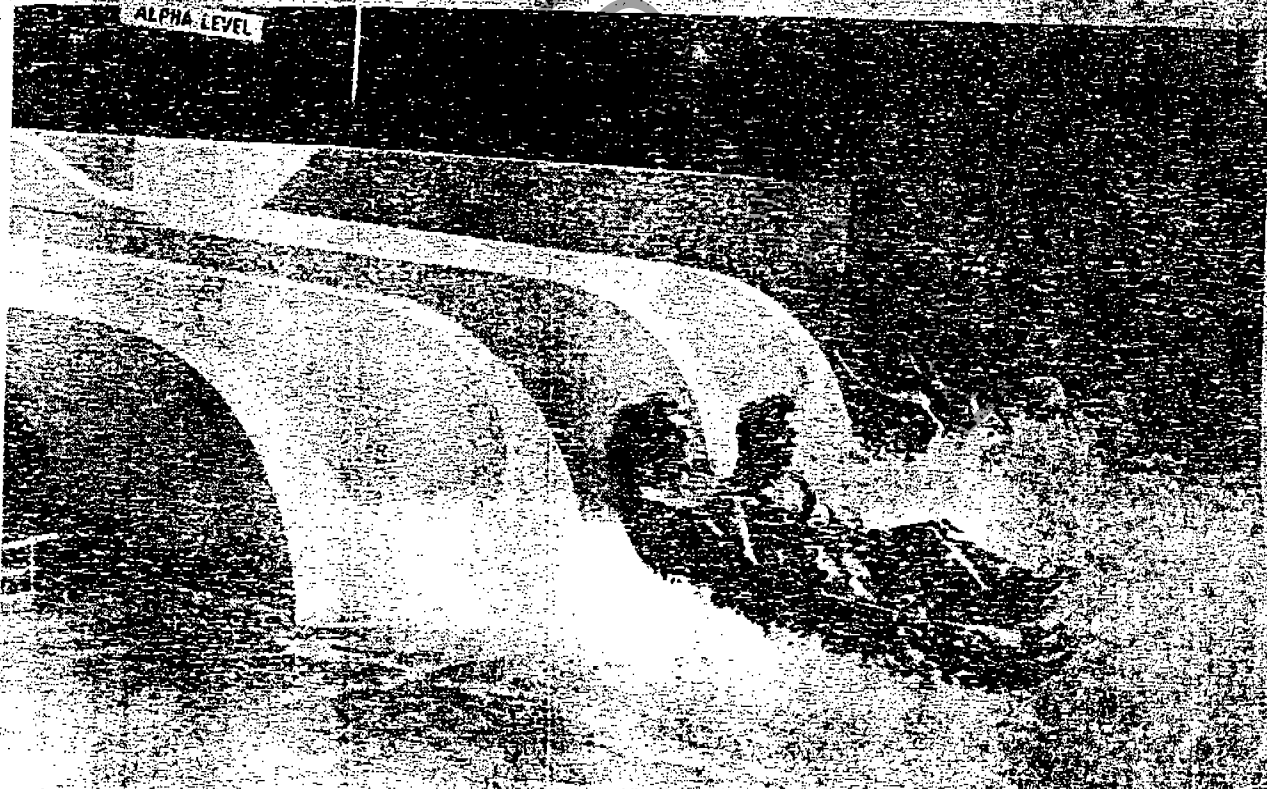


MFG: SUN/SURFCOASTER
RIDE: SAFETY MANUAL (011)

SURF COASTER

Safety Manual



SAFETY MANUAL

TABLE OF CONTENTS

| | <u>Page</u> | |
|-----|---|----|
| I | INSPECTION AND MAINTENANCE OF SURF COASTER FLUMES | 1 |
| | - DAILY | 1 |
| | - EVERY THREE MONTHS DURING THE FIRST YEAR OF OPERATION | 3 |
| | - EVERY SIX MONTHS THEREAFTER | 3 |
| | - EVERY SIX MONTHS | 5 |
| | - SEASONALLY | 5 |
| II | OPERATION PROCEDURES FOR SURF COASTER FLUMES | 6 |
| | - DISPATCH PROCEDURES | 7 |
| | - RULES & REGULATIONS | 9 |
| III | OPERATION OF FLUME RIDE WATER FLOW AND PROPER LEVEL OF WATER IN SPLASH POOL | 11 |
| IV | ACCIDENT PREVENTION | 12 |
| | - ELECTRICAL FAILURE | 13 |
| | - BODILY COLLISIONS | 14 |
| | - STRUCTURAL COLLISIONS | 15 |
| | - SLIP & FALLS | 16 |
| V | STAFF SELECTION | 17 |
| | - SUGGESTED STAFF CRITERIA | 17 |
| | - HIRING SELECTION | 18 |
| | - INITIAL EMPLOYMENT TRAINING | 18 |
| | - INSERVICE TRAINING | 18 |
| | - SUPERVISION | 18 |
| VI | MAINTENANCE PROCEDURES | 19 |

