



Mississippi State University

X-cited!

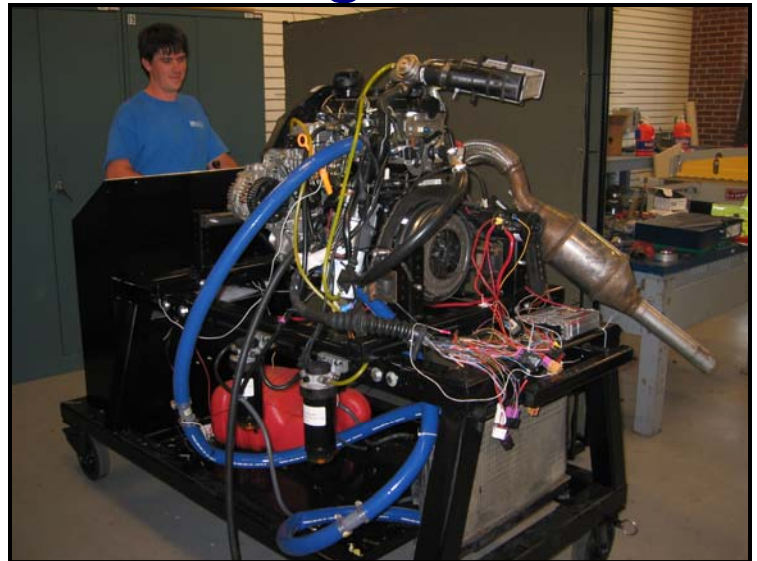
More Students Join Challenge X for Fall

Special points of interest:

- New students join us for Year 2, see adjacent article.
- See what each thrust is working on as the semester begins.
- Matthew Tucker is featured as this edition's Student in the Spotlight.

One of the best additions to the Challenge X program this fall isn't new tools, software, or even the new Equinox, it's the new students joining the team.

At a September 4 recruitment meeting, David Oglesby, team leader, gave a presentation to interested students explaining the competition and MSU's progress in the first year. Dr. Marshall Molen, faculty advisor to the team, also spoke to the students on how getting involved in Challenge X is beneficial to a student and could someday lead to job offers. Also attending the meeting were representatives for Mototron, one of the headlining national sponsors of Challenge X. One of the representatives took the time to speak to the students about his experience hiring recent college grads



One of the goals of this semester is getting the VW engine running, which Brian Christian attempts to do here.

to work for his company. He said that seeing something like Challenge X on a resume was a definite incentive in hiring someone.

In all, over 15 new members joined the team. One of the new students who joined after the recruitment meeting, said he was excited just to be able to become

Thrust Update Area: What are they working on?

Vehicle Modeling and Controls

We have been involved in debugging a new control strategy that we have developed. We are presently attempting to make a transition by moving our HEV control strategy from the PSAT environment to using MotoTron's capabilities to help us deploy our tested control strategy to configure a production-capable Electronic Control Unit (ECU) that can function as the main HEV controller.

We got the Ballard motor up and running and integrated into the hardware.

New Thrust Leaders: Jimmy Mathews and Kennabec Walp

Mechanical

We have mounted the engine to the test stand, removed the driveshaft from our Equinox. We are currently working on getting the VW engine to run. We got it to run for a few seconds, but now we have to work on getting the immobilizer reprogrammed to keep it running.

Thrust Leader: Brian Christian

Electrical

We are working diligently toward installing our Ballard drive. We are also preparing for upcoming workshops.

Thrust Leader: Ron Lewis

Powertrain

We have been working towards the installation of the Ballard drive in the rear of the Equinox. We will spend most of the semester finishing the modifications to the rear of the vehicle and preparing the Fiat for installation.

Thrust Leader: Christopher Whitt

Outreach Program

The outreach team participated in Engineering Day on September 24. Our booth was visited by many alumni and high-school seniors.

Starkville Daily News was here this week and will do a feature on Challenge X next week!

Thrust Leader: Amanda McAlpin

more familiar with how a vehicle works. "I have always enjoyed learning how things work," said Rob Cochran, a sophomore in Mechanical Engineering. "Challenge X seems like a way to learn but also a way to be a part of developing something that could be used in the future."

As the new members become familiar with the team and what is going on in the competition, previous members have a long list of things to accomplish for this year.

"Lots" said Kennabec Walp, modeling and controls thrust leader when asked about what the team has on their agenda for this semester.

"Some of our main tasks for this semester will be getting the VW engine running, to exchange the current powertrain

drive with the new one, and to redesign the engine cradle to fit the new motor. We also will have to interface the control strategy to the hardware."

With a goal of having the vehicle actually running by January, team members know they will have to stay busy this semester. The task might be made easier, however, with the addition of new members who will bring fresh ideas and enthusiasm to the team.

Atta-Dawgs

- Way to go **Brian Christian and Stephen Phillips** on bringing the VW engine to life!
- Good job **Electrical and Controls groups** on getting the Ballard motor to spin!

Welcome and Thanks to our Newest Sponsor!

Johnson Matthey

Upcoming Events

September 29-October 1—Challenge X Fall 2005 Technical Workshop—Good luck to Christopher, Brian, Ron, Kennabec, Jimmy and David who will be attending the workshop!

Students in the Spotlight

This column gives you a behind-the-scenes look at the students who are working on the Challenge X competition at MSU.

This week's student in the spotlight section features Matthew Tucker, a member of modeling and controls group. Matthew has been a key member MSU Challenge X team since the beginning of the competition, and has been there for everything from presenting at the Year 1 competition to participating in clean up day for the work area. That is why we chose him for this edition's spotlight.

Name: Matt Tucker
Hometown: Louisville, MS
Major: Mechanical Engineering

Matt has been a part of Challenge X since the beginning of the competition. He works hard as part of the controls and modeling thrust, but he also enjoys the times when being part of Challenge X means having a little fun. He describes one of the most memorable things about

being part of the team as a trip to Boston he took for a workshop last year.

"We got a behind-the-scenes tour of Fenway Park, and also had a lobster boil. They can really cook some lobster."

Matt also mentions many other benefits he gets from being part of the team.

"I am gaining valuable experience, not only working with GM's design procedures, but especially with working with a large group of people. I think it is very



Matt stands next to a stack of Michelin 'run-flat' tires donated for the Equinox.

valuable to be able to work with all of the other thrust groups. Of course, meeting numerous people at GM and the other companies sponsoring the competition is an added bonus. I have made many contacts that could lead to jobs in the future."

But it's not all lobster boils and tours of Fenway Park for Matt. Challenge X has its difficulties, too.

"Staying focused is a difficult part. During the first year, all we did was modeling, modeling, and more modeling. At the end of the day, you did not have anything you could look at and say that is what we did today. It was just a bunch of numbers in a computer. It is hard to keep motivation up like that."

Still, Matt is looking forward to the second year of the competition, when the team will get to finally put the things they have designed into a real vehicle.

"To know that we are building a vehicle that has all the controls that a modern car does plus quite a few more is intimidating at first. But I cannot wait until we turn the key after we have finished everything."

For newsletter suggestions or corrections, please contact Amanda McAlpin at amcalpin@cavs.msstate.edu.