

# Operation Manual - Rollglider Amusement Ride

## REFERENCE USE ONLY

Manuals for a particular location may differ from this reference, depending on various factors, including, but not limited to: environmental conditions, selected equipment, local jurisdiction, additional location restrictions, etc.

## 1. Technical datasheet

Project name:

Client:

Project location:

Project reference:

Parameter	Value
Maximum height of support structure	
Maximum height distance of the ride	
Maximum track distance from the ground	
Maximum distance between support columns	
Type of installation	Permanent
Service life	15 years
<b>Track parameters</b>	
Track tube diameter	
Total track length	
Effective ride length	
Length of non-riding segments	
Average slope	
Maximum slope	
Average speed	
Maximum velocity	
Maximum tangential accelerations [X direction]	
Maximum lateral accelerations [Y direction]	
Maximum vertical accelerations [Z direction]	
Maximum braking acceleration	
Velocity after end brake	
<b>Capacity data</b>	
Rated capacity	
Passenger capacity per trolley	
Number of trolleys	
Average ride time (75 kg person)	
<b>Retraction system</b>	
Type	
Maximum retraction line speed	
Maximum power consumption	
Voltage	
Frequency	
Drive control	

## 2. Referenced documents

The following documents are referenced throughout this manual:

*RG.AA.002 Technical datasheet*

*RG.AA.014 Maintenance manual*

## 3. Introduction

This manual details the operating procedure of the Rollglider facility. It covers the operating environment and restrictions and the passenger restrictions, as well as the step-by-step operational procedures for each subsystem of the ride. A daily checklist is provided for safety-critical and operationally important components and subsystems which need to be checked on a daily basis by the operators of the facility. Regular and irregular maintenance procedures which are to be performed by specifically trained maintenance personnel, are covered in a separate document, *RG.AA.014 Maintenance Manual of the Rollglider Attraction Facility*.

## 4. General warning - read carefully!



Only trained instructors which have received requisite training by the ride manufacturer, or by person or organization authorized by the ride manufacturer, may operate the facility. It is strictly forbidden for any other untrained individuals to use, operate, maintain, repair, or otherwise interact with any system, component or equipment of the Rollglider facility. Failure to comply with this warning may lead to severe injury or death!

Any scheduled or unscheduled maintenance, alteration or replacement of any component, system or equipment is to be performed only by trained maintenance personnel. Failure to comply with this warning may lead to severe injury or death!

It is strictly forbidden to use any component, system or equipment directly related to human safety (including, but not limited to, harnesses, helmets and trolleys) which are not provided by the ride manufacturer. Using alternatively sourced components, systems or equipment, even with the same brands and models, is only allowed when accompanied by express written consent from the manufacturer that such replacement is allowed. Separate consent is required for each replacement instance and for each component, system or equipment.

## 5. Operating restrictions

The following restrictions concerning the operating environment of the ride must be observed. The ride is only to be operating while the following conditions are met, and

must cease operation (temporarily or for extended period of time) when these conditions are not fulfilled.

## FAILURE TO COMPLY WITH THESE RESTRICTIONS MAY CAUSE UNFORESEEN FAILURES OF THE SYSTEM AND MAY LEAD TO SEVERE INJURIES!

### 5. 1. Environment restrictions

- **Temperature.** Rollglider attraction facility must be operational only when temperatures are **above 0°C** and **below 38°C**, and must cease operation immediately when such conditions are encountered. Environment temperature is to be measured by outdoors thermometers both at the start and end platform of the ride, and the ride must be closed when either of them shows temperature below the lower threshold or above the upper threshold for longer than 15 minutes. Thermometers must be placed away from direct sunlight and temperature influence of heat sources, machinery or heated/chilled structures. Ride can be reopened when both of thermometers show temperature return to operational range for longer than 15 minutes. During seasons with consistently high or low temperatures, ride operators have the responsibility to decide whether to open the ride for the day. The same restrictions concerning the temperature apply.
- **Humidity.** There are no specific restrictions concerning the humidity of the environment.
- **Wind / air flow speed.**  
Maximum allowable wind speed at the facility is 7 m/s
- **Altitude.** There are no specific restrictions concerning the altitude of the ride installation site.
- **Weather conditions.** Operation of the facility is strictly forbidden in cases of thunderstorms (even if it is not raining), snow, fog or frost. Operation of the facility when snowing or raining (even light drizzle) is also not allowed.
- **Operating staff.** Minimum 2 operators are required to run the facility safely and at full capacity.

