

<sup>SURGE</sup>  
ProSlide Technology  
Mammoth River  
Non-Kiddie



# ProSlide Technology Inc.

WET 'N WILD  
Orlando, Florida



**OPERATION AND MAINTENANCE MANUAL**

**FOR:**

**PROSLIDE MAMMOTH RIVER "14"**

**FAMILY RIVER RAFT RIDE**

**Dated: July 23, 1997**

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**PROSLIDE  
MAMMOTH RIVER "14"  
FAMILY RIVER RAFT RIDE**

**OPERATIONS/MAINTENANCE MANUAL**

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## INTRODUCTION

ProSlide is committed to safety. This commitment encompasses all phases of ProSlide's business, from design and engineering through product quality control. ProSlide strives to provide the safest, most efficient rides possible.

This manual is being supplied to you as part of ProSlide's continuing commitment to guest safety. It provides recommendations and basic rules for operation and maintenance for ProSlide water slides. We urge you to use this manual in conjunction with your operational and maintenance training program. This manual can be used as a basis for your Standard Operating Procedure (SOP) for your ride. This SOP should be continually reviewed and updated to reflect the knowledge and experience you gain with your continued operation of this and other amusement equipment.

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## PROSLIDE OPERATIONS/MAINTENANCE MANUAL

### PURPOSE

This Operations/Maintenance Manual is to provide the operators of ProSlide's Mammoth River "14" with procedures necessary to operate and maintain the ride in a safe manner.

The procedures outlined in the ProSlide Operations/Maintenance Manual must be combined with on-site training for your specific ride to form a complete operational training program.

### KEY CONSIDERATIONS

- I) An absolute truth applying to this ProSlide ride is that it is participatory in nature; *i.e., The Guests utilize the equipment according to specific instructions and therefore the instructions and the guest's actions directly control the quality and safety of the experience.*
- II) This creates the need for ride operators to be alert to the possibility for potential problems relating to the guests' reaction to the ride experience; *i.e., Ride operators should be sensitive to a guest's apprehension upon their entry into the start position of a particular ride. If necessary the guest should be given the opportunity to leave the start position especially if they are very young and/or being unduly coerced by others.*
- III) Many installations incorporate a ProSlide ride with other equipment and/or facilities not provided by ProSlide. In installations such as this it is incumbent on the owner to provide proper instructions/warnings for the use and operation of this equipment/facility to both guests and employees.

These Key Considerations highlight the need for Riders to receive proper instruction, warnings and supervision.

ProSlide's goal is to provide the rider with the safest and most enjoyable experience possible. The proper use of this manual will help ensure the realization of the highest levels of both Rider and operational experience.

## OPERATING PROCEDURES MAMMOTH RIVER "14" FAMILY RIVER RAFT RIDE

The ProSlide Mammoth River is a 14' wide waterslide with high bank walls designed to accommodate a 8' diameter inflatable raft. The raft is capable of holding six or fewer riders.

### PRE-OPENING INSPECTIONS:

Prior to operating each day, every individual flume should be inspected by qualified personnel. This inspection should be performed just prior to turning on the rides water supply. The flume is to be checked for damage or any foreign matter that may be present within the flume trough. All surfaces with which a rider could make contact should be examined for chips, cracks or any other condition that could injure a rider. The joints of the flume should also be examined at this time, looking for caulk deterioration, excessive gapping, alignment problems or any other condition that could injure a rider. Any problems found should be reported to the proper authority and the deficient flume not utilized until the problem(s) have been corrected.

Upon completion of the flume inspection, a visual inspection of the slide tower, its deck, walkways and handrails should be performed. Check for defective steps, deck surfaces and handrails. All surfaces with which a guest could make contact should be checked for splinters, chipped paint or any other condition which is potential hazard. Problem areas should be brought to the attention of the proper authority. The deficient facility should remain closed until the appropriate repairs have been completed.

The outer portion of the slide system must be inspected. Check the flanges and fasteners for signs of movement, compression or retraction. The section-to-section joints should be secure and all fasteners tight. Footers should be visually checked for stability and integrity.

In some cases the performance the inspection may require accessing areas that are elevated or extremely steep. Caution should be exercised when performing this portion of the inspection. Appropriate safety equipment must be used and proper procedures followed while accomplishing this inspection and any subsequent repairs.

Following the flume inspection, the pumps should be turned on and water allowed to flow down all slides which are going to be utilized. The correct flow rate should be achieved and maintained prior to allowing anyone to enter the start position of the slide.

