

Reithoffer

03650

MFG: REVERCHON  
NAME: ROC'N RAPIDS  
TYPE: NON-KIDDIE

## FLUME RIDE 140' x 60'

INSTRUCTIONS FOR

- ERECTION

- OPERATION

- MAINTENANCE

- SPARE PARTS

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Mr REITHOFFER

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Roc'N Rapids

REVERCHON U.S.A.

7177 Lake Bluffcourt

WILSONVILLE

OREGON 97070

Tél. 19.1.503.694.2803

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Rob'n Rabids

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## GENERALITIES

### a) Flume ride

This ride is a thematic amusement ride, copying flumes used for carriage of timbers in Canada.

The ride consists of rowing, with one or several steep slopes.

An hydraulic pump with big flow feigns stream of the river. Lake is used as a buffer container.

Boats are shaped as a log. They are supplied with carrying and guide wheels, so that safety catches. They can hold 4 persons of 165 lbs. The limit load should not exceed 660 lbs.

### b) Water

The water of the lake must be clear and unsoapy. It can be spring or city water. If that water is continuously renewed, filtering is not indispensable. Otherwise, it must be treated.

### c) Filtering

Water filtering requires pumping installation whose flow must filter volume of the lake 4 times a day (for polluted waters). Cleaning produces (Alginine or Chlorine) must be used according to weather and water quality.

Volume of the lake : US gallon : 39 000.

### d) Water levels

Lake level at pump location must remain correct, to avoid Vortex phenomenon. A probe is used to control this level. Minimum height of water in the big lake must be 14 inches when pump is off.

Pump grills must be installed to avoid any unexpected floating materials.

### e) Safety system

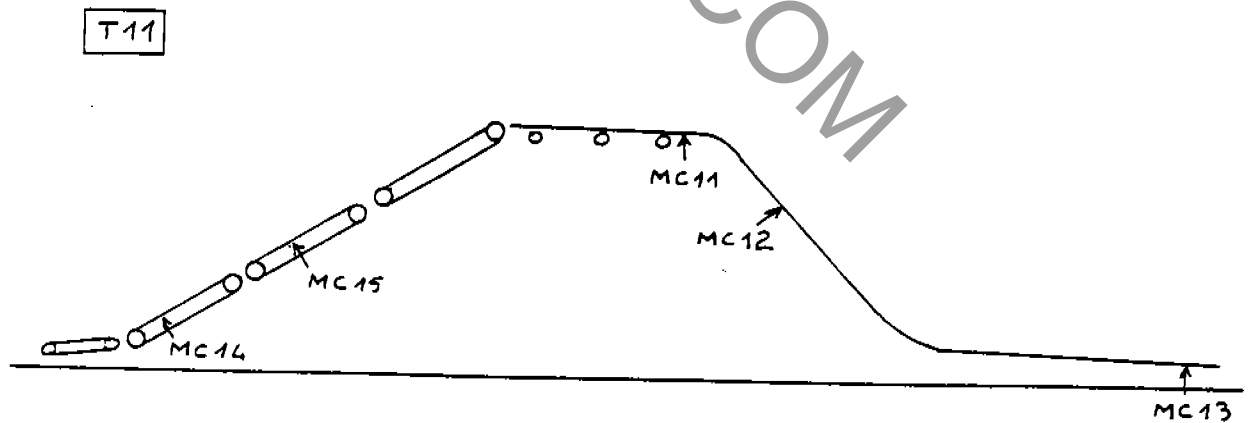
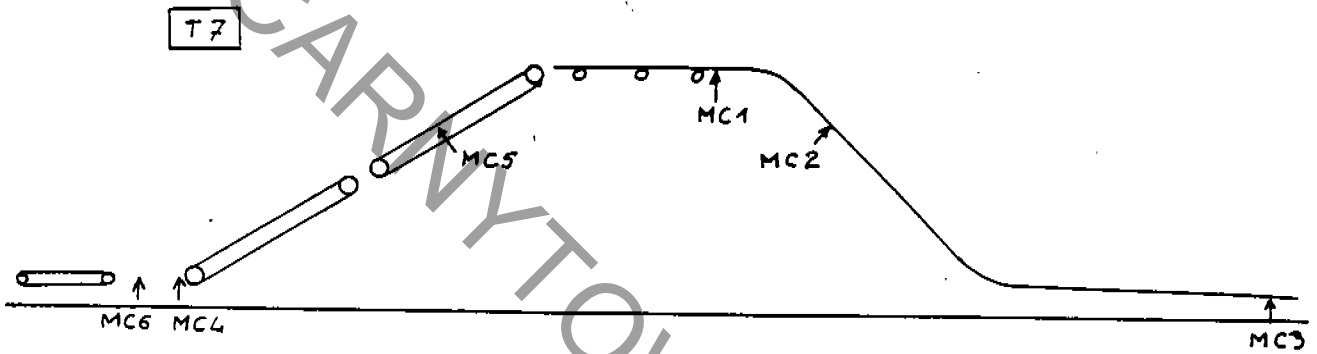
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e) Safety system

