

MFG: INTAMIN, INC.
NAME: GIANT DROP
TYPE: NON-KIDDIE

GENERAL REMARKS

GIANT DROP 5 / 4

KENTUCKY KINGDOM LOUISVILLE USA

INTAMIN ELECTRONIC DEPT.

PROJECT P-297

INTAMIN AG Electronic Dept. , Switzerland

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0.1 IMPORTANT NOTICE

This ride was designed and supplied to meet the particular requirements of the original installation.

Should this ride be removed, sold or transferred to another location, it is important that INTAMIN is advised.

Prior to re-commissioning it is critical that the installation is checked thoroughly by an approved technician and that all local codes and requirements are strictly complied with.

NO RESPONSIBILITY IS ACCEPTED BY INTAMIN IF ;

- i) Any changes, adaptations, additions or repairs are carried out which are not in accordance with the instructions contained in this manual or using materials or standards and procedures not authorised in writing by INTAMIN,
- ii) any safety guards or devices are removed or changed,
- iii) updates, modification or repair instructions which may be issued by INTAMIN from time to time are not complied with,
- iv) the equipment is used for purposes other than those for which it was intended,
- v) the periodic checks and maintenance instructions are not complied with and records kept,
- vi) operations and maintenance works are carried out by non-qualified staff,
- vii) the instructions and safety provisions are not complied with by the operators, maintenance staff or guests,
- viii) local codes and requirements have not been complied with,

- ix) any anomalies during the operation and maintenance are not reported to INTAMIN,
- x) directions by law and/or authorities are not complied with.

0.2 IMPORTANT NOTICE

This ride has been designed and built to the highest standards.

To ensure the maximum enjoyment to guests in complete safety, the following instructions must be complied with;

1. Prior to opening to the public, the start-up and cycling instructions must be followed.
2. Before operation of the ride, in accordance with the procedures, the ride should be inspected following the daily check procedure.
3. Clearances should be checked in areas where members of the public or employees have access.
4. All safety guards must be in place before operation starts.
5. Notices warning guests to keep their arms and legs inside the ride vehicles must be clearly posted. Furthermore, guests must be advised not to attempt to leave their seats or lean out of the vehicle.
Similarly, signs forbidding smoking, drinking or eating in the ride should be placed in such a position as to allow the disposal of cigarettes, drinks, cans etc..
Animals shall not be allowed onto ride. No umbrellas, walking sticks or large or sharp objects should be allowed onto the ride. A special employee shall be placed at the entrance to ensure compliance with these instructions.
6. Children under 8 years of age or under the height restriction which is shown by a public mark shall not be allowed on the ride.
7. Children under 10 years should be accompanied by an adult.
8. Handicapped guests should be accompanied.
9. No guest shall be allowed onto the loading area until the ride comes to a safe position.

10. All loading and unloading shall be supervised by trained employees.
11. Prior to starting the ride, trained and named operators shall ensure that all guests are seated, all safety restraints, harnesses or lap-bars are in place, locked and that the ride correctly is loaded.
12. Prior to starting the ride, operators must ensure that no guests are on the load/unload area.
13. After cycling the ride, the ride shall come to safe position prior to allowing guests to disembark.
14. Before vacating the ride at the end of the day, ensure that no guests or employees are in the ride and that the ride is closed down in accordance with the instructions.
15. An emergency evacuation plan should be put in place. All employees should be trained to respond to this plan.

0.3 GENERAL REMARKS

For best performance, safety and long life of the equipment, a reliable preventive maintenance program must be carried out on the maintenance guidelines.

For damages caused by failure to follow these instructions or by changes in the systems (especially by-passing of contacts and the like) no claims can be made to the manufacturer and/or seller.

For all work which hereafter is mentioned to require a "responsible person", the management must designate a technically competent and qualified person who performs or supervises the required tasks, observing all guidelines and regulations as described.

Normal and convention-technical maintenance items are not listed in details here, but must be carried out to keep the ride in proper working order and as contribution to the safety of the whole installation.

Before start-up of operation, the rides must be checked and inspected for proper and safe functioning of every part.

Deficiencies occurring during operation must be rectified immediately. The operation must be shut down for the duration of this repair work.

The necessary barriers are to be mounted completely and are to be secured against undesired removal.

Unless the whole ride area, with the exception of loading and unloading platforms, is fenced off against public entry, special protective barriers must be provided. These barriers must be installed in places where any moving parts would come within reach of visitors.