### 5. 2. Passenger notice

- **Weight of Participants**  
Only passengers with weight in the range **30 kg-120 kg** are permitted on the ride.
- **Height of Participants**  
Only passengers with height in the range **125 cm-210 cm** are permitted on the ride.
- **Age of participants**  
Participants must be below **65 years of age**. Facility operators must ask for age verification if in doubt. Adults identify themselves by personal ID documents, passports or other identification document allowed per local jurisdiction.

- Passengers with the following **medical conditions** are not allowed on the ride:
  - congenital heart defect or known heart problems
  - people who have suffered from stroke or other high blood pressure condition.
  - Intoxicated people, including people under the influence of drugs
  - Pregnant women are not allowed on the ride under any conditions
  - other unspecified conditions which may put the participant in danger, determined by operator discretion.
- **Clothing**
  - Wearing a helmet and a harness is mandatory. Ride instructors must enforce this requirement strictly. Failure to do so may cause severe injury or death!
  - Participants are not allowed to carry objects which may fall – they have to empty their pockets before the ride. They are not allowed to carry any baggage whatsoever on the ride.
  - Long hair must be tied back
  - No sandals or slip-off shoes are allowed. Wearing ankle support boots or sneakers is recommended.
  - Body piercings should be removed or taped over.
  - It is recommended that participants wear long trousers and T-shirts. All cameras or mobile phones must be secured.
  - Glasses/spectacles must be secured.

### 5.3. Facility personnel restrictions

All present facility personnel must know, understand, and be able physically and mentally capable to perform the operating procedures as outlined in this document.

All present facility personnel must be fully trained in the operating and emergency procedures of the Rollglider amusement ride. They must have received the requisite training by the amusement ride manufacturer (or a body authorized by the amusement ride manufacturer) and have demonstrated their knowledge of the operational procedures at the facility.

Depending on local jurisdictions, minimum legal age of the operators may vary, but it is strongly recommended that operators be at least 18 years of age.

Operators must be in good physical condition and not be under the influence of alcohol, drugs, medication or any other substances that alter perception, cognitive ability, awareness or reflexes.

Two operators are required to operate the facility - one at the top station, and one at the bottom. Operating the facility with less personnel is strictly forbidden.

One of the operators of the facility is the designated “platform supervisor”, and is ultimately responsible for obeying the restrictions in this document as well as other safety measures mandatory for the location the ride is installed at. Platform supervisors are

tasked with observing the overall functioning of the facility and particularly following the requisite safety instructions.

For brevity, the two operators are designated “start platform operator” (SPO) and “end platform operator” (EPO) in the following description of the operational procedures.

## 6. Daily inspection / ride opening procedure

### 6.1. Ride track - visual inspection

All present staff members perform a tour of the facility, with the task of discovering issues with the track and the ride itself which may not be otherwise apparent. The whole facility is covered, when possible, by all staff members individually.