Principle

- never have more than one boat in the drop ;
- never launch a second boat if the first one did not go out through ;
- never have more than 2 boats on the belt/conveyer.

Graph



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Drop

System is based on 3 contacts named MC (micro-switch)

- . MC 1, MC 2, MC 3 for elevator T 7 (small one)
- . MC 11, MC 12, MC 13 for elevator T 11 (big one)

- Normal sequence conveyers T 7 and T 11

- Boat (A) activates MC 1, then MC 2, then MC 3
- Boat (B) activates MC 1, then MC 2, then MC 3
- Boat (C) activates MC 1, then .....

- Default on conveyers T 7 and T 11

- Boat (A) activates MC 1, then MC 2 without MC 3
- Boat (B) activates MC 1
- Result is immediate and automatic : stop of the faulty conveyer.

The restarting of conveyer will be automatic when the boat (A) activates MC 3.

Conveyer

The system is based on 3 contacts for the conveyer T 7 : MC 4 , MC 5 , MC 6  
 Action on MC 4 starts the bottom carpet of T 7 (the top carpet continually works). When the boat activates MC 5, the bottom carpet stops. If a boat activates MC 6 while the preceding boat has not activated MC 5, so the station conveyer stops. She will restart only when the first boat will have activated MC 5.

For the conveyer T 11, the system is based on 2 contacts named : MC 14 and MC 15

Action on contact MC 14 automatically stops the small bottom conveyer. It only will be reactivated when the boat gets on MC 15.

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## CHARACTERISTICS

		Metric	English
. Circuit	Total length	210m	690'
. Conveyer T 11	Height	12m	40'
	Length of conveyer	26m	87'
	Length of drop and splash	35m	116'
. Conveyer T 7	Height	7m	23'
	Length of conveyer	19m	63'
	Length of drop and splash	26m	87'
. Pumps	One submersible pump with impellers to feed the main circuit. Two centrifugal pumps for the cascades.		
. Station	Type Straight. Length = 6,2 m (20')		
. Lake	Surface	405m <sup>2</sup>	4500 sqft
	Volume of water	150 m <sup>3</sup>	39000 US gal
. Sign (optional)	Height	14 m	46'
. Floor space		42m x 18m	140' x 60'
. Boats	8		
. Passengers	4 a boat		
. Maximal load by boat		4 x 75 = 300 kg	4 x 165 = 660 lbs
. Total weight		85 t	180000 lbs
. Loading volume			6 containers 40' or 4 trailers 45'

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**PUMPS**

**Main pump**

Brand	FLYGT PL 7076 63.585 D3
Type	Submersible
Impeller	13°
Flow	1 000 l/s ( 260 gal/s )
Manometer height	1,70 m ( 6' )
Electric motor	P = 30 Kw V = 585 RPM Protection IP 68 class F Voltage : TRI 208 V 60 Hz
Efficiency	70 %

**Pump for cascades**

Quantity	1
Brand	GUINARD KSB
Type	ETABLOC GN 150-200 / 1104 G4
Flow	100 l/s - 360 m3/h ( 26 gal/s )
Manometer height	10 m ( 33' )
Electric motor	P = 11 KW V = 1750 RPM Protection IP 55 Voltage : 208 V 60 Hz

