Weekly Progress Report  
Week 2: 1/26/09-2/2/09

Travel Computer Mount

At the start of this week, we had the majority of the mount assembled and the holes drilled into the attachment plates. After re-examining the Stenglein’s car, we realized the plates had to be modified to accommodate for a “thumb” on the top of the passenger’s seat beside the headrest. This meant that we also had to trim each of the bars. This week the plates were modified. Kelly and I visited the Stenglein family to make sure that the modified attachment plates would fit in their car properly. The plates were easily secured to the head rest posts with three ½ inch screws. All that is left to be completed for the mount is the welding between the L bars and the front attachment plate. Figures 1 and 2 show our current progress.

![Figure 1. Horizontal bars and Lbars](image1)

![Figure 2. Attachment plates](image2)

Assistive Jumping Device

At the start of this week we had already received the Tumble Forms Carrie seat that we would be modifying to become the firm harness attached to the vertical rail and trolley. Throughout the week I worked to change the seat into a harness. Blaine and I sawed off the bottom of the chair and portions of the armrests to make it suitable for a standing user. Figure 3 shows the seat just after the bottom was removed.
I then cut pieces of foam from the removed portion of the chair and super-glued them to the sawed-off arm rests of the chair. These foam pieces will protect the user from the exposed metal frame and create a smooth contoured surface. I then carved out some of the foam from the bottom of the seat to remove the lip at the base to make it completely flat and more comfortable for a standing user.

At this point, Kelly and I tried to re-upholster the rough edges of the seat with pieces of the vinyl covering from the removed portions. We let the pieces set for several minutes with a strong adhesive, but we were unsuccessful. We then covered the exposed portions with black duct tape. With the duct tape we were able to smooth the surface. The duct tape is not the most ascetically pleasing covering, but it will be water-proof like the rest of the seat, which is the most important factor. The duct tape may simply be a temporary covering which will hopefully make upholstery with a different fabric easier. Figure 4 shows the modified seat sealed with duct tape.

By the end of the week we received the children’s climbing harness and crane trolley. I started brain storming ways to attach the pelvic harness to the seat. I think I will be able to use the straps and buckles of the original seat and rearrange them to secure the pelvic harness to the seat and existing harness.

I have also been in contact with a representative from Diversified Fall Protection, Inc. about their vertical rail system. There were issues with ordering the rigid RAM rail, so we decided to look for a similar product from a different vendor. I believe that the Diversified Fall Protection rail will be a suitable replacement, but I still need additional
information from the company before I can make an order. I am waiting for them to contact me again.

After our meeting on Friday, we felt confident in our progress over the week. However, after meeting with Brenda this past Saturday Jan. 31st, we were informed that we may have to alter our design. The Stenglein’s had just returned from visiting a renowned neurologist that is familiar with Sean’s condition. She felt very adamant that Sean have nothing behind his head or neck while jumping. Our current design includes a cushion behind Sean’s head and neck, to offer additional support. Brenda was unsure why it is so important that Sean have nothing behind his head. Therefore, we will meet with a local neurologist that knows Sean extremely well to go over our design, and make it as safe as possible for Sean.

The neurologist suggested that the device should support Sean with bungee cords. This was our original plan for the project; however, we determined bungee cords to be too unpredictable. We strongly feel that our system will be safer for trampoline use, than a bungee cord system. Therefore, we will have to work with the local neurologist to modify our current design while accommodating the desires of Sean’s family and doctors.

During the third week we will have to finalize our design according to the input from Sean’s doctors. We will continue to work on attaching the pelvic harness to the seat, which will require significant alteration. I will also continue talking to the representative from Diversified Fall Protection so I can finalize an order.

In total I worked approximately 15 and ½ hours this week on our two projects.