

Introduction

When snowboarding, many users find drag lifts difficult and uncomfortable to use. This is largely due to the fact that drag lifts were designed to be used by skiers before snowboarding was invented. A snowboarder's stance is not suited to using the current drag lifts, often limiting the snowboarder's use of the ski resort due to a reluctance to use them.

"you're being pulled by one part of your body and everything else has to compensate for that" –

"because you're on a central axis you fall over easily" – Uri Verthime

"after a while it just hurts" – Ed Sells



Aim - To enable snowboarders to safely and comfortably use 'drag lifts' whilst maintaining the current comfort level for skiers.

Analysis

Patent Search



Current patented designs are crude attempts to solve the problem. They all lack any sort of user centred design and they fail to assess the underlying problem.

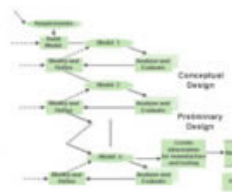
Test Rig

The aim of the test rig was to gather data on the following:

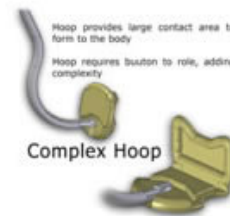
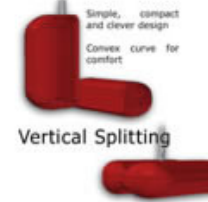
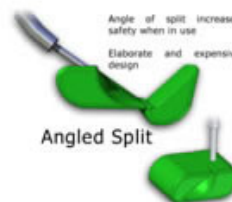
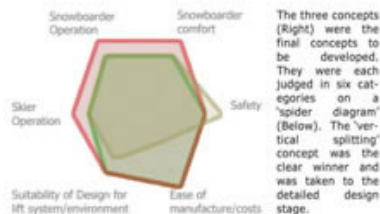
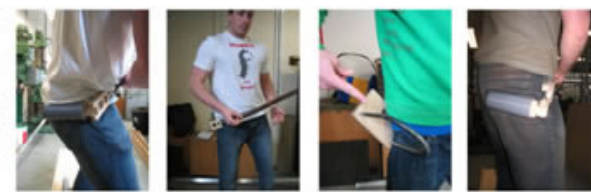
- The problems faced when first learning to use the drag lift and problems still encountered
- The techniques people use when using drag lifts
- The time to discomfort
- Preferable technique



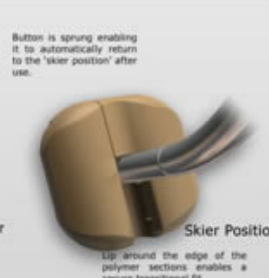
Design Methodology



User interaction was a key tool in the development process. Test pieces were quickly developed and tested enabling the process to remain focused and prevent time being wasted on unsuitable concepts.



The product consists of four injection moulded polymer sections forming the outer shell of the product and acting as a monocoque, thus enabling the number of components to be kept to a minimum. The product has been developed into a full scale working prototype by rapid prototyping the polymer sections using Selective Laser Sintering. An Aluminium Alloy axle, along which the product is assembled, runs through the four polymer sections. The axle is sprung axially allowing the flap to disengage from the 'pole side' if too much force is applied - this protects both the user and the system.



Solution - A new style of 'splitting button' which can easily be fitted onto the current system. This allows snowboarders to be propelled from their rear hip whilst maintaining the current level of use for skiers.