I INSPECTION & MAINTENANCE OF THE FLUME RIDE

Inspecting and maintaining the fiberglass flumes is essential to their safe operation. Surf Coaster suggests the following schedule for routine maintenance:

DAILY

1. Inspect splash-down pool floor and apron for debris before starting pumps.
2. Before starting water flow, a lifeguard should walk up each flume prior to opening in order to inspect for the following:
 - a. Foreign objects in the flume.
 - b. Check each joint to see if rubber gasketing is protruding and if so, cut it off.
 - c. Check to make sure no air pockets in the glass have broken open or appear at the edge of the joint (these create a razor-like edge and can cause injuries).
3. The foot sweeping process from left to right should be used to wet the flume walls on serpentine slides. This process prevents possible skin burns and abrasions that could occur if one would

brush a part of their body at rapid speed against the dry gelcoat surfaces of the flume or splash guards.

4. Once the lifeguard reaches the top of the slide he or she should ride the slide before allowing the public to ride.
5. The stairs treads, pathways, and tower platforms must be inspected at the beginning of each day for possible splinters or nail heads that may have worked upward.
6. Lifeguards should be on duty at least 15 minutes before opening. A good manager will find lots of cleaning jobs that can be performed during this time period, such as: cleaning the bath tub ring that occurs at the exit and entry tub of each flume, and cleaning the outside of the splash guards and skirts.

EVERY THREE MONTHS DURING THE FIRST YEAR OF OPERATION
AND EVERY SIX MONTHS THEREAFTER

1. Flume junctures should be checked for fairness and alignment. Some light sanding may be necessary due to a slight shifting of the junctures through riding movements, wind movement and differential earth settlement.
2. Inspect all trestles at the top of the footings to be sure that footing brackets are properly secured to trestle legs and anchor bolts have been secured to leveling pads (foundation caissons).
3. Check all tie rods in trestles to be sure that nuts and washers are properly tightened.
4. Check flume juncture attachment to trestle yoke.
5. Inspect all flume junctures for bolts, washers and lockwashers to see that they are properly assembled.
6. Check pathways and tower segments for proper tie down hardware.
7. Inspect joints in flumes and splashguards for tightness and for proper caulking.
8. Make sure all junctures are properly cut and cleaned, remove excess caulking and gasket material.
9. Walk entire flume and inspect all fiberglass gelcoat for possible chips or open air bubbles. Repair if necessary. All patches must be smooth.

10. Inspect all pathway and stairway sections as well as all hand-rail construction for tightness of nuts, bolts, and hardware. Check for smoothness of lumber and make certain that all nails are properly driven into wood.
11. The splash down pool should be examined for smoothness of plaster, paint and/or tile surface. Check level of fiberglass transition segment in pool. Inspect all fittings and grates to be certain they are secured properly and flush with surface finish of the pool. Surf Coaster Corp. insists that all splash pools be equipped with a sponge rubber mat to prevent injuries (3/4" thickness minimum). Do not operate the flumes without this.
12. Sign indicating "POOL DEPTH OF FOUR FEET ONLY - NO DIVING" should be visible from strategic viewing point around pool and starting platform. Pools will vary in depth from 36" to 60".
13. Water flow adequacy should be determined.
14. The water chlorination should be kept at controlled levels as excess chlorine will fade the gelcoat.
15. The proper level of water in the splash pool should be determined and maintained. Note: Water will spill and/or evaporate requiring constant regulation.

EVERY SIX MONTHS

The gelcoat surface of the flumes and splash guards should be cleaned, waxed and buffed, similar to caring for a fiberglass boat or auto. After 3 or 4 years of operation a light compounding may be necessary to restore the original gelcoat luster.

