

Bungee Trampoline (4-trampoline type)

Risk Assessment

This operational risk assessment for the “Bungee Trampoline” covers the operation of the attraction when used as an Amusement Device. It is based on an ‘overview’ of the risks associated with the device and does not cover detailed breakdowns of individual systems and/or detailed component failure. The assessment includes details of the operational history of this type of ride including any known incidents and component or system failures. Full details of the device can be found in the manufacture’s original operation and maintenance manual.

The assessment is based on the engineering and operating aspects of the ride and does not take into account personal or legislative risks, i.e. manual handling etc, which should be covered elsewhere.

A brief description of the device is as follows:

Ride Information and Description

Name of Device:	Bungee Trampoline (4 Way)
Owner	Extreme Trampolines
Controllers	Nigel Royale & Grant Gould
Date of Assessment	August 2006
Date of Manufacture	August 2003

The basic Bungee Trampoline consists of four trampolines approximately four meters in diameter arranged around an aluminium frame. This frame is erected on an even surface. The trampoline users are fitted with a harness which is attached to the frame by a system of an electric winch, cables and elastic bungee cords the number of which varies depending on the weight of the user. The users are then raised just above one of the trampolines; in this position the user may perform various acrobatic trampoline jumps.

1) Generic Failures / Defects

There are reports of the tube types of elastics failing and striking users of the device

2) Generic Accidents / History

There are to date no reports of any serious occurrence with the use of this device.

Risk Assessment

The risk Assessment is based on the following areas:

- i) Structural Safety
- ii) Operational Safety
- iii) Electrical Safety

Hazard Classification

The risk /hazard has been classified to establish the possible severity of injury in the event of the occurrence, this classification is based on relative probability, and as statistical data is not available, the allocation has been based on judgement and experience.

- i) None
- ii) Minor Injury
- iii) Major Injury
- iv) Major Injury/Death
- v) Multiple Death

Likelihood of Occurrence

The risk / hazard have also been classified to establish the probability of occurrence. As above the classification is based on relative probability, and as statistical data is not available, the allocation has been based on judgement and experience.

- i) Cannot occur
- ii) Very Unlikely
- iii) Unlikely
- iv) Likely
- v) Very Likely

Comments

The risk assessment includes a 'risk rating' method (multiplication of hazard classification and likelihood of occurrence) to give an overall measure of the importance of each hazard. A threshold value (Above which further action is required) has been applied of 8. It is considered that this is the appropriate value to apply to this attraction. Each risk/hazard has been reviewed individually to ensure that all required actions have been taken to reduce the risk, so far as reasonably practicable. Where it was considered that further action is required this has been listed in the appropriate column.

Conclusion

The device if maintained and used in accordance with the manufactures instructions, and safe operation out lined in HSG175 and should not pose an undue risk to the public wishing to use it. There are no known operational issues with this device at this point in time, but we recommended that bungee with an interlaced safety cord are used to minimise the risk of injury in the bungee cord breaks when tensioned.

4 Way Bungee Trampoline Design and Operational Risk Assessment

Potential Hazard	Result of Occurrence	Hazard Classification	Likelihood of Occurrence	Control Number		Comments
Major structural component failure	Collapse of facility with four user on it	4	2	8	1) The design is adequate 2) Inspected daily by the operator to the manufactures instructions 3) Inspected in detail monthly to the manufactures instructions 4) Inspected Annually by a registered inspection body	The risk is low as the stresses are well within the design limits
Wind overturning or causing part collapse		4	2	8	1) Not to be used in winds above the manufactures recommended speed of 40km/hr 2) If winds are forecast to gust above the limit the device should not be used	
Structure not level	Physical injury to user from striking structure	2	2	4	1) Daily checks to include structure level	
Pulley becomes detached	User would fall most likely onto the trampoline, but it is possible they could miss it or bounce off the trampoline. This could cause physical injury	3	2	6	1) The design is adequate	The bungee are multiple and it is unlikely that a single failure would result in a fall
Failure of winch rope		3	2	6	2) Inspected daily by the operator to the manufactures instructions	
Failure of bungee elastic		3	2	6	3) Inspected in detail monthly to the manufactures instructions	
Failure of the harness		3	2	6	4) Inspected Annually by a registered inspection body	
Winch becomes detached	As above	3	2	6	1) As above	
Winch brake failure	User would descend	2	2	4	1) The design of the brake is adequate i.e. power of brake on 2) The brake is checked monthly	A worn brake would result in a slow descent
User comes in contact with structure and or cables	Physical injury from striking the structure or cables	3	2	6	1) The user should follow the instructions on the notice board 2) Trained operators to give instructions and guidance to the public	
Trampoline failure when in use	User left suspended above the ground	1	2	2	1) User to be evacuated using the operators ride evacuation procedure	
Power loss or winch motor failure	User left Stranded in the air	2	2	4	1) User to be evacuated using the operators ride evacuation procedure	

4 Way Bungee Trampoline Design and Operational Risk Assessment

Potential Hazard	Result of Occurrence	Hazard Classification	Likelihood of Occurrence	Control Number	Control Measure	Comments
A single bungee elastic fails	Risk of injury from free end striking user	2 to 3	3 ?		1) The bungee ropes should be inspected daily for wear, tear, damage and deterioration	It is recommended that the bungee ropes with an interlaced cord are used
User falls from the trampoline when not attached	Risk of injury	3	2	6	1) The user should follow the instructions on the notice board 2) Trained operators to give instructions and guidance to the public	Recommend a crash mat be placed beneath access ladders
Misuse of the unit by users and or operators	Risk of injury	3	2	6	1) Notice boards giving instruction 2) Operators trained in correct use of all equipment and instruct the public in the correct use of the device 3) Refuse entry to members of the public in a unsuitable condition to use the facility	All operators trained to instruct users and use equipment correctly at all times
Slips, trips or falls in the ride area	Risk of Injury	2	2	4	1) Notice board to give instructions i.e. Take Care, Do Not Run, etc 2) Trained operators to give instructions and guidance to the public	
Spectators getting to close during operation	Possible collision with a user	3	2	6	1) A physical barrier giving two meters clearance from the jumper is erected	

Electrical Equipment

Potential Hazard	Result of Occurrence	Hazard Classification	Likelihood of Occurrence	Control Number	Control Measure	Comments
Electrical shock and or burns	Risk of injury	4	2	8	1) Correct instillation of the unit by a qualified electrician 2) Fitted with the correct RCD 3) All electrical equipment to be suitably guarded 4) All electrical equipment to be fitted with the appropriate warning signs 5) All electrical installations should be inspected daily for wear and damage	