It is recommended that the initial rider be a lifeguard or slide attendant. This will act as a final check that the slide is ready to be ridden by the general public.

All communication, lifesaving and emergency equipment should be checked, to ensure it is present and in working order.

**All** lifeguards and ride attendants must be in position prior to allowing the general public to ride.

## OPERATING POSITIONS

### Slide Dispatcher:

ProSlide recommends that dispatch and splash pool/runout personnel positions be filled by ride attendants qualified to operate this ride and trained in water safety procedures, able to recognize guests needing assistance and react to that need in a proper, prompt and efficient manner.

Guests ride the ProSlide Mammoth River primarily using a 8 foot diameter inflatable raft. Each raft may accommodate up to six adult riders.

The slide dispatcher should assist guests in getting into their raft as needed. Some guests will require little or no assistance and others may require quite a bit of assistance. The slide dispatcher should be alert observing guests' demeanor and physical appearance and assisting any guest who appears to need help.

The proper riding position is described below along with recommended entry instructions:

After the 8' diameter raft is placed into the start position, the guests should step into the raft and immediately be seated with their backs against the side of the raft with their legs extended in toward the center of the raft. The guests must not be allowed to ride while seated on or straddling the raft sides. Do not dispatch rafts which contain excess water as the weight changes the ride dynamics.

The slide dispatcher must properly dispatch the guests so as to prevent collisions. The number of guests riding and the raft being ridden must be considered. While different rafts lend consistency to the speed of the ride, weight remains a factor. The slide dispatcher should attempt to balance the weight distribution in the raft. Heavier rider loads should be given slightly more interval time when following lighter rider loads.

The slide dispatcher should be attentive to problems related to the rafts. Under inflated or over inflated rafts should be corrected prior to allowing guests to ride. The raft manufacturer's recommendations for use and maintenance should be strictly adhered to.

### Splash Pool/Runout Attendant:

ProSlide recommends that dispatch and splash pool/runout personnel positions be filled by ride attendants qualified to operate this ride and trained in water safety procedures, able to recognize guests needing assistance and react to that need in a proper, prompt and efficient manner.

The splash pool/runout attendant must maintain visual contact with the guests as they enter the splash pool/runout. The splash pool/runout attendant should caution the guests to remain in their raft until they have come into the proper dismount area. This attendant

must be ready to move any raft or guest out of harm's way, in order to prevent collisions with subsequent rafts or guests. The guests should then be directed to dismount their raft and exit the splash pool/runout via the appropriate route, taking their raft with them. In the case where a mechanical conveyor is used, guests should dismount their raft as instructed and exit the pool as instructed. The splash pool/runout attendant should then empty the raft of any water and place the raft on the mechanical conveyor. Guests should not be allowed to remain in the splash pool/runout longer than necessary and should be instructed to exit immediately.

## **GENERAL OPERATING PROCEDURES FOR THE MAMMOTH RIVER "14"**

Guests ride the ProSlide Mammoth River primarily using an eight foot diameter inflatable raft. Each raft may accommodate up to six riders, with a maximum cumulative weight of 1,200 lbs.

The slide dispatcher should assist guests in getting into their raft as needed. Some guests will require little or no assistance and others may require quite a bit of assistance. The slide dispatcher should be alert observing guests' demeanor and physical appearance and assist any guest who appears to need help.

The proper riding position is described below along with recommended entry instructions:

After the eight foot diameter raft is placed into the start position, guests should step into the raft and be immediately seated with their backs against the side of the raft with their legs extended in toward the center of the raft. The guests must not be allowed to ride while seated on or straddling the raft sides. The rider weights should be dispersed evenly in the raft.

The slide dispatcher must properly dispatch the guests so as to prevent collisions. The number of guests riding in the raft and the type of raft being ridden must be considered. While rafts lend consistency to the speed of the ride, weight remains a factor. The slide dispatcher should attempt to balance the weight distribution in the raft. Heavier rider loads should be given slightly more interval time when following lighter rider loads.

The slide dispatcher should be attentive to problems related to the rafts. Under inflated or over inflated rafts should be corrected prior to allowing guests to ride. This must be an on-going procedure.

## CLOSING PROCEDURES

The Mammoth River 14 operators (both dispatchers and splashpool attendants) should remain in position until released from duty by the proper authority.

Slide dispatchers may descend from the slide tower after the last guest has ridden. They should remain at the bottom of the tower to prevent guest access until all guests have left the area.

