E-Racer

Kevin Arpin, Michael Marquis, Allison Meisner, Travis Ward

Client Contact:
Gregg and Laura McClement,
Calgary, AB, Canada
E-Racer as of Week 8
Work Completed - Summary

- Braking actuator installation completed
- Braking modifications completed
- Steering actuator installation completed
- Steering code
- Completed building and installing Steering Control Module
- Ordered 12V battery, charger, and accessories to power electronics on go-kart
Work Completed - Allison

- Made plate for mounting braking actuator
- Modified purchased bracket and made another bracket for securing the actuator
- Made cable joiner to link the left and right brake cable
- Made cable tie-down for brake cables
- Integrated the above parts
Completed Work - Mike

• Fabricated custom brackets for installation of linear actuator
• Installed linear actuator
• Found vendor to donate linear position sensor (will arrive at the end of this week)
Completed Work - Kevin

- Assembled PIC for steering
- Finished steering code
- Waiting on voltage range for potentiometers (waiting for second potentiometer to arrive)
- Fixed bug in braking system
Completed Work - Travis

- Completed building and installing Steering Control Module
- Added stops to prevent the steering wheel from turning too far
- Measured output voltage range from steering potentiometer
- Ordered 12V battery, charger, and accessories to power electronics on go-kart
Future Work – Next Few Weeks

- **Allison**
  - Design and manufacture armrest for joystick
  - Design and manufacture mounting for armrest to go-kart

- **Mike**
  - Install linear position sensor - already have plan for installation
  - Mount steering-wheel switches when they arrive
  - Look into way of folding steering shaft out of way for easier access to seat
  - Install remote kill switch in Kevin's completed control system
Future Work - Next Few Weeks

- Kevin
  - Finish steering
  - Work with other team members to test and integrate components
- Travis
  - Help to install linear potentiometer that Mike found and find the voltage range
  - Mount battery and create charging base unit
  - Clean up wiring from Steering Control Module
# Schedule

<table>
<thead>
<tr>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Fri 5, 08</th>
<th>Mar 23, 08</th>
<th>Mar 30, 08</th>
<th>Apr 6, 08</th>
<th>Apr 13, 08</th>
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</thead>
<tbody>
<tr>
<td>1 Test braking actuator</td>
<td>1 day</td>
<td>Wed 3/25/08</td>
<td>Wed 3/25/08</td>
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<tr>
<td>2 Make armrest for joystick</td>
<td>1 day</td>
<td>Fri 3/28/08</td>
<td>Fri 3/28/08</td>
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<tr>
<td>3 Design mounting for armrest to go-kart</td>
<td>3 days</td>
<td>Mon 3/31/08</td>
<td>Wed 4/2/08</td>
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<tr>
<td>4 Install linear position sensor</td>
<td>1 day</td>
<td>Thu 3/27/08</td>
<td>Thu 3/27/08</td>
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<tr>
<td>5 Mount steering wheel switches</td>
<td>2 days</td>
<td>Fri 3/29/08</td>
<td>Mon 3/31/08</td>
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<tr>
<td>6 Modify steering shaft</td>
<td>2 days</td>
<td>Tue 4/1/08</td>
<td>Wed 4/2/08</td>
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<tr>
<td>7 Install remote kill switch</td>
<td>1 day</td>
<td>Thu 4/3/08</td>
<td>Thu 4/3/08</td>
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<tr>
<td>8 Finish steering</td>
<td>3 days</td>
<td>Mon 3/31/08</td>
<td>Wed 4/2/08</td>
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<tr>
<td>9 Test and integrate components</td>
<td>7 days</td>
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<td>Fri 4/11/08</td>
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<tr>
<td>10 Help to install linear potentiometer and fix voltage</td>
<td>2 days</td>
<td>Thu 3/27/08</td>
<td>Fri 3/28/08</td>
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<tr>
<td>11 Mount battery and create charging base unit</td>
<td>3 days</td>
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<td>Wed 4/2/08</td>
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<tr>
<td>12 Clean up wiring from steering control module</td>
<td>1 day</td>
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Hours Worked

- Allison: 22 hours
- Michael: 18 hours
- Kevin: 12 hours
- Travis: 17 hours
Questions, Comments, Concerns?