During any maintenance, repair or inspection work on part of the installation, the power supply must be shut off and locked off reliably. Steps must be taken to prevent anyone from energising part of the equipment while work is carried out or personnel may be endangered.

Electric power may be reapplied only after the persons working on any ride have completed their task, are clear of moving parts, have reinstated the ride into a safe operating condition and have personally reported the ride clear and safe for energising.

If testing with power is required involving moving parts, the following precautions must be observed:

- a) The entire testing operation must be supervised and closely controlled by one qualified and responsible person being trained and familiar with the portion tested and its possible behaviour, side effects of dangers.
- b) During live and moving tests the responsible person must be sure that everyone is out of range of the moving parts and that no one can enter this area unexpectedly.
- c) All persons involved with such testing of equipment must be warned that danger may exist and that parts may move or unexpectedly may start moving.

The safety keys of the key switches must be kept by a responsible person.

For installation of the main power supply service, utmost care must be taken that all local safety precautions are considered.

All work performed on any installation is to be ordered and supervised by the responsible person.

Think about the influence of extreme temperatures (heat and cold) on the extraneously installed parts, such as proximity switches, actuating parts etc.

These precautions will add more safety to the operation of the whole installation.

EVACUATION PROCEDURE

GIANT DROP 5/4

KENTUCKY KINGDOM LOUISVILLE USA

INTAMIN ELECTRONIC DEPT.

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1) DEFINITIONS

1.1) Definition of locations

- +MSB Main switchboard in electrical room
- +OP1 Operator panel at ride entrance
- +OP2 Operator panel at ride exit
- +OP3 Operator panel at tower top level (for fast stop only)
- +OP4 Operator panel at tower center level (for fast stop only)
- +OP100, +OP200, +OP300, +OP400, +OP500 Operator panels at tower bottom level
- +EXT Unit mounted along the ride
- +JBi Junction box i mounted along the ride

1.2) Definition of functional groups

- =20 Air compressor unit
- =100, =200, =300, =400, =500 sections 1 to 5
- =110 Lift control of section 1
- =120 Drop release unit of lift 1
- =130 Service brake control of lift 1
- =140 Load/unload control of lift 1

1.3) Definition of equipment

- HL Indication light
- PB Push button
- EPB Emergency stop pushbutton

1.4) Definition of actions

- A Automatically carried out by the ride itself
- H To be made by hand; manually

1.5) Definition of section home

The ride contains 5 sections with their lift, cabine, drop release, service brake and load/unload area.
A section is in home:

- If the section is enabled (+MSB)
- and the section is not ready (+OP100, ff)
- and the carrier is at the load/unload position
- and the lap bars are open
- and the hydraulic damper is fully compressed
- and the lift is at the load/unload position
- and the gate is closed

2) EVACUATION AT POWER DROP

Before starting the evacuation press the -EPB at +OP1, +OP2, +OP3 or +OP4.

- If the carrier is not at the load/unload position
- and no guests are on the inner walkway
- then a maintenance person climbs up the tower to the machine house
- then he opens the motor brake with the lever
 - the motor brake is open
- then he opens the safety brake on the valve or with the lever
 - the carrier now travels downwards; the speed depends on the release of the brake
- If the carrier is at the load/unload position
- then a maintenance person opens the lap bar manually
 - the guests exit the carrier

3) EVACUATION AT BROKEN MOTOR- OR GEARSHAFT

Before starting the evacuation press the -EPB at +OP1, +OP2, +OP3 or +OP4.

- If the carrier is not at the load/unload position
- and no guests are on the inner walkway
- then a maintenance person climbs up the tower to the machine house
- then he opens/closes the safety brake manually on the valve or with the lever
- If the carrier is at the load/unload position
- then a maintenance person opens the lap bar manually
 - the guests exit the carrier

4) EVACUATION AT BLOCKED MOTOR OR GEAR UNIT

Before starting the evacuation press the -EPB at +OP1, +OP2, +OP3 or +OP4.

- If the carrier is not at the load/unload position
- and no guests are on the inner walkway
- then a maintenance person climbs up the tower to the machine house
- then he dismounts the motor or gear unit
- then he opens/closes manually with care the safety brake on the valve or with the lever.
 - the carrier now travels downwards
- If the carrier is at the load/unload position
- then a maintenance person opens the lap bar manually
 - the guests exit the carrier

5) EVACUATION AT BLOCKED CABLE WINCH

Before starting the evacuation press the -EPB at +OP1, +OP2, +OP3 or +OP4.

