Work Completed

This week I worked on the brakes and the braking actuator. This involved several tasks, including the following:

- Manufacture mounting plate for mounting braking actuator
- Drill holes in frame of go-kart for plate
- Make cable joiner
- Modify purchased actuator bracket
- Make bracket for shaft of actuator
- Make tie-down bracket for brake cables

The cable joiner is attached directly to the actuator to ensure equal tension on both the left and right brake cables, and thus a pulley set-up was not required. The holes on the purchased actuator bracket did not exactly line up with the holes in the actuator itself, so new holes were drilled in the bracket. The brake cables needed to be tied down because when the actuator pulls on the brake cables, I want it to be pulling on the brake wires and not the entire cable (there is slack in the cable, so I only want the wires to move, not the sheathing). I talked to Serg about shortening the cables, but, as I suspected, he said that cutting the cables in any way would compromise the integrity of the entire cable, so I will leave the cables at their current length and just bundle them at the rear of the go-kart. Figures 1, 2, and 3 below show each of the components of the braking actuator, and figure 4 shows the finished product.

Figure 1: Cable joiner attached to moving portion of actuator.
Figure 2: Bracket manufactured to secure the shaft of the actuator.

Figure 3: Modified bracket for fixed end of actuator.
**Future Work**

In the next three weeks, I must design a way to attach the joystick to the right side of the go-kart. The joystick must be the proper distance away from the go-kart so that Mason can comfortably use the joystick. It must also be securely attached to the go-kart so that Mason cannot lose control of the joystick while he is driving. I hope to have this complete by April 9.

**Project Review**

A lot of work has been done on the go-kart this week, and several major portions seem to be coming together. The braking system is completed, the programming is almost ready for use, and the steering system is being diligently worked on. Our current budget is $360, which does not include charges from the Machine Shop.

**Hours Worked**

Time spent on the project 3/19/2008 – 3/26/2008: 22 hours