
RIGHT) ON TAIL OF BOARD



FRONT FOOT POSITION
PLACE FOOT (LEFT OR RIGHT)
ON FRONT-MIDDLE OF BOARD



**ENTER
FROM THE SIDE OR
THE TOP OF RIDE**



**KEEP ALL WEIGHT ON
REAR FOOT WHEN RIDING**



**BEND KNEES
TO HELP BALANCE**



WARNING - TO MINIMIZE RISK OF INJURY:

- DO NOT STEP OFF BOARD ONTO INCLINED RIDE SURFACE
- AVOID THE SIDE SURFACES WHERE THERE IS MINIMAL WATER FLOW



Snohomish Aquatic Center

FLOW RIDER RELEASE of LIABILITY

I, the undersigned, hereby voluntarily release, discharge, waive and relinquish any and all claims or causes of action for personal injury, property damage, or wrongful death which may arise out of or in connection with my participation (or the minor for whom I am legal guardian) in the simulated sheet wave surfing attraction known as the FlowRider® located at The Snohomish Aquatic Center, 516 Maple Ave, Snohomish, WA no matter how such injuries or damages may occur.

I UNDERSTAND AND ACKNOWLEDGE THAT SHEET WAVE RIDING ACTIVITIES HAVE INHERENT DANGERS THAT NO AMOUNT OF CARE, CAUTION, INSTRUCTION, OR EXPERTISE CAN ELIMINATE, AND I EXPRESSLY AND VOLUNTARILY ASSUME ALL RISK OF PERSONAL INJURY OR DEATH, WHETHER FORSEEABLE OR NOT, SUSTAINED IN CONNECTION WITH PARTICIPATING ON OR AROUND THE WAVE LOCH FLOWRIDER®.

Moreover, the fact that I am here proves that the benefits provided by the FlowRider®, for me, outweigh the described risks. In consideration of the benefits received, I further agree, and hereby forever release and discharge WAVE LOCH, INC.; WAVE LOCH FEDERATION; WAVE HOUSE; THOMAS J. LOCHTEFELD; and The Snohomish Aquatic Center; and all of their respective officers, directors, members, agents, and employees (hereinafter collectively as "Releasees"), from any and all liabilities, claims, demands, or causes of action, present or future, known or unknown, that I or my heirs may hereafter have at any time for injuries, damages or death. Furthermore, under no circumstances will I nor any of my heirs, guardians, legal representatives and assigns present or future bring any claim for personal injury, property damage, or wrongful death against RELEASEES or any officer, director, member, agent, servant or employee of RELEASEES, based upon RELEASEES ordinary and/or gross negligent acts or omissions. Such waiver and release includes, but is not limited to those arising from: 1) exercise or use of the Attraction, flowboards, or adjacent facilities; 2) patent, latent or hidden defective conditions in the Attraction, flowboards, or premises; 3) improper or inadequate instruction or supervision; 4) medical treatment rendered, or failed to be rendered by Releasees; 5) incidents in wet areas, such as Attraction surfaces, decks, matting, grating, or concrete; 6) equipment breaking or malfunctioning; 7) incidents in the parking facilities or common areas of the Site; 8) and any negligence, passive or active, on the part of Releasees. I further confirm that no sale, lease or bailment of a product is being created, and that Releasees are providing recreational services.

ACCORDINGLY, I WAIVE AND RELEASE RELEASEES FROM ANY AND ALL CLAIMS OR CAUSES OF ACTION THAT I, OR THE MINOR (WHO I AM SIGNING ON BEHALF OF), MAY HAVE IN CONNECTION WITH THE FLOWRIDER®, ITS FLOWBOARDS, OR ASSOCIATED USE. I FURTHER AGREE TO DEFEND AND INDEMNIFY (INCLUDING ATTORNEYS FEES) RELEASEES, AND EACH OF THEM, FOR ANY CLAIM OR ACTION THAT IS BROUGHT AGAINST THEM RELATING TO, OR ARISING OUT OF, OR IN ANY CONNECTION TO, THE FLOWRIDER®, ITS FLOWBOARDS, OR ASSOCIATED USE.

I, individually, and/or on behalf of the minor participant listed below, also hereby agree to a blanket release of all rights related to my audio and photographic image that may arise out of my participation in activities on or around the FLOWRIDER® water attraction. I understand that this release includes any and all marketing, promotion or advertising that may occur anywhere and anytime on any media as later used by RELEASEES or any of their representatives or assigns.

For WAVE LOCH, INC., WAVE LOCH FEDERATION, WAVE HOUSE, and THOMAS J. LOCHTEFELD, this RELEASE shall be construed and enforced in accordance with the laws of the State of Washington, and any action at law, suit in equity, or other jurisdictional proceeding arising in connection with this Agreement or my participation on the FlowRider®, shall be instituted only in the courts of the State of Washington with venue in Snohomish County, Snohomish, Washington.

