

Candidate: _____

Date: _____



ZIP LINE (Flying Fox) DIAGNOSTIC EXAM

Recommended time limit = 1 hour

This exam is designed to identify any gaps that may exist in your knowledge. Missed exam questions may indicate that you require specific refresher training. Poor performance indicates that you are not yet ready to earn a qualification. Each missed exam question must be thoroughly reviewed until competency is achieved.

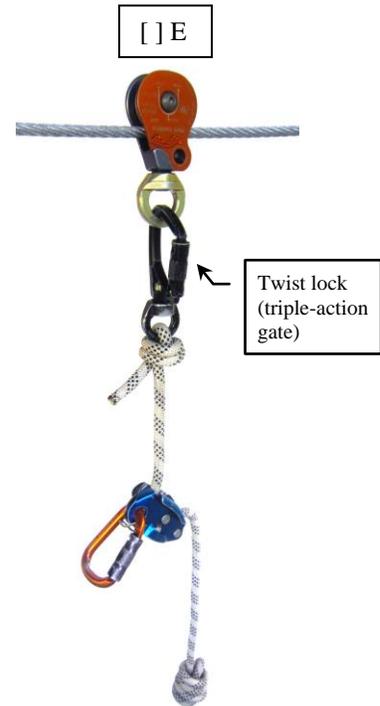
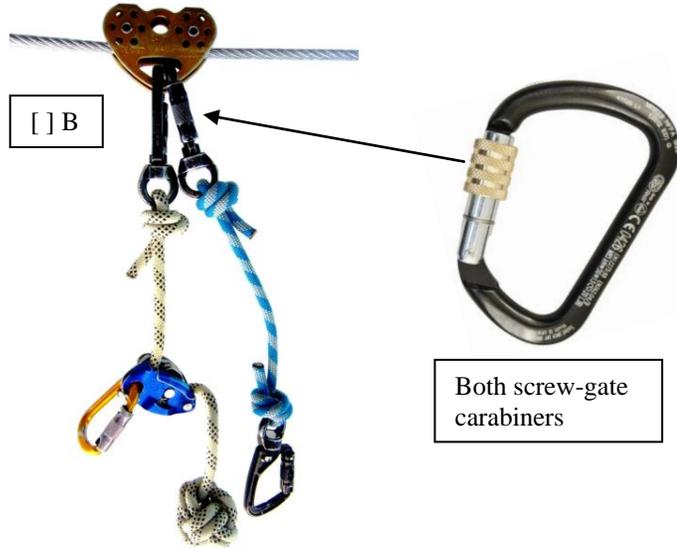
Carefully read each question then choose the most correct answer. This exam must be completed without the assistance of others – your answers must represent your own work. Please write in permanent ink.

Competency can be demonstrated by initially scoring 100%.

- Q1. All zip lines will be either 'temporary' or 'permanent'. Which of the following statements is correct? You will be asked to explain your answer...
- a) Permanent zip lines will consist of a single strand of synthetic fibre abseil track-line (11mm diameter)
 - b) Permanent zip lines will consist of a single strand of steel wire rope track-line (10-14mm diameter)
 - c) Temporary zip lines will consist of a double strand of steel wire rope track-line (10-14mm diameter)
 - d) Temporary zip lines will consist of a single strand of synthetic fibre rope track-line (11mm diameter)
 - e) Temporary zip lines will consist of a double strand of synthetic fibre rope track-line (11mm diameter)
 - f) None of the above are correct.
- Q2. The braking system of a permanently installed zip line is critically important. Which of the following braking systems are reasonable and effective? Choose the response you believe is most correct. You will be asked to explain your answer...
- a) Setup a number of bouldering crash pads at the end termination zone and let the clients crash into the pads at high speed...it will be thrilling for them.
 - b) The end termination anchor point of the track lines should be elevated to create a natural rising slope, and a 'belly/sag' at mid-span. This will decelerate the clients so they don't build up excessive speed and crash into the end termination.
 - c) A special arrester snag line should be installed so it lies *perpendicular* to the track-line. The mobile attachment device (pulley) will hit the snag line rather like a jet fighter aircraft snags the arrester cable as it lands on the deck of a carrier vessel. The elastic properties of the arrester line will decelerate the client.
 - d) Clients should be belayed by a competent 'Guide' who uses a belay device and rope to control the client's speed. The Guide will need to wear gloves.
 - e) None of the above are correct.