A complete list of issues to look for is impossible to provide, though the most common and readily apparent problems are listed below:

- **Obstructions on the line or in the safety zone of the line.** For outdoors facility, this is commonly a fallen tree, or a branch. Any sort of object leaning on or coming too close to the track represents a possible danger to the participants of the ride. The obstruction is carefully photographed and removed from the line.
- **Rope termination failure.** A rope connector or terminal may experience failure, in which case the corresponding end of the rope may fall down and get in the way of e.g. retraction system or the track. Ropes with failed terminals are easy to spot and need to be reattached. Written permission from ride manufacturer is mandatory to allow operation of the facility before the rope is repaired.
- **Slackened rope.** These ropes do not represent an inherent danger or structural instability by themselves but need to be tightened at the next maintenance period. Position of the rope is noted and photographed. When more than two adjacent ropes attached to the same column or anchor have slackened significantly, they need to be re-tightened before operation of the facility can continue.
- **Snow / ice build-up.** In seasons with temperatures around the freezing point of water, the track should be checked carefully for build-up of ice which can obstruct safe movement of the trolleys on the track.

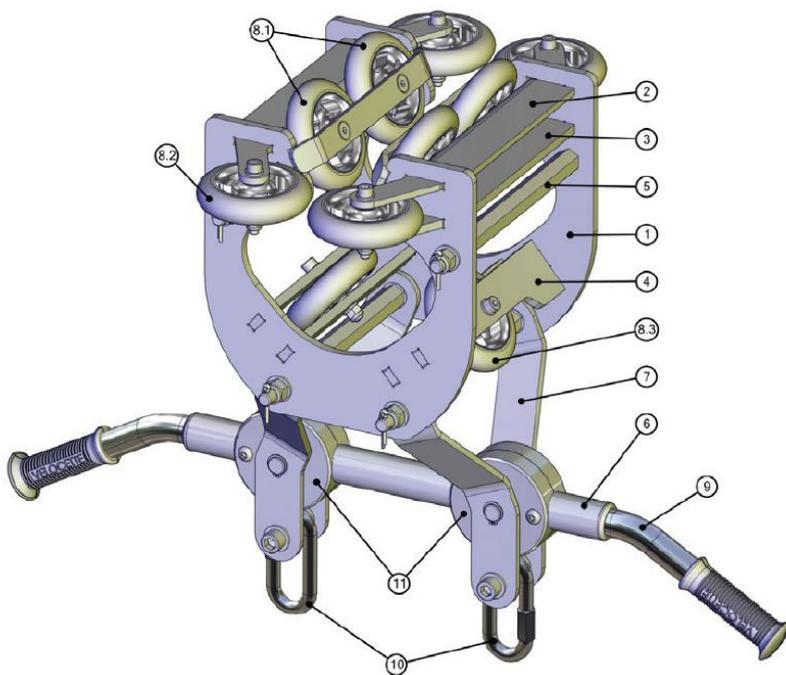
### 6.2. Rope retraction system - visual inspection

- Visual check of the main panel and associated cables, and the electrical motor for any mechanical damage. Operation of the facility must be stopped whenever such problem is discovered, until the issue is fixed by a competent electrician.
- Visual inspection of the actuating mechanism for any mechanical damage, including, but not only, the following:
  - Loose bolts
  - Cracked welds
  - Ensure the rope is wound tightly around the traction pulley of the motor and sits completely within the groove of the pulley

- Visual inspection of the tensioning mechanism
  - Loose bolts
  - Cracked welds
  - Ensure the rope is wound tightly and sits completely within the groove of the deflection pulley.
- Check the rope for any visible mechanical damage. **In the case of any observed damage - the rope should be immediately removed by an authorized technician.**
- Check the rope tension; adjust the tension using the tensioning mechanism if necessary.
- Check the bearings of the drive module and the tensioning module. Apply lubricant if necessary.

### 6.3. Trolley inspection

All trolleys on the line are inspected in the beginning of every shift. If it is necessary to replace a trolley on the line, the new trolley should be inspected as well.