If the carrier is not at the load/unload position
and no guests are on the inner walkway
then a maintenance person climbs up the tower to the machine house
then he installs a service winch and pulls up the counter weight
- the carrier now travels downwards

If the carrier is at the load/unload position
then a maintenance person opens the lap bar manually
- the guests exit the carrier

Note: By pulling up the counter weight, the cable drums of the lift winch gets damaged.
To be checked and/or replaced.

[end of this manual]

OPERATOR MANUAL

GIANT DROP 5 / 4

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Writer of this manual: S. Schudel INTAMIN Electronic Dept. Switzerland

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- =900 Air compressor unit

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The ride contains 5 sections with their lift, cabine, drop release, service brake and load/unload area.

A section is in home:

- If the section is enabled (+MSB)
- and the section is not ready (+OP100, ff)
- and the carrier is at the load/unload position
- and the lap bars are open
- and the hydraulic damper is fully compressed
- and the lift is at the load/unload position
- and the gate is closed

2) IMPORTANT NOTICE

This ride has been designed and built to the highest standards. To ensure the maximum enjoyment to the guests in complete safety, the following instructions must be complied with;

- 2.1) Prior to opening to public, the start-up and cycling instructions must be followed.**
- 2.2) Before opening of the ride, in accordance with the procedures, the ride should be inspected following the daily check procedure.**
- 2.3) Clearances should be checked in areas where members of the public or employees have access.**
- 2.4) All safety guards must be in place before operation starts.**
- 2.5) Notices warning guests to keep their arms and legs inside the ride carrier must be clearly posted. Furthermore, guests must be advised not to attempt to leave their seats or lean out of the carrier. Similarly, signs forbidding smoking, drinking or eating in the ride should be placed in such a position as to allow the disposal of cigarettes, drinks, cans etc.. Animals shall not be allowed onto the ride. No umbrellas, walking sticks or sharp objects should be allowed onto the ride. A special employee shall be placed at the entrance to ensure compliance with these instructions.**
- 2.6) Children under 8 years of age or under the height restriction which is shown by a public mark shall not be allowed on the ride.**
- 2.7) Children under 10 years should be accompanied by an adult.**
- 2.8) Handicapped guests should be accompanied.**
- 2.9) No guests shall be allowed onto the loading area until the ride comes to a safe position.**
- 2.10) All loading and unloading shall be supervised by trained employees.**
- 2.11) Prior to starting the ride, trained and named operators shall ensure that all guests are seated, all safety restraints, harness or lap-bars are in place, locked and that the ride correctly is loaded.**
- 2.12) Prior to starting the ride, operators must ensure that no guests are on the load/unload area.**
- 2.13) After cycling the ride, the ride shall come to a safety position prior to allowing guests to disembark.**
- 2.14) Before vacating the ride at the end of the day, ensure that no guests or employees are in the ride and that the ride is closed down in accordance with the instructions.**
- 2.15) An emergency evacuation plan should be put in place. All employees should be trained to respond to this plan.**
- 2.16) The ride may not be run at wind speed over 20 meter per second.**

3) START UP

3.1) Start up of the ride power

If the mechanic and pneumatic devices are ready
 and the load/unload area evacuated
 and power feed is available
 and all-EPB along the ride are released
 then switch on the main switch. +MSB H
 - main power volt may be read at the voltmeter INCOMING 3x 480VAC
 then reset the emergency stop circuit by pressing ESR RESET +MSB7 H
 - the fault display turns to the message READY
 - at +MSB and +OP1 the indication light ALARM turns off
 then start the air compressor by pressing COMPRESSOR ON +MSB H
 - the indication light COMPRESSOR RUNNING turns on

3.2) Enable of ride sections

Each of the 5 section may be enabled or disabled:

If 3.1) done
 then switch on the key switch SECTION ENABLE of the desired sections +MSB H
 - the corresponding indication light SECTION ENABLE turns on

3.3) Activate of ride sections

In manual mode or if the section is in home position, each enabled section may be activated or deactivated. Only activated sections may be used for public.

If 3.2) done
 and if the key switch MODE is in MANU +OP1 H
 or if the key switch MODE is in AUTO
 and the section is in home
 then activate the section by pressing SECTION ON +OP1 H
 - the indication light SECTION ON oscillates with ½ Hz
 - at +OP100, ff, the indication lights READY oscillate with ½ Hz

3.4) Starting auto mode

If 3.3) done
 then turn key switch MODE into AUTO +OP1 H
 - the devices of manu mode are inactive
 - the indication light MODE MANU turns off
 - the indication light MODE AUTO turns on
 then press -PB AUTO ON +OP1 H
 - the indication light AUTO turns on
 - the ride is now ready for running with public.