Q3. Study the images carefully.

Choose the rig mobile attachment system that you believe creates the lowest level of risk to the client.
You will be asked to explain your answer...



Q4. There have been a number of courts prosecutions for zip lines (flying fox's) in Australia.

What has been the leading causes of accidents?

Background reading (see attached court cases)...

Explain your answer:

COURT DECISIONS

Accused: Warren Maxwell Williams **ABN / ACN:**

Industry: Public Sector and Community Services **Accused Type:** Individual

Date of Offence: 23/02/2007 **Date of Determination:** 17/06/2009

Incident: Failing to instruct, inform and train.

Failure to conduct a risk/hazard assessment.

Failure to conduct a risk/hazard identification.

Judge / Magistrate: N La Rosa

Incident Summary: Lyrebird Park ('the camp') is a school camp operated by the Williams Family Trust; Warren Maxwell Williams is the trustee of the Williams Family Trust. Students participate in various outdoor activities at the camp, including riding on a flying fox. Prior to Thursday 22 February 2007, riders who had finished the ride were lowered to the ground from a step ladder. On Thursday 22 February 2007, the step ladder was replaced by a scissor lift and a 5 pulley system was introduced. As a consequence of the '5 pulley system' being introduced 5 riders at any one time could be harnessed and ready to ride the flying fox.

Further, it was not necessary for the rider to return to the start with his/her pulley before the next rider could begin the ride. Prior to the introduction of the scissor lift and 5 pulley system:

1. no or no adequate hazard identification was performed;
2. no or no adequate risk assessment was carried out.
3. there was no control of the effects of using a scissor lift and multiple harnesses on the flying fox.
4. there was no or no adequate information, instruction, training or supervision provided to either the employee instructors or to the volunteer helpers (teachers/ parents) supervising the children on the flying fox in relation to the introduction of the new equipment / procedures.
5. there was no system of communication between the instructors at the dispatch and dismount points.

These failures;

1. exposed the users of the flying fox, in this case the school children on the camp to risks of serious injury to their health and safety through the possibility of colliding with the scissor lift
2. exposed the employees of the camp to the risk of injury should a child collide into them

On Friday 23 February 2007 approximately half the students were participating in the flying fox activity. One student rode the flying fox and dismounted without incident. However the instructors experienced difficulty (and delay) in releasing the 2nd student from her harness. The 3rd student began the ride before the 2nd student (and the scissor lift) had been cleared from the path of the flying fox.

Despite the efforts of an instructor to stop him, the 3rd student crashed into the scissor lift. The student was knocked unconscious and suffered a fractured skull and brain injuries. He was taken to hospital and placed into a medically induced coma. The student made a full recovery.

Court Number: X02832944

Jurisdiction: Magistrates Court

BASS STRAIT VIEWS PTY. LTD

Ref: T01732918

Date of offence: 17 October 2004

Date of prosecution: 20 February 2006 at Frankston Magistrates' Court

Magistrate: His Honour Magistrate Crisp

Plea: Guilty

Bass Strait Views Pty Ltd trading as Ace Hi Riding Ranch in Cape Shanck operates a flying fox. Construction of the flying fox commenced in March 2004, replacing an existing, but unused, flying fox. The new flying fox was designed and constructed by Erik Westrup trading as Outdoor Initiatives. Westrup recommended and supplied the harnesses for the flying fox.

On 17 October 2004, a nine year old girl fell approximately 12 metres to the ground whilst riding on the flying fox. The girl sustained serious injuries and was admitted to the Royal Children's Hospital in Melbourne.

An investigation revealed that the girl fell from the flying fox because the harness she was wearing was not properly attached to the carabiner. The harness itself did not fail.

The girl was left unattended and unsupervised on the 'starting' platform. Bass Strait Views Pty Ltd failed in its duty of care because it did not have the flying fox ride adequately staffed and in particular did not have a supervisor on the platform with the girl to ensure that she embarked upon the ride safely and that all equipment was properly fitted and attached.

Breach: Section 22 of the Occupational Health and Safety Act 1985.