

Convertible Ski Bike

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Introduction

We made a ski bike that is easily convertible back to a BMX/dirt bike and cheaper than existing ski bikes. We used skis that we bought and a bike frame that we already owned, then built the mounting to put the skis on the bike.

Methods

- We used a waterjet to cut aluminum that we used for our mounting
- We bolted the parts of the mounting together
- The axles are press fit into the mounting
- The skis are screwed onto the mounting
- We used a 3D design software to design the parts that were cut using the waterjet

Contacts

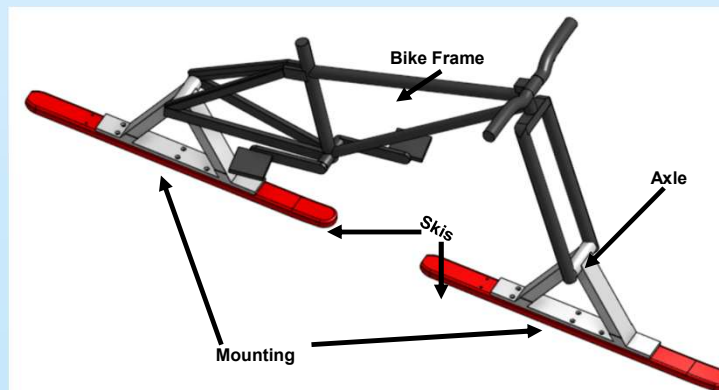
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Results

We had to think of a way to attach the skis to the frame that we had. The most efficient way to do that was to use the axles already on the bike. This led to us making a press fit to connect the mounting to the bike. To attach the mounting to the skis we decided to just use the screws that attach the binding to the skis. The bike frame needed to be a certain height to avoid scraping on the ground. Triangles are a strong shape, so we went with a triangular design to make sure it could support the bike and the rider. We didn't have a chance to test the bike due to the lack of snow in the area. We also didn't get to create a way to stabilize the skis to keep them level.



Discussion



Ski bikes are quickly growing in popularity and another fun way to hit the slopes in the winter. We decided to try to make a way to bridge the gap from fall to winter with one bike that is cheaper and more accessible than current ski bikes. It is more convenient to only have one frame and be able to quickly switch between a ski bike for the winter, and a BMX or dirt bike for the rest of the year. We learned what a ski bike is and how it works. We found out that it is tough to visualize a design without some physical references. Figuring out how to manufacture the mounting was a challenge due to its shape. Next step would be to stabilize the skis.

References

- Bike frame from Specialized Bicycle Components