SEASONALLY

Every procedure listed under section 1, "Inspection & Maintenance," should be executed prior to opening each season.

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II OPERATION PROCEDURES FOR SURF COASTER FLUMES

In order to ensure the safety of park patrons, each guest must be properly dispatched from the starting tower. In addition, it is essential that guests be aware of the rules for sliding down safely and exiting immediately. This section will outline dispatch procedures and the necessary rules and regulations that owners must communicate to their guests.

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DISPATCH PROCEDURES

1. The Surf Coaster Supervisors will advise the proper dispatch intervals for each of our flumes. It is suggested that the owners affix a mark, part way down the flume signaling the tower lifeguard when it is safe to dispatch another guest. Generally an 8 to 12 second interval between sliders is safe. Guests wearing nylon bathing trunks will slide faster than those wearing cloth trunks. In addition, the weight of each guest should be considered as heavier guests will travel faster than small children.
2. There should be attendants located in three areas on each slide. The positions are as follows:
 - a. A dispatcher at every entry pool on the starting tower.
 - b. Two lifeguards, one certified, should be at the splash pool encouraging guests to exit quickly. It may be necessary for the lifeguards to be in the splash pool assisting people out of the water.
 - c. An attendant on the walkway monitoring guests and keeping them moving. They should be checking to make sure no one stops on the slide or stands up.
3. Dispatch on straight speed slides should occur only after the runway is free of any guests or obstructions. At no time should anyone be dispatched on a speed slide until the previous guest has cleared the runway path and is in a position of safety.

4. The lifeguard stationed at the dispatch point of any flume must remain in continual visual or verbal contact through the use of radios with the lifeguard stationed in the splash pool.

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OPERATION OF FLUME RIDE WATER FLOW

It is imperative that the proper water flow be maintained in the flumes.

The optimum water flow is established by a Surf Coaster representative by regulating the tub inlet valve. DO NOT change this flow set or the flume may become dangerously slippery. Please adhere to the following:

- a. The tub inlet valves should be permanently marked at the optimum flow point.
- b. These valves should be checked periodically or mechanically held in this position by locking devices.
- c. If any one tub valve is closed temporarily for repairs to flume or for other reasons, the active tubs will show an increase in flow if they are on the same manifold. Active tub should be throttled back to their usual flow.

ESTABLISHING AND MAINTAINING THE PROPER LEVEL OF WATER IN SPLASH POOL

The water level during operation should be a minimum of 8" below the edge of pool coping. This water level should be monitored periodically during the day, and hourly during peak times to be sure it is maintained. Note: Water level decreases due to spillage and evaporation.

ACCIDENT PREVENTION

Accident prevention is your goal as owner/operators of Surf Coaster flume rides. All staff members must be educated as to the hazards present within the flume, on tower walkways, in the entry and splash down pools. The following chart provides a description of the types of injuries that occur, where they occur and how to prevent accidents from happening. Please use this tool in training your staff "how to" maintain a safe water park.

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HAZARD

Electrical failure causes pump to stop.

Drowning.

INJURY TYPE

Bodily/structural collisions may cause various injuries.

Drowning.

LOCATION WHERE INJURY OCCURS

A decrease in water flow in flume makes flume extremely slippery and dangerous. This promotes oscillation and could lead to someone flying out of the flume.

At intake pumps.

HOW TO CONTROL ACCIDENT

Water flow must be supervised constantly.

If water flow decreases or stops, stop the slide from operation immediately.

Proper grading and screening of intake pumps must be established. Pumps should be separately housed or far enough away from slides with proper protection to deter patrons.

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| HAZARD | INJURY TYPE | LOCATION WHERE INJURY OCCURS |
|-------------------|--|------------------------------|
| Bodily Collisions | Concussions Dislocations Fractures Punctures Joint Inflammation Broken Teeth Back Injuries | Entry pool and in the flume |
| Same as above. | Same as above. | Splash pool |

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HOW TO CONTROL ACCIDENT

RIDER ENTRY RATE CONTROL

Attendant must regulate entry based on conditions in the flume, rider's weight and clothing material worn.

The time interval is 8 to 12 seconds between sliders.

A small child may follow an adult in a matter of 4 to 5 seconds because the lighter weight person will go slower than a heavier person.

A larger person must be held back longer than the average interval so that they do not catch up the lighter person.

Where mats are used, loss of mat will slow the rider down requiring the entry to be delayed.