**Electric power requirement**

1 main pump	30 KW
5 lift x 5,5 KW	27,5 KW
2 bottom conveyers	6 KW
1 pump for cascades	11 KW
6 top curve motors x 0,75 KW	4,5 KW
	79 KW
Light Max	90 KW
TOTAL	169 KW

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## COMMISSIONING BEFORE FIRST DAY OF THE FAIR

- 1 Get rid of all foreign particles being able to obstruct water through the lake and the canal. Fill up the lake (39 000 gallons U.S.). Level control (14 inches in the big lake).
- 2 Feed the electrical panel with 3 phases 208 V., 60 cycles, 600 amp. and push ON the main breaker. The test light must be green.
- 3 Check the rotation of the motors  
See relay PK at top of the panel

LED indicator 1	Green on : if power ON
LED indicator 2	Red on : correct phase plugging
LED indicator 3	Red on : voltage too low
LED indicator 4	Red on : voltage too high
LED indicator 5	Red on : incorrect phase plugging

### Second control

If the phases have been correctly identified, if no motor has been changed from plug, all motors must turn the same. So, only one motor must be tested.

For example : if main pump turns in the wrong direction (no flow), change 2 phases on main feeding line.

Caution : if locations are not correct, other motors could turn the wrong way. Check the other motors. For example : conveyer n° 1.

4. Check if each microswitch (MC) is in good place and look at the computer (LED).

0	1	2	4	6
10	11	12	14	16

must be on (red), so that "Power" and "Run".

3	5
13	15

must be switched off (black).

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5. Check level water relay in the lake.

When the levels are correct / 1 / 2 / 3 / blocks "JOLA", placed on the top of the panel, are red.

1 - LED indicator 1 - Level of water in the lake

2 - LED indicator 2 - Level splash A

3 - LED indicator 3 - Level splash B

Unlock emergency stop button (with the key). Led indicator 24 V is on.

Press ON the main pump . After 2 minutes, check level 2 and 3.

Red on : the levels are OK in the two splashes.

- 6 If OK, place one boat in the circuit and control the functions (empty boat).

On the control board, push "ON" each button one by one :

- LIFT 1 ; 2 ; STATION ; FOOT LIFT ; TOP TURNING 1 ; 2 ; WATERFALL

Station conveyer is under your command. Button STATION

A reset button / 1 / may restart programm of security when the other functions are jamed.

(Be careful : before pressing "RESET", make sure that all the boats can go down into the splash, that the splash is filled up with water, etc .....)

If OK :

- 7 Place the 7 other boats and control the functions. (Empty boats).

If OK, the ride is in good working order.

- 8 Control the illuminations.
-

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OPERATION

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## OPERATION

### Starting up every day.

- grease the 2 bearings of the bottom conveyer.
- walk all along the circuit and check the good shape of :
  - . MC 4 : operates
  - . MC 5 : operates
  - . Troughs pins
  - . Carpets 1 and 2 : alignment and adherence between carpet and drum motor.
  - . Top motor : spring works by hand
  - . Top wheels (free and in good place)
  - . MC 1 : operates
  - . MC 2 : operates
  - . Pin of supports between the elements
  - . Rail and guide of splash
    - 2 bolts
    - pins
  - . MC 3 : operates
  - . MC 14 : idem
  - . MC 15 : "
  - . Troughs pins : "
  - . Carpets 3, 4, 5 : "
  - . Top motor : "
  - . Top wheels : "
  - . MC 11 : "
  - . MC 12 : "
  - . Pins : "
  - . Rail : "
  - . MC 13 : "
- Check water level in the lake : 350 mm mini ( 14" )
- Set in motion main pump for circulation of water
- Launch the empty boats one at a time.
- Stop each boat on the conveyer for control of :
  - . 8 wheels : free and without resistance
  - . anti roll back "clickers"

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- . seats and protection : ok
- . empty the back on the boats with the drain plug located at the back of the right hand side and draw attention to the responsible for all important quantity of water flowing out of the drain plug (more than a glass of water is important)
- . carpets holding points under the boat
- . front and rear bumpers

- stop the ride when all the boats are in the station.

- control the water :

- . trails of oil : motor leaking
- . unexpected materials : take them out.

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