4) AUTO MODE

If the daily maintenance check has been carried out successfully (refer MAINTENANCE MANUAL), then the operator may run the ride with public.

4.1) Loading

The operator responsible for load/unload (=loader) lets enter into the inner walkway maximum 4 guests as may be seated on the activated ride sections.

The loader leads the guests into the carriers section by section.

Here the example for section =200:

If at +OP200 the indication light READY oscillates with ½ Hz
 then max 4 guests may enter the inner walkway
 then close the gate of the outer walkway
 then the guests may be seated in this carrier
 then close the lap bars
 - now no guests are on the inner walkway
 then press the -PB READY +OP200 H
 - at +OP200 the indication light READY turn on

If the lap bars shall for any reason reopend again (e.g. overweight)
 and the -PB LOADED not already pressed (see below)
 then press -PB RELEASE +OP200 H
 - the lap bars open for 10 seconds
 - the indication light READY turns off
 - this section now is not ready for the cycle

If all guests are seated safely
 and the corresponding sections ready
 and the gate at the exit is closed
 then press both -PB LOADED at the same time +OP2 H
 - at +OP2 the indication lights LOADED oscillate with 1 Hz
 - at +OP1 the corresponding indication lights SECTION ON oscillate with 1 Hz
 - at +OP1 the indication lights DISPATCH oscillate at 1 Hz
 - the ride is ready for dispatch.

4.2) Dispatch

If 4.1) done
 then press both -PB DISPATCH at the same time +OP1 H
 - the lifts of all the selected, enabled sections start to move upwards
 - the indication lights SECTION ON turn on
 - the indication lights DISPATCH turn on
 - at +OP2 the indication lights LOADED turn on
 - at +MSB the hour counter starts counting

4.3) The cycle

The carrier moves up at speed 1 (very slow)

At position 1, there is a cheque wether the hydraulic dampers are expanded

+EXT A

If no, then Emergency Stop is activated.

The carrier moves up at speed 2 (slow) until the sevice brake has been left at position 2

+EXT A

The carrier moves up at speed 3 (very fast) until reaching a position 3

+EXT A

The carrier moves up at speed 4 (slow) until reaching top position 4

+EXT A

Devices cheque wether all magnets are in place

If no, then Emergency Stop is activated.

The lift drive stops and its brake closes

+EXT A

The drop release unit lets the carrier fall down

+EXT A

The carrier gets decelerated in the service brake

+EXT A

Devices control the service brake function by time measuring

If bad, then Emergency Stop is activated.

The carrier gets stopped by the hydraulic damper until load/unload position

+EXT A

If above done

then the loader presses -PB RELEASE

+OP200 H

- the lap bars open for 10 seconds

- at +OP1 the indication light SECTION ON turns to oscillate with 1/2 Hz

- at +OP1 the indication lights DISPATCH turns off

- at +OP2 the indication lights LOADED turn off

- at +OP200 the indication light READY turns to oscillate with 1/2 Hz

- the ride is ready for unloading

The lift moves down at speed 5 (very fast) until a position 5

+EXT A

The lift moves down at speed 6 (slow) until load/unload position

+EXT A

- at +MSB the hour counter stops counting

- the section now is in home

4.4) Unloading

The operator responsible for load/unload leads the guests out of the carriers section by section.

Here the example for section =200:

If 4.3) done

then open the gate

then lead the guests out of the carrier to the exit of the ride

If all guests have left the exit of the ride

then the cycle is finished

- the ride is ready for the next loading

5) **EMERGENCY STOP**

5.1) **Emergency stop button at the +MSB**
 If pressing the -EPB
 then the main power will drop immediately
 - to restart proceed at 3.1) of this manual

+MSB H

5.2) **Emergency stop buttons at +OP1, -2, -3, -4**
 If pressing one of these -EPB
 then the lift drive stops as fast as it is safe for the guests
 then the working-brake of the lift winch closes
 then the holding-brake of the lift motor closes

H
A

If above done
 or E-stop time elapsed (hardware timer)
 then the supply volts for contactors drops
 - the E-stop cycle is finished
 - to restart proceed at 3.1) of this manual

A

6) **MANU MODE**

If for any reason a section shall be run manually, this mode may be selected.

