Work Completed - Summary

- Completed side support assembly
- Problem Solved – joystick stiffness
- Good progress on control system
- Problem Solved – Steering actuator
Work Completed - Allison

- Allison has completed side support prototype (with wood)
- Confirmed the 35lb linear actuator will be sufficient to apply brakes
- Investigated mounting mechanisms for actuator
Completed Work - Mike

- Designed integration of remote kill switch
- Problem Solved – Joystick stiffness
Completed Work - Kevin

- Designed and assembled hardware required for the control system (one 12V source):
  1. Acceleration/braking signal splitting

Vin = 1-4V
(vertical signal from joystick)

1V (acc)

4V (brake)

- Subtract 2.4V (center) using diff amp
  - 1.4 – 1.6V

- Comparator (High if less than 0)
- Comparator (High if greater than 0)

IRF 540N MOSFET
(FET 1 - allows Vin to PIC if comp goes high)

IRF 540N MOSFET
(FET 2 - allows Vin to PIC if comp goes high)
2. Braking System amplification after PIC

0-5V PWM Signal From PIC based on Vin from FET 2) → -2.5V – 2.5V → -12V – 12V

- Subtract 2.5V using diff amp
- Amplify by 4.8

To steering actuator
Completed Work - Kevin

3. Digital buttons for wheel mode acceleration
4. Started organizing code and outputs/inputs for PIC
Completed Work - Travis

- Found custom built LA for free.
- Specs
  - 12V
  - 2.5 inch stroke
  - Speed – 2 inch/sec
  - Lb force – 100lb max speed
Completed Work - Travis

- Decided with Kevin that the bi-directional pump control system (right) will be the best way to control the 12V steering actuator using a potentiometer (on order)
Future Work – next week

- **Allison**
  - Test and mount actuator
  - Attach to modified braking cables
- **Mike**
  - Install kill switch
  - Mount seat/seatbelt/foot strap
- **Kevin**
  - Finish hardware
  - Program
- **Travis**
  - Follow up on actuator
  - Mount new 36V battery (when it arrives)
  - Order 12V accessory battery
  - Mount potentiometer (when it arrives)
<table>
<thead>
<tr>
<th>Task</th>
<th>Time</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>finish control system hardware and verify</td>
<td>2 days</td>
<td>Wed 2/13/08</td>
<td>Thu 2/14/08</td>
</tr>
<tr>
<td>Programming - A/D converter - Kevin</td>
<td>3 days</td>
<td>Fri 2/15/08</td>
<td>Tue 2/19/08</td>
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<tr>
<td>Programming - P/M/M generator - Kevin</td>
<td>3 days</td>
<td>Tue 2/19/08</td>
<td>Thu 2/21/08</td>
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<tr>
<td>Mount seat belt to seat - Allie</td>
<td>2 days</td>
<td>Thu 2/14/08</td>
<td>Fri 2/15/08</td>
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<tr>
<td>Mount side supports to seat - allie</td>
<td>1 day</td>
<td>Mon 2/18/08</td>
<td>Mon 2/18/08</td>
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<tr>
<td>Design mount for braking actuator - allie</td>
<td>2 days</td>
<td>Tue 2/19/08</td>
<td>Wed 2/20/08</td>
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<tr>
<td>order auxiliary battery 12V - travis</td>
<td>1 day</td>
<td>Thu 2/14/08</td>
<td>Thu 2/14/08</td>
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<tr>
<td>Mount potentiometer travis</td>
<td>3 days</td>
<td>Mon 2/18/08</td>
<td>Wed 2/20/08</td>
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<tr>
<td>Mount seat/seat belt/foot supports - mike allie</td>
<td>2 days</td>
<td>Mon 2/18/08</td>
<td>Tue 2/19/08</td>
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<tr>
<td>Install 36V battery - travis</td>
<td>2 days</td>
<td>Mon 2/18/08</td>
<td>Tue 2/19/08</td>
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## Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Minimoto Jeepster Dune Buggy Electric Go-Kart</td>
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<tr>
<td>Neck Support</td>
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<td>5-Point Harness</td>
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<td>Padded Go-Kart Seat</td>
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<td>1&quot; Side Release Buckles</td>
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<td>Medium Firm High-Density Foam</td>
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<td>shipping for battery</td>
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**Total Expenditures**: 1400.45

**Funds Remaining**: 599.55
Hours Worked

- Allison: 8 hours
- Michael: 12 hours
- Kevin: 21 hours
- Travis: 13 hours
Questions, Comments, Concerns?