- 1 Bases** - the main load-bearing components and trolley load supports.
- 2 Side Profiles** - situated between the bases for support of the top and side wheels.
- 3 Side Arms** - situated below the Side Profiles for additional support of the top and side wheels.
- 4 Wheel Support Plates** - components to which the Bottom Wheels are mounted.
- 5 Hexagon Studs** - attached to prevailing torque type nuts and split pins to ensure that the structure will not fall apart even if one or more of the fasteners fail.
- 6 Circular Tube** - connects the Bar Linkages.
- 7 Bar Linkages** - support the participant.
- 8.1 Top Wheels**
- 8.2 Side Wheels**
- 8.3 Bottom Wheels**
- 9 Handles** - attached to the end of the Circular Tube
- 10 Oval quick links** - used for attaching the harness to the trolley.
- 11 Hand Guards** - ensures that the participant's hands do not get caught between the movable parts of the handle-tube assembly.

Figure 1. Main structural components of the Rollglider trolley

Task No.	Component	Inspection task	Service event	Service task
D1	Trolley wheel	Check for visible damage	Shallow surface scratches or	Measure scratch depth and length. Replace wheel if

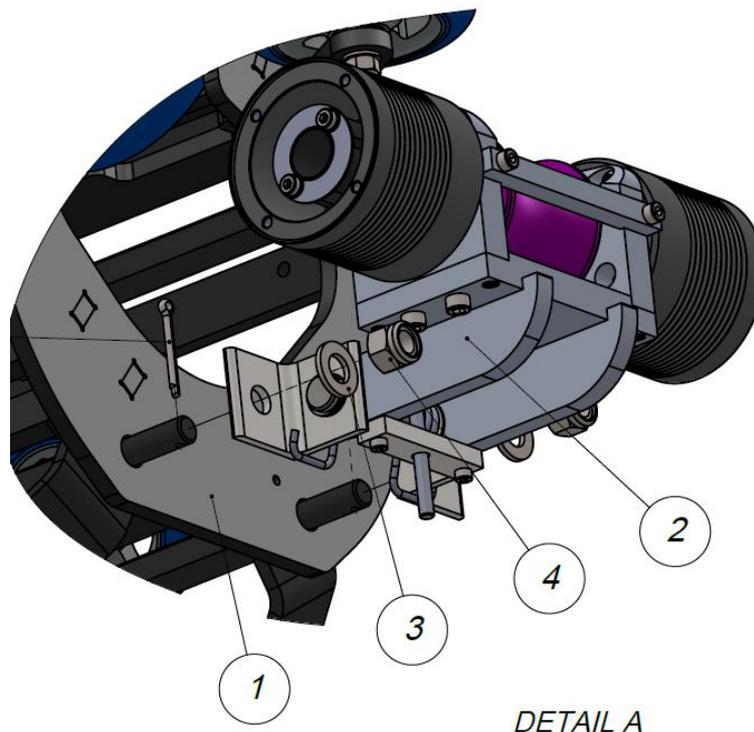
		to the thread and the rim	deep thin cuts in the thread	scratch is longer than 10 mm or deeper than 2 mm.
			Missing thread pieces	Replace the wheel as per maintenance procedure
			Missing rim pieces	Replace the wheel as per maintenance procedure
		Rotate the wheels by hand. Observe any noises	Noisy or worn out bearings	Replace the wheel as per maintenance procedure
D2	Handles	Check for loosened handles	Handle is loose	Tighten the handle bolts
D3	Split pins	Check for missing split pins	Split pins are missing	Replace split pins
D4	Oval quick links	Turn the nut by hand	The nut turns	Tighten the affected quick link
			The nut cannot be closed	Replace the quick link
D5	Nuts of the hex studs	Check nuts condition	Nut loose or missing	Tighten or replace the affected nuts
D6	Nuts of the wheel bolts	Check nuts condition and presence		
D7	Retaining rings	Check if present and fully closed	Broken or missing retaining rings	Replace broken or missing retaining rings
D8	All components	Missing or broken components not outlined above	A component is missing, broken or clearly deformed	<p>Immediately remove affected trolley from the line;</p> <p>Clearly mark the trolley as currently not to be used for information to other operators;</p> <p>Add an entry into the log book describing the missing and/or broken component.</p> <p>Do not use trolley until repaired.</p>

There are no components that need additional lubrication.

