Wish List

2009-2010 Season

As an organization given limits by the competition's regulating body, we fully understand that it isn't always possible to help through direct monetary means. As a result, we have created a convenient wish list of valuable parts that the team needs to maintain and even exceed its outstanding level of performance this year. Any one of these parts will be a significant contribution to the team and will vastly be appreciated.

Engine Dynamometer

Tuning an engine "by feel," as we have done in the past, is both suboptimal and time-consuming. A dynamometer would give the team a precisely controlled engine tuning environment. Tuning would be more consistent, more meaningful, and closer to optimum performance. It is an essential process of designing the car, and a dynamometer would help to ensure that all the resources put into the car are used as efficiently as possible.

Estimate: $7,500

Flowbench

A flowbench would allow the team to validate steady state computational fluid dynamic results. This would help the team quickly determine exactly how much combustion air will pass through components at a given pressure. With flowbench capabilities, the team could optimize each airflow component individually, significantly reducing design and tuning time.

Estimate: $2,695 plus shipping (SF-60 Flowbench, SuperFlow Technolgies Group)

4-Way Adjustable Dampers

Suspension adjustability allows for more control of vehicle performance, handling, and balance. The ability to tune the suspension gives better control over ride and handling, and it allows us to tune the car for specific track and racing conditions

Estimate: $2,400

Honda f4i Engines (2)

In previous years, engines were modified to fit the chassis. From now on, our policy is to use new, unmodified engines. A spare is also critical, so that an engine failure won't throw us out of competition.

Estimate: $1,200-1,500 each

Printed Circuit Boards

Penn's car incorporates more advanced electronic features each year. In order to implement traction control, launch control, and other advanced features on the car, a bus architecture, with multiple microcontrollers (each with its own board), will be used; about 20 microcontrollers will be needed for this task.

Estimate: $502 (PCBExpress, 25 2'x2' boards with solder mask)

MPLab ICD 2 Module

This module will help with both programming and debugging our microcontrollers. As previously mentioned, we are anticipating about 20 PIC microcontrollers on R&B VI in order to implement a variety of electronic features.

Estimate: $159.99 (DV164005)

More information can be provided upon request by contacting:

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