Riders wearing nylon bathing suits will travel faster than those wearing cotton suits.

No multiple rider entry (unless using approved vehicles).

Attendants at splash pool must be aggressive and continuously talk or move people out of the pool.

Lifeguards at the splash pool should be alert to a child or adult who has possibly swallowed water during the slide down, or at point of the pool.

| HAZARD | INJURY TYPE | LOCATION WHERE INJURY OCCURS |
|---|---|---|
| Structural Collisions Including Impact upon landing or finish of ride | Abrasions Lacerations Dislocations Broken Teeth Fractures Back Injuries | Within the flume structure and in the splash pool |

HOW TO CONTROL ACCIDENT

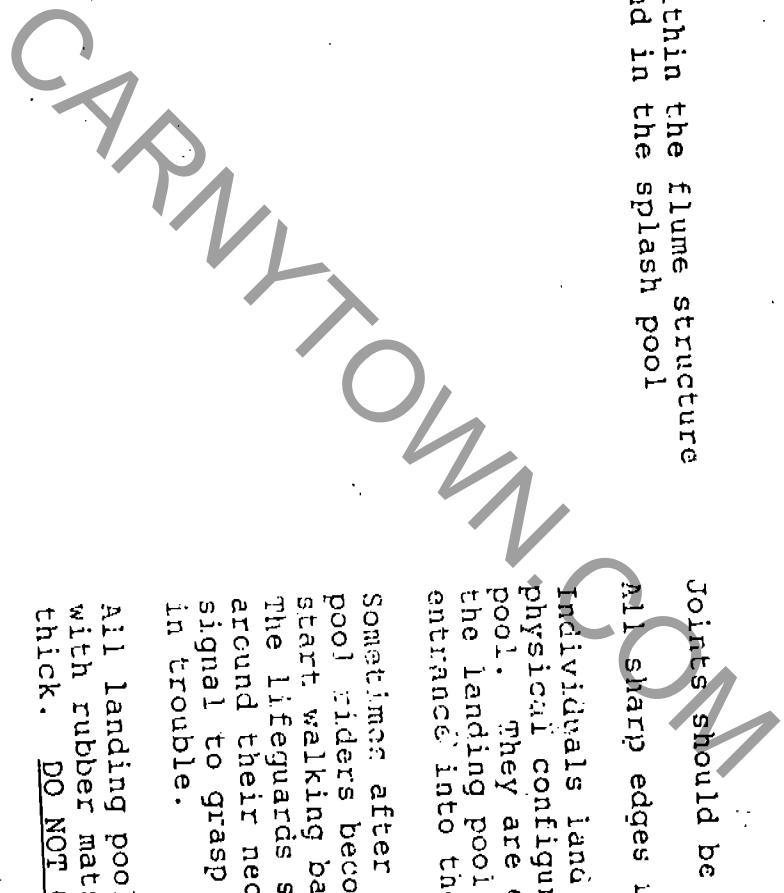
Joints should be smooth.
All sharp edges removed.

Individuals land in random physical physical configurations into the splash pool. They are exposed to impact with the landing pool bottom and/or unusual entrance into the water surface.

Sometimes after entering the splash pool riders become disoriented and start walking back toward the slide. The lifeguards should have a whistle around their necks for an immediate signal to grasp the attention of people in trouble.

All landing pools should be equipped with rubber mats a minimum of 3/4" thick. DO NOT OPERATE WITHOUT A MAT.

Attendants must instruct riders that no flips, dives, or unusual body configurations are permitted. Signs should be posted on stairs and walkways advising against this practice and picturing the proper riding and landing procedures.



| HAZARD | INJURY TYPE | LOCATION WHERE INJURY OCCURS | HOW TO CONTROL ACCIDENT |
|--|---|---|-------------------------|
| Slip & Fall Fracture Sprains Concussions Cuts Lacerations | Surfaces, whether in water or on walkway Exit area of splash down pool walkway and stairs Entry pool Area under splash-out, water leakage Mats getting left around splash pool present an extremely slippery hazard | Attendants must monitor horseplay, running, pushing, shoving. Walkways and stairways should not be roped off in an attempt to redirect traffic as guests have been known to grab the rope to prevent themselves from falling. Slip resistant surfaces must be installed on exit ramp and steps. Hand rails must be installed on exit steps to prevent falls. No running into entry pool. Trained attendants must assist guests at entry and exit. Monitor water flow and prevent leakage with regular maintenance. An attendant responsible for mat storage and control should be established. | |

V. STAFF SELECTION

A. SUGGESTED STAFF CRITERIA

1. Selection and control of the park operating staff is difficult. Your guests form their impressions based on their contact with your employees. The quality of implementation of your policy and procedure is in the control of your staff. Screening, initial training, on-the-job training, and discipline are the tools you have available to maintain control. The following guidelines are offered for the manager's consideration in those areas of interest to the water park. Most suggestions are based on the assumption that the owner or manager is not in a position to be in hour-to-hour contact with the entire staff.

