Progress Report #1

University of Tennessee

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Teams *completed* major milestones this year (include dates)

The following was completed by October 27th 2006:

- Noise and Vibration baseline testing for various locations inside and outside the vehicle is complete
- Research on how to improve motor setup is complete
- Urea SCR was donated from XTengine
- New exhaust layout design that does not hinder ground clearance complete
- Research designs of automatically shifted transmission completed
Teams remaining milestones this year (include dates)

- New exhaust configuration installed –Nov. 17th
- Urea installed in exhaust- Nov. 21st
- Research for automatic-manual transmission completed- Dec. 1st
- Install noise dampening material- Jan 15th
- Relocation of brake pedal and clutch pedal- Jan. 15th
- New High voltage cooling system installed-Jan 15th
- New motor mounting system complete- Feb. 1st
- New fuel tank installed- Feb. 7th
- New controls system and wiring redone- Feb. 15th
- Implement an automatically shifted transmission with driver control buttons –Feb. 15th
VTS for Year Three  (highlight Y2 differences)

**VTS Motivation**

- Increase fuel economy
- Maintain performance and utility
- Reduce emissions
- Noise considerations
- Competition goals and requirements

<table>
<thead>
<tr>
<th>Description</th>
<th>Test Year</th>
<th>Modeling/Inspection/Testing</th>
<th>VTS (Team Selected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVM-60 MPH</td>
<td>1,2,3</td>
<td>M,T</td>
<td>≤9.5 sec</td>
</tr>
<tr>
<td>50-70 MPH</td>
<td>1,2,3</td>
<td>M,T</td>
<td>≤7.3 sec</td>
</tr>
<tr>
<td>Vehicle Mass</td>
<td>1,2,3</td>
<td>M,T</td>
<td>≤4200 lbs</td>
</tr>
<tr>
<td>MPG Combined EPA</td>
<td>1,2,3</td>
<td>M,T</td>
<td>≥32.0 mpg</td>
</tr>
<tr>
<td>Highway Range</td>
<td>1,2,3</td>
<td>M,T</td>
<td>≥200 mi</td>
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<tr>
<td>Passenger Capacity</td>
<td>1,2,3</td>
<td>M,T</td>
<td>5 passengers</td>
</tr>
<tr>
<td>Emissions Cert Level</td>
<td>2,3</td>
<td>T</td>
<td>Tier 2, Bin 5</td>
</tr>
<tr>
<td>Trailing Capacity</td>
<td>2,3</td>
<td>M,T</td>
<td>2500 lbs</td>
</tr>
<tr>
<td>Cargo Capacity</td>
<td>2,3</td>
<td>I</td>
<td>60 Cu. Ft. behind front seat</td>
</tr>
<tr>
<td>Starting Time</td>
<td>1,2,3</td>
<td>T</td>
<td>&lt;5.0 sec</td>
</tr>
<tr>
<td>Noise Emission</td>
<td>1,2,3</td>
<td>T</td>
<td>&lt;75 dbA</td>
</tr>
</tbody>
</table>
Current vehicle packaging diagram – include Y3 changes
Additional current vehicle packaging diagram
Facility pictures

Vehicle work area

Fabrication area

Goggle Drawer

Glove Drawer

Scott with all our safety equipment on

Shop safety equipment 1

Shop safety equipment 2
Vehicle exterior pictures

Vehicle Exterior – Facing Driver Side

Vehicle exterior – Facing Passenger Side

Vehicle exterior – Facing Driver Side

Vehicle exterior – Rear of Vehicle

Vehicle exterior – Front of Vehicle
Vehicle underneath/underhood pictures

Underhood

Underneath Vehicle Front

Underneath Vehicle - Center

Underneath Vehicle Rear
Interior pictures

Vehicle Interior - Dashboard

Vehicle Interior – Front Seats

Vehicle Interior – Rear Seats

Vehicle Interior – Truck / Cargo Area
Current team picture