## 6. 4. Centrifugal brakes inspection

Each of the centrifugal brakes on the trolley must be inspected prior to start of the work of the day.

- **Visual check.** Look for damaged, cracked, warped or missing components. Remove the trolley from the line for servicing if this is the case.
- **Roller check.** Rotate the roller by hand. The roller should rotate freely, although with some slight resistance. There should be no unusual noises (such as scratching or fretting) when the roller is rotated. If any of these conditions is true, remove the trolley for servicing.
- **Mounting check.** Check if the mounting bolts of the brake are tight. Check the nuts of the hex studs with which the brake assembly connects to the trolley. Look for loosened bolts or nuts.



*Figure 2: Centrifugal brake mounting*

- **Spring check.** Check if the springs are in place and are not broken or overly deformed. Remove the trolley from the line for servicing if that is the case.
- **Contact check.** Pull down the movable part of the brake assembly down a few centimetres while the trolley is attached to the track. The springs of the assembly should pull it back up to the track, and the brake roller should maintain good contact with the track. If the assembly is sagging under its own weight and does not contact the track, remove the trolley from the line for servicing.

## 6. 5. Rubber brake inspection

Perform visual inspection of all rubber brakes on the track. Check if all modules are in place, and their rubber elements are intact. Note the location of any missing module or broken/torn/missing rubber elements and replace them.

## 6. 6. Equipment inspection

All personal protective equipment must be thoroughly checked and inspected before each operation shift commences. These tests should be performed on all personal protective equipment at the facility, even if they are not regularly, or at all, used.

Equipment must be decommissioned in accordance with the decommissioning procedure outlined in this document when any of the relevant checks for the particular piece of equipment fail.

The following represents a non-exhaustive list of all checks that need to be performed on the equipment:

### 6. 6. 1. Rollglider harness

- Check visually overall harness condition. Look for signs of wear and damage on the textile parts of it - the webbing, the straps, the leg pads, the back. Decommission the harness in case of significant wear, discolouration or stiffness.
- Check visually the condition of the wide leg and shoulder straps, as well as the stitched thick connecting eyes on them. Decommission in case of worn out, fray
- Check all buckles - see if they close and open as they should. Tug them a few times when closed to ensure they won't open under tension.

### 6. 6. 2. Safety helmet

Check each safety helmet for the following:

- Broken or cracked shell
- Severe scoring damage on the outside; superficial scars and wear from bumping into e.g. stationary objects before or after the ride are acceptable.
- Suspension padding inside the shell is stuck
- Chin straps missing or damaged
- Chin strap buckle missing or defective and does not hold.

Decommission the helmet when any of these conditions is met.

### 6. 6. 3. Connectors

Check the carabiners and quicklinks for:

- Significant scoring or wear
- Cracks or distortion

- Carabiner gate does not close automatically
- Quicklink gate cannot be screwed easily even with a wrench
- Excessive corrosion or rust

Any of these conditions require the respective connector to be decommissioned and replaced with a new one.

#### 6. 6. 4. Adjustable Lanyards

Check for the following:

- Lanyards are starting to fray around the edges
- Lanyards strands around the edges are cut
- Lanyard buckle is broken

Decommission and replace when either condition is met.

#### 6. 7. Start-up of the retraction system

- Release the emergency buttons and switch on the main safety switch. The red light on the light column of the power unit (LM) will be lit.
- Wait 10 seconds and press START button twice on the remote radio control. The first press will turn the receiver on. The second press will turn the system on.
- When the power unit light column turns green, the system is ready to use.
- Test the entire cycle of the ride using an empty trolley.
  - Begin from the finishing platform, towards the start platform, so that the trolley can pass by Limit Switches LS2 and LS3 (the two flaps on the return line)
  - Press DOWN button to move the towing link to the lower end position at the finishing platform.
  - Attach the trolley to the towing link.
  - *[Applicable only if hydraulic platform is available]* Check the hydraulic platform at the end station - it should be completely lowered (limit switch LS4 is actuated).
  - Press the UP button and tow the trolley to the start platform. When the trolley passes through the safety point (detected by limit switches LS2 and LS3), the green lights on the starting and finishing platforms will turn on (LS1). Hydraulic platform movement at the end station will be disabled *[if available]*, and the gate and output flap locks on the starting platform will be enabled. They can be unlocked using the SOUTH and NORTH buttons.
  - Release an empty trolley on the track. Unlock the output flap and push the empty trolley on the Rollglider line. When the trolley passes through the output flap, the RED light on the starting platform (LS1 and LS2) will be illuminated. This means the TCS is working properly (the magnetic lock of the gate and the output flap are not secured, thus the red light of SL1 will blink).

