

Snow days!!

As the memories of the Christmas holidays become more distant, I am sure no one will forget the snow! Whilst most of the UK at some point suffered disruption, the best thing was that school was out for a few days and let's face it - everyone loves to play in the snow! However, for a young lady called Sarah in East Kilbride, the snow was not so much fun. Sarah's mum, Lynne, called CIC to tell us that wheelchairs and Maclaren pushchairs do not perform very well at all in the snow and that Sarah was unable to go and play in the snow with her family and friends.

Well, here at CIC we know how much fun the snow is, so we set about designing a sledge for Sarah with a supportive seat, straps to support her and space on the back for her mum or dad to co-pilot the sledge with her. Other features include a tough plywood construction, metal runners for a smooth ride and a safety leash in the event that the co-pilot falls off.

The UK's snow usually doesn't last too long, so CIC knew the clock was ticking on this design project. We used our high tech computer aided design computer and software (Solidworks) to help generate the design in 3D. A big thank you to Claire's Project for supporting the CIC by purchasing the CAD computer. We were able to send Lynne some images of the design to see if she thought it was suitable, and then printed full size plans to take to the workshop. Here you can see the design process: sketching the design, computer modelling, and building the sledge by hand.

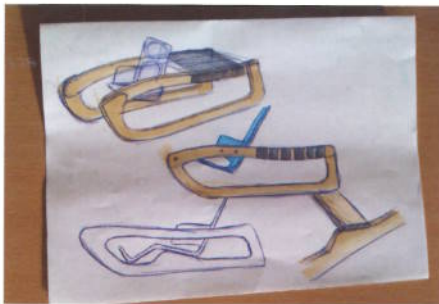


Figure 1 First sketches



Figure 2 3D computer aided design

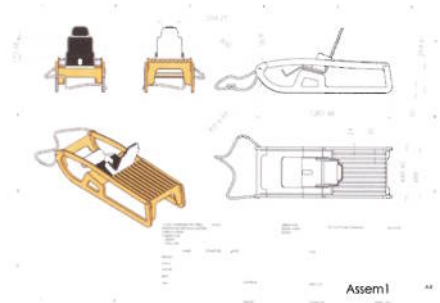


Figure 3 Engineering drawings



Figure 4 First cut

All the wooden sections were cut by hand for this project. In this way we were able to make sure that each piece was strong enough and was firmly glued and bolted into place.



Figure 5 Assembly of wooden frame

The seat is made from a really tough plastic called ABS, which when heated is able to bend into shape. Having taken all of Sarah's dimensions we built the seat to fit snugly with soft foam for comfort and insulation. We added a little on to the size of the seat to make sure she has room to grow. The seat keeps



Figure 6 Building and fitting the seat

Sarah's legs and feet clear of the ground to avoid catching on the snow, and has a few straps to keep Sarah in place



Figure 7 New pilot getting used to the controls



Figure 8 Wheels? Where we're going we don't need wheels!

We received many enquiries about the sledge and hope to make a batch of them ready for next year. There is likely to be a small cost associated with the sledges to cover materials and manufacture, but if you would like one please let us know so you are kitted up ready for snow season 2011!