



SAFETY NOTICE – RECREATION

FLYING FOX PARTICIPANT ATTACHMENT

Background:

WorkSafe Victoria has recently issued a guide relating to the attachment of participants to Flying Foxes following an incident where a person was seriously injured after falling due to failure to attach the person's harness to the span cable (via pulley) appropriately. The following is a summary & recommendations regarding this guide.

Key points:

1. **Risk assessments** – must occur prior to Flying Fox activities. Risk assessment must consider;
 - 1.1 Usage procedures (also potential for failure of equipment or systems)
 - 1.2 Configuration (including possibility of inversion)
 - 1.3 Supervision
 - 1.4 Cleaning & maintenance
 - 1.5 Inspection & repair
 - 1.6 Regulations (eg; OHS Act & Australian Standards – discussed later)
2. **Back up systems** – are designed to cater for human fallibility & provide no single point of failure. Back up systems typically consist of an additional length of load bearing material (rope, tape, cable etc) connected independently to separate attachment points on both the harness & pulley.

Two (2) general types of connection exist;

2.1 Lanyard connection (cable from pulley to harness). Back-up can consist of any of the following;

2.1.1 – 'Detachable' back-up lanyard (removable from both the harness & pulley). Eg; carabiner to harness & pulley)

2.1.2 – 'Permanent' back-up lanyard (connected to the harness & removable from the pulley only. Eg; girth hitch of tape to harness & carabiner to pulley)

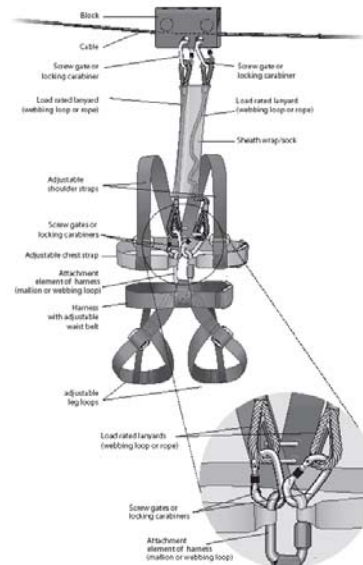
2.1.3 – 'Single Purpose built attachment' (both lanyards are connected to a single attachment point on the harness via separate carabiners)

2.1.4 – 'Two Purpose built attachment' (the lanyards are connected to two independent attachment points on the harness via carabiners)

2.2 Carrier connection (seat, inverted 'T' or pole & seat etc) Back up can consist of;

2.2.1 – Separate back up lanyard to participant (from harness to pulley)

2.2.2 – Secondary attachment from pulley to separate point on carrier (ie; seat).



Source: WorkSafe Victoria

Further detailed information can be obtained from 'WorkSafe Victoria'

3. **Harness systems** – must ensure that participants remain safe throughout the entire activity (ie; do not fall out of the harness or disconnect from safety lines). Therefore risk assessments must consider the potential for 'inversion' (turning upside down with potential to fall out of harness).

Inversion can occur deliberately (as part of the planned flying fox path) or inadvertently (due to recoil or breaking).

To cater for this, if there is a risk of inversion the harness must be either a 'Full Body' or a 'Sit' & 'Chest' harness combination. Harnesses must fit properly.

4. **Consequence of back up system use** – systems should consider the impact the operation of a back up system may have on participants and the flying fox (eg; will participants or gear become entangled or crushed/squashed once it takes the load?)
5. **Flying fox pulleys** – must have 2 sheaves (wheels) & be designed to prevent a fall if failure occurs (eg; have a 'guard' or loop of cable in place to straddle the span-line should the pulley wheels fall apart etc). Connection to the pulley should be engineered & in a point between the 2 axles that maintains balance.
6. **Lanyards** – all lanyards (primary & back up) must be purpose designed, type load tested & rated (minimum compliance with AS 1891.1). Use of primary & back up lanyards must prevent entanglement between the two, by either; a sheath around them, colour coding etc). The backup lanyard should be longer than the primary (to prevent crush injuries).
7. **Carabiners** – must be designed and used to avoid 'Dynamic Rollout' (a carabiner opening when twisted against a hard object that is threaded through it). The Victorian guide discusses not using 'twist-lock' carabiners.
8. **Harness fitting** – must be conducted/supervised by 'trained' persons.
9. **Regulations/further information** – the following documents should also be consulted;
- **WorkSafe Victoria – Guidance Note – Flying Fox Attachment – Prevent Falls**
 - AS 3533.1-1997 – Amusement rides & devices (design & construction)
 - AS 3533.1 Supp 1-2003 – Amusement rides, devices (design construction–intrinsic safety (supplement to 1997)
 - AS 3533.2-1997 – Amusement rides & devices (operation & maintenance)
 - Amusement rides & devices (operation & maintenance) – Logbook (supplement to 3533.2-1997)
 - AS 3533.2-1997 – Amusement rides & devices (in-service inspection)
 - AS 1891 – Industrial fall arrest systems & devices
 - AS 1891.1 – Safety belts & Harnesses
 - AS 1891.2 – Horizontal Lifeline & rail systems
 - AS 1891.3 – Fall arrest devices
 - AS 1891.4 – Selection use & maintenance
 - NSW Occupational Health & Safety Act & Regulation

Conclusion:

Due to 'Challenge Rope' activities (including Flying Fox) being a large part of outdoor recreation, it is essential that the above information is considered in company SOPs. This information will ensure that facilitators stay abreast of current 'best practice' and ensure safety and quality for all students & staff.

Recommendations:

1. That this information be discussed among safety committees with a view to inclusion in SOPs.
2. That if adopted, suitable 'back up lanyards' be obtained from approved commercial suppliers.
3. That all Challenge Ropes Course Facilitators/Instructors receive training in this information.

Outdoor Access is able to assist with advice and training. For further information please contact us – info@outdooraccess.com.au

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