- Movement of the hydraulic platform *[if available]* will be enabled after a few seconds (LF1 turns green); the gate and output flap on the starting platform will be locked. (Raising the hydraulic platform is not allowed when there is a participant on the ride).
- In case of emergency, press one of the Emergency buttons on the remote control. The system will stop immediately and the red light at the power unit will turn on.

## 6.8. Test run

Before each shift, several test runs are performed in order to ensure the whole system is in order and ready to be used. Test runs are mandatory before each shift starts and are performed when all other inspections and tests have been completed (visual inspection of the ride, equipment, trolley and retraction system check).

Test runs are overseen by the shift manager in their entirety; shift manager is located at a location when they can see both start and end platform, and as large as possible portion of the track. When this is not possible, several test runs are performed, with shift manager alternating their position between the start and the end platform.

At the very minimum, two test runs must be completed - one with the maximum allowable participant weight (120 kg), and one with nominal weight (with participant weight in the 70-100 kg range recommended). Whenever possible, a third run is strongly suggested with weight close to the minimum for the ride.

The role of the participant is played by the SPO; SPO and EPO may switch places for the test run to be able to achieve a better participant weight coverage.

**It is strictly forbidden to allow unauthorized people on the ride for test runs!** Test runs are performed solely with facility staff as participants.

Rubber brake performance is observed for all test runs. Even the lightest participants should be able to reach the landing platform. Please note that heavier participants may overcome all rubber brake elements in the end, but should still arrive at the station with low speed so that they can be caught by the operators without risk. Lighter participants may stop a few modules further and their trolley should be pulled to the unloading location by the operator to de-harness them.

## 6.9. Operational procedures

The instructions below covers the events from the point of view of the participant. Many of the activities of both SPO and EPO may be performed simultaneously (for example, while EPO detaches the participant, SPO briefs and prepares the next one).

It is strictly forbidden to allow more than two people on the line!

### 6.9.1. At the Briefing area

1. SPO welcomes the next participant in line.
2. SPO inquire about and measure participant characteristics (age, height, mass, health conditions). Height is measured by a graduated measuring line taped to a suitable surface in the briefing area. Mass is checked by means of a scale.

- Participant is briefed about how they are attached to the trolley, how the ride would go, for how long, how would they get off in the end.
- Participants are briefed about their safety equipment - the harness, helmet and lanyards.
- Participants are briefed how should they behave during the ride - optimal ride position, position of legs and arms during the ride
- Participants are equipped with their personal protective equipment by the instructor. It is not allowed for participants to interact with their PPE unless specifically asked by the instructor to do so.
- When the operator at the top receives a signal that the track is clear and ready for ride, they bring the participant on the starting platform.

### 6.9.2. On the starting platform



Only one participant and the SPO are allowed on the starting platform

Platform's gate should be kept close until the participant is fully secured to the trolley.

SPO is required to be secured to the belay line by means of a belay lanyard at all times when the gate of the device is opened.

