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B10 - Group 7 - ENGR 110

**Need:**

The frequency of unretained deropements of surface lifts in BC is unacceptably

high.

**Goal:**

Improve current surface lifts to increase the safety in regards to deropements involving snowboarders by changing the lift interface.

**Objective:**

Design an improvement to the current deropement interface system.

Objectives for the deropement failsafe system:

|  |  |  |
| --- | --- | --- |
| **Objective** | **Basis For Measurement** | **Units** |
| Design implementation shouldn’t drastically slow down current operating speed | the speed of the system | m/s |
| Should be an inexpensive solution | cost to manufacture and implement new design | dollars |
| Should have a low implementation time | time it takes to put system in place | hours |
| Should be simple to use for the general public | amount of people that comprehend signage within 2 minutes | percent |

**Constraints:**

* Cannot add more than 20% of the current weight to the movement system.
* All new designs must be compatible with older systems and technology.
* The interface system must be switched between skier and snowboarder, and vice versa within half of the time the T-bar takes to travel around the bull wheel.
* The mechanism to switch the interface system must not be affected by ice and freezing temperatures.
* The mechanism must be resistant against all elements that would cause corrosion and failure of the mechanical components.