The splash pool/runout attendants must verify that all guests have ridden and no one else will be riding the Mammoth River 14. The splash pool/runout attendants must remain in the area of the splash pool/runout and continue to maintain control over the area to prevent unauthorized entry into the splash pool/runout, until released from duty by the proper authority.

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**OPERATIONAL GUIDELINES  
MAMMOTH RIVER 14 FAMILY RAFT RIDE**

- 1) Guests may ride the Mammoth River 14 using an eight foot diameter inflatable raft.
- 2) Guests are permitted to wear life jackets while riding the Mammoth River.
- 3) This ride is recommended for guests in good health and good physical condition.
- 4) Riders shall be a minimum of 36" in height. All riders must be capable of controlling the position of their own body throughout the entire ride experience. Each rider from 36" to 48" in height shall be accompanied by a chaperone responsible for determining the abilities of their charge to safely experience the ride. If there is any doubt about the ride and the physical abilities needed to safely ride, the chaperone should ride first to actually experience the forces generated before placing their charge on the ride. The chaperone shall also ensure that each rider between 36" and 48" in need of a personal floatation device be suitably equipped.

Proper personal floatation devices may be worn by any rider.

- 5) Pregnant women, guests with heart conditions, guests with neck or back problems, and guests under the influence of alcohol or drugs should not be permitted to ride.
- 6) Only single rafts are to be dispatched. No chains or multiples of rafts should be permitted.
- 7) Neither riders nor rafts should be permitted to remain in the splashpools. Riders should be directed to exit with their raft as soon as possible.
- 8) Guests should not be permitted on or near the raft conveyor system. Employees should be trained in the use and operation of the conveyor system according to the manufacturer's information.

**RAFTS THAT ARE NOT SELF-BAILING SHOULD BE DRAINED OF WATER PRIOR TO PLACEMENT ON THE CONVEYOR SYSTEM.**

ProSlide has provided this list of suggested operating guidelines to be incorporated into your facility's overall operating safety system. These guidelines are for the safety of the riding public as well as for the operators of the equipment.

## MAINTENANCE PROCEDURES

### Manufacturer's Recommended Inspection Points for ProSlide's Mammoth River "14"

<u>Description</u>	<u>What to Check</u>	<u>Notes and Remarks</u>
Footers	Integrity--look for cracks, damaged or missing concrete, loose attachment bolts, missing fasteners. Check condition of base plates and grout.	Damaged footing should be checked by qualified individual for ability to continue to bear load.
Supports, Uprights and Columns	Structural integrity--look for damaged or missing components. Check for loose or missing fasteners on cross members. Look for signs of deterioration and cracking, rotted or rusted metal. Check condition of all welds.	Problem areas should be checked by qualified individual for ability to continue to perform duty.
Slide Trough Support and Attachment Points	Look for deteriorated, damaged or missing components. Check for loose or missing fasteners.	Repair or replace items as needed.
Ramps and Stairways	Look for deteriorated, damaged or loose components. Check condition and tightness of fasteners. Look for sharp or protruding objects. Check condition of handrails. Check to ensure sidewall protection is in place and no gaps exist.	
Tower Platform	Check condition of walking surfaces, side protection, guard rails. Check to ensure start section is secure to platform.	

## Maintenance Procedures (Cont'd)

Flume trough

Inspect the flume's entire length--look for cracked, damaged, worn, or deteriorated fiberglass. Check for chips, gouges or damage to the gelcoat. Check alignment of joints. Look for loose or missing joint material. Check condition and tightness of all fasteners. Inspect outer circumference of slide for signs of movement, compression or retraction. Section to section flange ends should be secure and all fasteners present and tight. Also check for any external damage to the flume system.

Repair or replace items as needed. Refer to attached fiberglass repair procedures to repair fiberglass damage.

Catch Pool

Check sides of pool for signs of deterioration or damage. Look for cracked or spalled concrete, leaks, bulges, or other signs of deformation. Look for presence of all gratings, light lenses, drain and return covers. Check to ensure they are properly installed and secure. Check to ensure all handrails are in place and secure.

Repair or replace items as needed.