6.1) **Starting manu mode**
 If the lift is stopped
 then turn the key switch MODE to MANU
 - the lifts stop
 - the auto cycle is aborted
 - the devices of auto mode are inactive
 then the indication light MODE AUTO turns off
 then the indication light MODE MANU turns on
 - the ride is now ready for running in manu mode

+OP1 H

A

6.2) **Preselect a section**
 If 6.1) done
 then turn selector switch SECTION to the desired position

+OP1 H

If this section is activated; refer 3.3) of this manual
 then the corresponding indication light SECTION ON oscillates with 1 Hz
 - the preselected section only may be run now

6.3) Running the section

Some jog functions (function active as long as -PB remains pressed) for running the section may be used. The lift may travel at low speed only. The safety functions remain active.

If then	pressing -PB LIFT JOG UP the lift travels upwards - the indication light LIFT JOG UP turns on	+OP1 H
If then	releasing -PB LIFT JOG UP the lift stops - the indication light LIFT JOG UP turns off	+OP1 H
If then	pressing -PB LIFT JOG DOWN the lift travels downwards - the indication light LIFT JOG DOWN turns on	+OP1 H
If then	releasing -PB LIFT JOG DOWN the lift stops - the indication light LIFT JOG DOWN turns off	+OP1 H
If then	pressing -PB DROP the drop release unit is activated - the indication light DROP turns on	+OP1 H
If then	releasing -PB DROP the drop release unit is reset - the indication light DROP turns off	+OP1 H
If then	pressing -PB RELEASE LAPBAR the lapbar release unit is activated - the indication light RELEASE LAPBAR turns on	+OP1 H
If then	releasing -PB RELEASE LAPBAR the lapbar release unit is reset - the indication light RELEASE LAPBAR turns off	+OP1 H

6.4) Exit manu mode

Refer procedure 3.4) of this manual

Note: before leaving manu mode make sure all selected sections are in home

7) SHUT DOWN

After cycling, the ride may be shut down for period of non use or maintenance.

5.1) Shut down of track power

If and then	all guests have left the carriers, the inner and outer walkway shut down is requested lead all sections to home (in manu or auto mode)	* +EXT +OP1 H
If then	above done switch off the main switch - main power is dropped - shut down is finished	 +MSB H

[end of this manual]

MAINTENANCE MANUAL

GIANT DROP 5 / 4

KENTUCKY KINGDOM LOUISVILLE USA

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1 DAILY INSPECTION

Turn on the ride and after the air pressure has built up, please check the following :
Exemple for section 2:

- a) Open the lapbars by pressing the release PB at OP200 in manual mode.
- b) Close the lapbars. Check manually whether all lapbars are locked.
- c) Switch the selectorswitch behind the carrier to position LEFT (only the left cylinders open now). Then release the lapbars again and check whether the right lapbar cylinders still lock. If the lapbars don't open, then the right cylinders are ok.
- d) Do the same as described in c) for left cylinder checking.
- e) Press the EPB at OP1 when all sections are activated. The main power will drop immediately down. To restart proceed 3.1) of the Operator Manual.
Check the EPB's at OP2 and OP3 in the same way.
- f) Activate section 2 again in manual mode and move upwards by pressing the LIFT UP PB until the lift stops. The top proximity switches are checked now. Then release the drop unit by pressing the DROP PB and check visually the carrier in the breaksection. The carrier should early reach a minimum speed when nobody is loaded.
- g) Switch to auto mode and let each section run for a full cycle. Check the motor currents (ampere meters on the main switch board) for the same value (+/- 10%).
- h) Visual check of screws at the magnets and the copper plates.

2 WEEKLY INSPECTION

- a) Visual check of slipping assembly at the carrier.
- b) Visual check of drive unit and tacho.
- c) Check oil level in gearbox.
- d) Check limit switches an motor brakes.
- e) Clean air filters on motors and main switch board fans.

3 MONTHLY INSPECTION

- a) Check all electrical connections on baseplates, on carriers, on motors, slipring assemblies, pressure and limit switches. Tighten screws wherever necessary.
- b) Check electrical components for any influence of humidity.

4 QUARTERLY INSPECTION

- a) Clean sliprings.
- b) Check all air filters.

5 ANNUALLY INSPECTION

- a) Check electrical connections in main switch board and operators panel.
- b) Replace all air filters.