- SPO positions the user facing the start of the ride.
- [Applicable only if hydraulic platform is available]* SPO lifts the platform using their remote control.
- After the platform is at the top position, SPO attaches the harness of the participant to the trolley using the carabiners and adjusts the lanyards if necessary. SPO makes sure that both carabiners are completely closed and the lanyards are of equal length.
- [Applicable only if hydraulic platform is available]* SPO lowers the platform mid-way until the participant is freely suspended from the trolley.
- SPO performs final check of the personal protective equipment - all belts, buckles, carabiners and quicklinks must be closed and secured.
- SPO confirms that the ride is clear (receiving a signal from EPO that they are ready to receive the participant on the line).
- After confirmation, SPO opens the gate to the start of the ride, and pushes gently the participant on their way if necessary
- SPO closes the start gate.
- SPO may now start the briefing and preparation of the next participant in line, even though the current participant on the line hasn't finished their ride yet.

### 6.9.3. At the end platform



EPO must be attached to their belay line at all times.

Exit gate should be kept closed to prevent access to the end platform from the outside.

Hydraulic platform (if present) must be lowered at all times when there is a participant on the line.

18. While the participant is on the line, EPO awaits their arrival well away from the track and is aware at all times of participant's position on the track.
  19. EPO approaches the participant only when they have come to a complete stop, or are moving with speed less than 1 m/s.
  20. *[Applicable only if hydraulic platform is available]* EPO positions the participant right above the hydraulic platform, and lifts it (while EPO themselves is on the platform) by means of their remote control until the participant is able to step with both feet comfortably on it.
  21. EPO inquires verbally about the physical condition of the participant (in case they have sustained any injury) as well as their general well-being (is the participant scared or anxious, or otherwise disturbed?).
  22. EPO secures the participant to the belay line over the platform using the belay lanyard.
  23. EPO detaches the participant from the trolley and lowers the hydraulic platform *[if available]* to its bottom position. EPO and participant then leave together the gated area.
  24. EPO attaches the trolley to the rope retraction system (but does not start it yet!).
  25. After making sure the gate is closed behind them, EPO detaches the belay line.
- Note:** SPO may start the rope retraction system after the gate is closed behind the EPO if they receive confirmation from EPO that both EPO and the participant are not in the restricted area.
26. The participant is directed to the briefing area to return the PPE they have used.
  27. EPO returns to the restricted area and starts the retraction system using their wireless remote control. When the trolley passes the no-return point, the retraction system is switched off as the trolley has reached the start platform
  28. EPO makes sure the end platform is ready to receive the next participant - the platform is completely lowered *[if hydraulic platform is available]*, the restricted area free from people and obstacles.
  29. EPO signals SPO the track is ready and clear.
  30. SPO may then allow the next participant on the track.

## 6. 10. End of shift

When the shift ends, shift operators have the following obligations:

- Ensure there are no people on the ride, on the start and end platforms and in any of the restricted zones of the ride.
- All trolleys should be pulled to the start station by use of the retraction system
- All personal protective equipment must be stored in their locked compartments.
- The towing link of the retraction system should be positioned at the start platform and must be secured by means of e.g. carabiner or lanyard to a nearby permanent structure.
- Retraction system must be powered down by turning off the main safety switch. Lock the control board locker and ensure it cannot be opened without the key.
- All safety gates for exit and entrance of the facility, as well as other access venues (e.g. emergency or service doors and exits) need to be closed and locked after shift operators leave. Shift manager ensures personally that all such doors and gates are closed and locked.
- Any relevant events for the day are recorded in the log book. The daily record card is signed off by all shift operators.

## 7. Emergency and evacuation

Emergency and evacuation procedure is outlined in document *RG.AA.018 Emergency and rescue procedures*. The facility staff is required to be familiar with the contents of the document and to know very well their responsibilities in cases of emergency.

In addition, facility staff is required to be familiar with the evacuation and emergency procedures for the location the ride is installed in - including, but not limited to, the location of emergency routes, stairs and exits, gathering points, location-specific emergency guidelines, contact numbers of ambulance, fire department and police department.

## 8. Decommissioning of personal protective equipment

Personal protective equipment has a predetermined life; it should not be used beyond the date specified by the manufacturer. The equipment is decommissioned after its service life has elapsed; continued use of equipment which has exceeded its service life is dangerous and can put ride participants in a risk of serious injury or even death.