## MAMMOTH RIVER "14" INSPECTION CHECKLIST

	OK	NEEDS ATTENTION
Footers		
Base Plates and Fasteners		
Supports, Upright and Columns		
Bracing and Cross Members		
Condition of Welds		
Support Arms		
Support Arm Attachment Points		
Stairways, Ramps and Platform Checks		
Steps and Stairs		
Handrails		
Non-Skid Surface		
Side Protection, Guardrails		
Flume Trough Checks		
Condition of Fiberglass		
Condition of Joints		
Start Section Secure to Platform		
Flow Rate		
Condition of Piping, Joints, Unions		
Piping Supports		
Leakage		
Static Pool Water Level		
Operating Pool Water Level		
Grates, Drain Covers		
End Flume Section Secure to Pool		

**Mammoth River Inspection Check List (Cont'd)**

	OK	NEEDS ATTENTION
Handrails		
Condition of Exit Steps		
Area Lighting		
Underwater Lighting System		
Conduit		
PA System/Warning System		
Pool Depth Markings		
Warning Signage		
General Signage		
Guard Station		

**COMMENTS**

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Inspected By: \_\_\_\_\_

By: \_\_\_\_\_



## MAINTENANCE DOCUMENTATION

ProSlide recommends that all conditions requiring attention, whether discovered following an inspection, or at any time during operation, be repaired as soon as practical. At no time allow the ride to operate with any condition which poses a threat to the safety of guests or staff. In addition, it is recommended that all repairs of any kind performed on the slide be documented to provide a complete safety record for the equipment. A sample ride maintenance log form is included in this manual.

### MAINTENANCE LOG

ATTRACTION: MAMMOTH RIVER "14" SERIAL NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_ MECHANIC: \_\_\_\_\_

DESCRIPTION OF WORK: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PARTS USED: \_\_\_\_\_

DOWN TIME: \_\_\_\_\_ COST: \_\_\_\_\_

SUPERVISOR'S SIGNATURE: \_\_\_\_\_

\*\*\*\*\*

DATE: \_\_\_\_\_ MECHANIC: \_\_\_\_\_

DESCRIPTION OF WORK: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PARTS USED: \_\_\_\_\_

DOWN TIME: \_\_\_\_\_ COST: \_\_\_\_\_

SUPERVISOR'S SIGNATURE: \_\_\_\_\_

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## GELCOAT REPAIR KIT (STANDARD)

### QUANTITY

### MATERIAL

1 Quart	-	Gelcoat putty/paste in the appropriate color.
3 oz.	-	M.E.K.P 50 liquid fiberglass (hardener or catalyst not supplied in kit).
8 Sheets	-	100 grit dry sandpaper.
8 Sheets	-	180 grit wet sandpaper.
4 Sheets	-	320 grit wet sandpaper.
4 Sheets	-	600 grit wet sandpaper.
1 Quart	-	Polyester enamel in appropriate color, for exterior touch-ups.
1 Can	-	Automotive rubbing compound - medium (not supplied in kit).

## GELCOAT SURFACE MAINTENANCE

This section is provided for the preparation of ProSlide waterslides flumes prior to their initial use. Following these recommended procedures will aid in extending the life of the flume by limiting pigment loss caused by UV rays, chemicals and abrasions.

### INITIAL SURFACE TREATMENT

Working from the top down and prior to the slide catch pool being filled, ensure that the entire surface of the slide is cleaned to render it free from all contaminants. We recommend the following:

- 1) Wash fiberglass thoroughly with a non-abrasive cleaner, such as Spic & Span; use non-abrasive cleaning tools; use warm water if possible; rinse thoroughly; let dry. Pressure washing is acceptable. Personnel performing this task should exercise caution and initiate all safety measures appropriate for the performance of such tasks.
- 2) Upon completion of cleaning, the entire slide should be examined for remaining stains or discoloration. The stained or discolored areas should be restored using a concentrated cleaning solution or buffing compound. Once the surface has been certified clean, a coating of good quality automotive/marine wax (a list of quality products follows) is required. Care must be exercised to follow all manufacturer's instructions for application. The surface being waxed is in all probability outdoors and special attention should be given to the manufacturer's recommendations relative to climatic conditions.

After no less than 12 hours, a second coat of wax should be applied to the start pool and the first section of the slide downhill of the start section, along with the last 45 feet of the ride prior to the catch pool entry and/or all splashpool sections.

- 3) It is advisable to clean and wax fiberglass at season start up, mid point and especially at year end (or more as directed by use). Attention to the maintenance of these gelcoat surfaces not only preserves the ride's aesthetic qualities but additionally protects your investment.