I AM AWARE THAT THIS RELEASE IS LEGALLY BINDING AND THAT I AM RELEASING LEGAL RIGHTS BY SIGNING BELOW:

Participant's Name: (Please Print) _____

Participant's Signature: _____ **Date:** _____

(If Participant is a minor) Legal Guardian Signature: _____ **Date:** _____

D. FLOWRIDER® MAINTENANCE LOG

Date: _____

Repair Performed By: _____

and _____

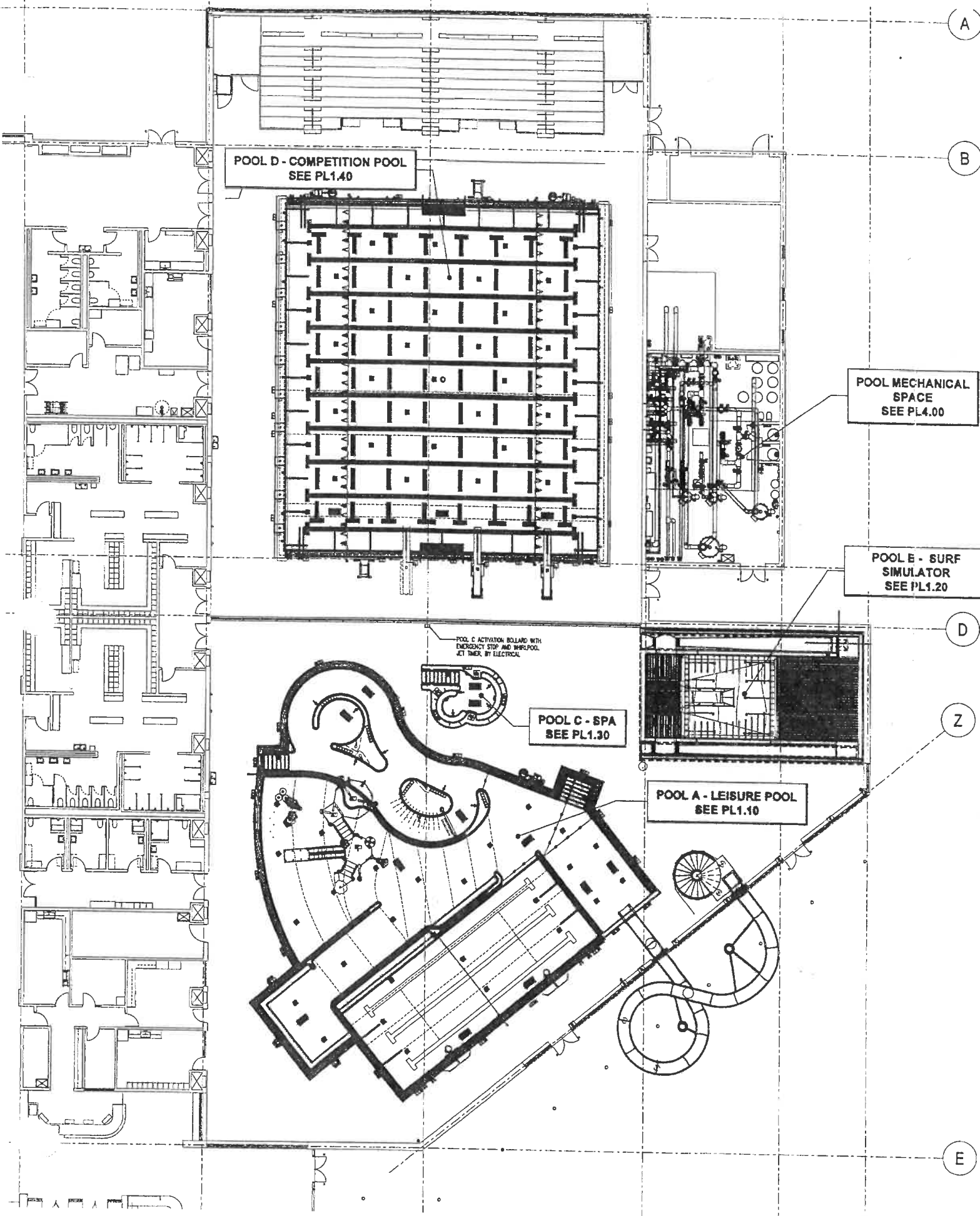
Parts Used: _____

Description of Work Performed:

Down Time: _____ Signature of Supervisor _____

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I. INCIDENT REPORT



POOL D - COMPETITION POOL
SEE PL1.40

POOL MECHANICAL
SPACE
SEE PL4.00

POOL E - SURF
SIMULATOR
SEE PL1.20

POOL C - SPA
SEE PL1.30

POOL A - LEISURE POOL
SEE PL1.10

POOL C ACTIVATION BOLLARD WITH
EMERGENCY STOP AND INFLUPOOL
JET TIMER BY ELECTRICAL