Equipment is also decommissioned also when it has been involved in a major accident; even if equipment is apparently in a good working order, it should be decommissioned and scheduled for destruction after investigation of the incident is concluded.

Equipment which shows signs of wear beyond what is considered safe is also decommissioned.

The procedure that follows is a general procedure of how to decommission personal protective equipment.

- After equipment is deemed unsafe (individual criteria for each piece of equipment may vary, see the respective text in section "Equipment inspection"), it is clearly marked as such as follows:
  - **Carabiners and quicklinks:** Tie tightly a zip tie around the gate and the spine of the connector
  - **Helmets:** Tie together the side straps of the helmet with a zip tie so that it cannot be put on.
  - **Safety harnesses:** Tie the connecting eyes together with a zip tie so that the harness cannot be put on.
  - **Lanyards:** Place the long end of the lanyard through the attachment buckle. Tie a zip tie around the buckle so that the end of the lanyard cannot be easily pulled through again.
- Equipment is photographed, with its serial / batch number visible, as well as the damage or failure which lead to its decommissioning. Storage and reproduction of said photographs is responsibility of the facility owner and is organized by them. Photographs of faulty or decommissioned equipment may be requested by ride manufacturer to confirm that the equipment is indeed faulty, and to determine cause of damage.
- Decommissioning of the equipment is detailed in the Log Book of the ride as well as the Technical Passport. In both occasions, the serial number or batch number of the equipment is noted as well.
- Decommissioned equipment is stored in another, locked, physical location away from the equipment currently in use, to serve as an evidence in case of an investigation from the manufacturer or other interested party. If the equipment being decommissioned has not been involved in an accident, it may be destroyed or sent back to the ride manufacturer, subject to written approval from the ride manufacturer. Procedure for destruction and disposal of the decommissioned PPE is covered by the user manual of the respective equipment.

## 9. Operational procedures

### 9.1. Securing passenger in the Rollglider harness

Follow the procedure below:



*Figure 3. Left: Rollglider harness. Top Right: Pin-lock carabiner; Top Bottom: Opening pin-lock carabiner*

- Check that the harness is safely attached to the trolley - both carabiners are safely locked.
- Unlock the pin-lock carabiner using the unlocking tool
- Swing back the shoulder restraints
- Ask the passenger to sit in the harness and put back the arm restraint over the shoulder restraint.
- Connect the arm restraints with the seat lanyard using the pin-lock carabiner.
- Pull each of the shoulder straps against the mid below-chest strap when the chest carabiner is locked to test whether it is secured.
- Adjust the back strap if necessary, to tighten the harness so the bottom does not sag.

- Disconnect the participant from the station belay channel.

## 9. 2. Unloading passenger from the Rollglider harness

- Connect the station belay channel lanyard to the front loop of the participant's safety harness.
- Unlock the pin-lock carabiner using the unlocking key
- Swing back the shoulder restraint
- Ask the participant to step up and away from the harness
- The participant is ready to leave the attraction facility

## 9. 3. System reset

In case of sudden loss of power to the retraction system, or for maintenance, the retraction system will occasionally need to be reset. The procedure for this is as follows:

- Press the mushroom button (E-STOP) on the control cabinet of the ride. The cabinet is situated at the start station.
- Rotate the three-pole packet switch on the main control cabinet to power off the system. Make sure the power is off -- the lights of the system should turn off.
- Wait 10 seconds **OR** rectify any outstanding issues with the system (e.g. faulty end switches, magnets, sensors etc.)
- Follow the procedure described in section 7.7 to start up the retraction system. Perform all checks as described as required, as if the system is started up for the first time of the day.

# 10. Maintenance and repair

Instructions how to inspect, maintain and repair the Rollglider attraction line outside of the daily checks outlined in this document are described in detail in *RG.AA.014 Maintenance manual*.