## WAXES AND COMPOUNDS FOR SLIDE UPKEEP

Waxes:

(Good U.V. Inhibitors)

- Nu-Finish -white paste
- Turtle Wax -white paste
- -light green liquid
- Rain Dance -white paste

Compounds:

- Durosol 200 (commercial grade compound)
- Dupont #7 white polishing compound.
- Most automotive medium grit compounds having a neutral color. A colored compound may stain the gelcoat and become very difficult to remove.

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## FIBERGLASS REPAIR INSTRUCTIONS

### Tools Required:

- Sharp knife (preferably one with break-away tips).
  - Putty knife 1", 2", 3" (plastic preferred).
  - Popsicle sticks (wood coffee sticks)(miniature putty knives).
  - Cardboard (several stiff pieces 12" x 12").
  - 2" masking tape.
  - 1 bucket (2 - 3 gallons).
- 1) With knife, cut away all ragged edges and any loose fiber. Any caulk should be cut away. Don't be gentle. Any dirt, grease or caulk will not allow gelcoat to adhere.
  - 2) On patches longer than 1", sand area with 100 grit sandpaper, DRY.
  - 3) Prepare at least 8 to 10 patches of 1" length or less, or 3 to 4 patches of a longer measure.
  - 4) Wash all areas with ACETONE and a CLEAN RAG.
  - 5) Mask off areas where you do not want the gelcoat to adhere.
  - 6) The gelcoat paste supplies should be the appropriate amount for all repairs. However, you may thicken it with cabosil or Aerosil if required. This should only be done by an expert. Too much will cause the paste to dry out and be unworkable.
  - 7) Using your own judgement, remove a sufficient amount of paste from quart can to fill all patches. Place paste on a piece of clean cardboard. This will be your work table.
  - 8) Close can of paste, as water will ruin gelcoat and sun will dry it out. Never leave a can open longer than needed and try to keep it in the shade if possible.
  - 9) Spread paste on cardboard until it is approximately ¼" thick.
  - 10) The catalyst required is Methyl Ethyl Ketone 50% or M.E.K.P 50. Use clear version only. The red will alter the color of the gelcoat. The hardener (catalyst) can be found in tubes in some hardware stores as "Liquid Hardener". You will see the full name in the line print on the tube.
  - 11) Mixing is 2% by volume. If you have done step 9, imagine areas the size of golf balls in diameter. For each area of the diameter of a golf ball, you require 4 drops of catalyst. You will have to alter this amount based on temperature and humidity. If reaction is fast, reduce amount of catalyst. If too slow, increase SLOWLY.

### Tools Required (Cont'd):

- 12) Form a small well in the gelcoat paste and add amount of catalyst required. Carefully mix in gelcoat until you are sure that the hardener has been mixed thoroughly, as it will not harden otherwise.
- 13) Apply mixed paste to all patches. Do not overfill. When hard, gelcoat will require a lot of sanding if too much is applied. It is always best to be a little on the lean side.
- 14) If patching near a joint, be sure that the joint is restored after patching. Do not leave a patch fusing two sections of slide. Simply cut the joint with the edge of putty knife before proceeding to the next patch. Later, caulk can be installed when finished.
- 15) If additional gelcoat is required, NEVER use your putty knife with catalyst mix. Even if only a fraction of a drop were to get into main container, it would harden **ALL** in 2 days. Use a clean putty knife or thoroughly clean the knife with acetone and a rag.
- 16) Curing should occur in 30 to 45 minutes. If you do small batches, they will dry progressively and by the time you've patched a complete flume or two, the first areas should be ready for finishing.
- 17) Gelcoat is cured when surface is hard, not rubbery. It will remain tacky. When hard, wash areas with acetone to remove tackiness. This will save a lot of sandpaper.
- 18) With a bucket of water and 180 grit waterproof sandpaper, sand down the patch to very close to perfect level. Use plenty of water while sanding. This will remove the gelcoat dust and keep paper from clogging.
- 19) Progressively sand with finer and finer paper to get all the scratches produced by the proceeding grit paper. Do not over sand. If a color change occurs, stop immediately, you are about to sand off the gelcoat.
- 20) If you get through the gelcoat, then the only solution is to roughen area with 100 grit paper. Dry with acetone and apply a thin layer of gelcoat.
- 21) After washing with water and either air drying or drying with rag, polish patch area with a medium grade or medium-coarse grade automotive rubbing compound.
- 22) As rubbing compound seems to appear as a wax, it must be remembered that is not! All areas should be waxed to prevent premature chalking.