B. HIRING-SELECTION

1. Before hiring, establish your needs in detail. Identify and group all of the jobs and responsibilities you must fill by assigning them to employees. This will establish the number of people needed, qualifications for hiring, and guidelines for training.
2. Maturity and discipline are key factors in risk management and safety, and should carry a high priority in the selection process. Most often, these characteristics are best evaluated by observing how the interview discussion is handled, rather than by the specific information in the application. Follow up with previous employers and personal references.
3. The American Red Cross and many local regulatory agencies stipulate certain hiring standards with respect to lifeguards. While Red Cross

or YMCA guard training is not a prerequisite for splash pool attendants, hosts, traffic control, ticketing, etc., most persons who have been trained and are experienced as guards exhibit more maturity, understanding of the public, and acquaintance with water-related operations. Red Cross trained Advanced First Aiders are also often good candidates and offer a needed skill to the staff.

C. INITIAL EMPLOYMENT TRAINING

1. Regardless of the size of the park, training guidelines and standards should be established and carried out. The absence of a documented outline of duties, responsibilities, and authority for each type of job might confuse your operation. Since most parks do not have heavy crowd load during their first days of each season, the circumstances are ideal for review of training. The light crowd load offers sufficient exposure to operating conditions to get employees in stride with policies and procedures. If you made a mistake in hiring or assigning personnel, it will very likely show up during this training period, and should be corrected immediately. As you build staff size to accommodate larger crowds, the best of the early hires should be recognized and utilized.

D. INSERVICE TRAINING

1. Time should be allocated for weekly drills which will critique skills and provide training sessions. A session each week will maintain staff contact and provide a mechanism for correction of any deterioration of duties and responsibilities which seem to creep into most operations as familiarity and complacency set in.

2. Inservice training of lifeguards is required by Red Cross and can be used for all staff members. These sessions can be somewhat informal without losing significance or effectiveness. First aid skills are good subjects for sessions. Some water parks offer and require participation in CPR and Standard First Aid Training for all staff members. Weekly drills and the offering of Red Cross Advanced Life Saving, Life Guarding, First Aid, and CPR courses to your staff can substantially bolster the preparedness of your staff. Additionally, these programs seem to encourage employees to return the following year if they are still in the seasonal employment market. Many parks use drills while in operation to test guard and attendant alertness.

E. SUPERVISION

1. Mature, responsible persons should be assigned to supervise employees at all times. Supervision is necessary to prevent accidents and maintain employee control. A park or department left in the control of unqualified persons is difficult to justify if problems arise. Supervisors must be trained and have skills with respect to accident prevention and loss and risk management. Attendance at seminars given by Red Cross, YMCA, Industry Associations, etc., can only strengthen supervisors' skills.
2. The supervisors must see that your specific policies and procedures are followed by all employees. You must have a test and evaluation program to verify, and document, the skill and training claimed by your employees.

VI. MAINTENANCE PROCEDURES

- A. Maintenance of the Surf Coaster flume ride should be a checking of the fifteen items listed in the inspection report.
1. Items pertaining to flumes should be checked monthly in addition to the lifeguard walk-up procedure each morning.
 2. Items pertaining to trestles and hardware should be checked every three months the first year and every six months thereafter.
 3. The gelcoat surface of the flumes and splash guards should be cleaned, waxed, and buffed every six months, similar to taking care of a fiberglass boat or auto.
 4. After three or four years of operation, a light compounding may be necessary to restore the original gelcoat luster.
 5. The water chlorination should be kept at controlled levels as excess chlorine will fade the gelcoat.
 6. Flume junctures should be checked for fairness and alignment every three months during the first year and every six months thereafter. Some light sanding may be necessary due to a slight shifting of the junctures through riding movements, wind movement or differential earth settlement.