

# Campus car to compete in "Baja"

By Lisa Noro

Seven enterprising engineering students are really getting into their "engine-ering." They are building a car and will race it in a major competition.

Every year senior mechanical engineering students are required to take a project design course which involves the creation of a major project. Most students propose an idea which must be approved by the instructor. In this case, engineering professor, Don Miller had the idea then interested the students.

"These seven students aren't just working for a grade with this project," Miller says, "but to compete in the 1983 Mini Baja East."

Miller explained that the "baja" was originally a race in the deserts of the West coast on supposed all-terrain" vehicles. "The vehicles used weren't really a.t.v.'s since they just rode on the desert sands," stated Miller. "Our's is truly an all-terrain vehicle, since it has to ride on mud, grass and even water."

The 1983 Mini Baja East consists of a two-day competition on May 5 and 6th at the University of Maryland. The vehicles will compete in 14 categories against similar entries from schools as far south as the University of Miami, to as far west as the University of Tennessee.

Last year the Baja was held at the Rochester Institute of Technology. There were 32 teams and over 300 participants. "This year we expect about 40 schools to attend the event. The main campus isn't involved, so we're the only campus representing Penn State," added Miller.

All participants must design and construct a one-person, all-terrain vehicle with more than two wheels on the ground.

**"Ours is a truly all-terrain vehicle."**

**Don Miller  
Engineering Professor**

One advantage is that an eight horse-power, four-cycle, air-cooled engine is provided for each entrant by the Briggs and Stratton Company. But, from there the students are on their own.

Safety is a major factor they have to consider. Some items that are required include a roll-cage, a kill switch, a chemical extinguisher, driver restraints, helmets, a firewall between driver and engine and a life preserver.

The competition will be judged in numerous categories, such as: consumer appeal, safety, design & creativity and post race in-

spection. In the field the vehicle shall be judged on weight, (the lighter the better) acceleration-top speed-and braking, land and water maneuverability, hill climbing, balance-suspension-stability, (over a flat, oval track of partially covered railroad ties) an endurance race, (a ten lap (10-15) miles) through hills, woods, open fields, mud and water) and finally, the cost.

The manufactured cost of the vehicle, (based on production of 4,000 units per year) should be \$1,350 or less. Included in this amount is the cost of the engine, but excluded are the costs of the required life preserver, restraint system, helmet and face shield. For every \$4.00 above cost, one point will be deducted.

**"Mini Baja is a wonderful opportunity for students to practice their skills."**

**Don Miller  
Engineering Professor**

Capitol Campus' Baja team consists of Rod Carson, Jim Cannon, Scott Gottshall, Mike McFadden, Ed Palmer, Dave Rishel and Jim Sein-Lwin.

Each student focused his talents on a different part of the vehicle. Jim Sein-Lwin's duty was to design the frame. "Eighty-percent of the design is done. Right now we're welding the frame together and testing it. I feel good about this project," he commented.

Dave Rishel also feels the vehicle will be competitive. "We've spent over 100 hours working on it and probably will spend much

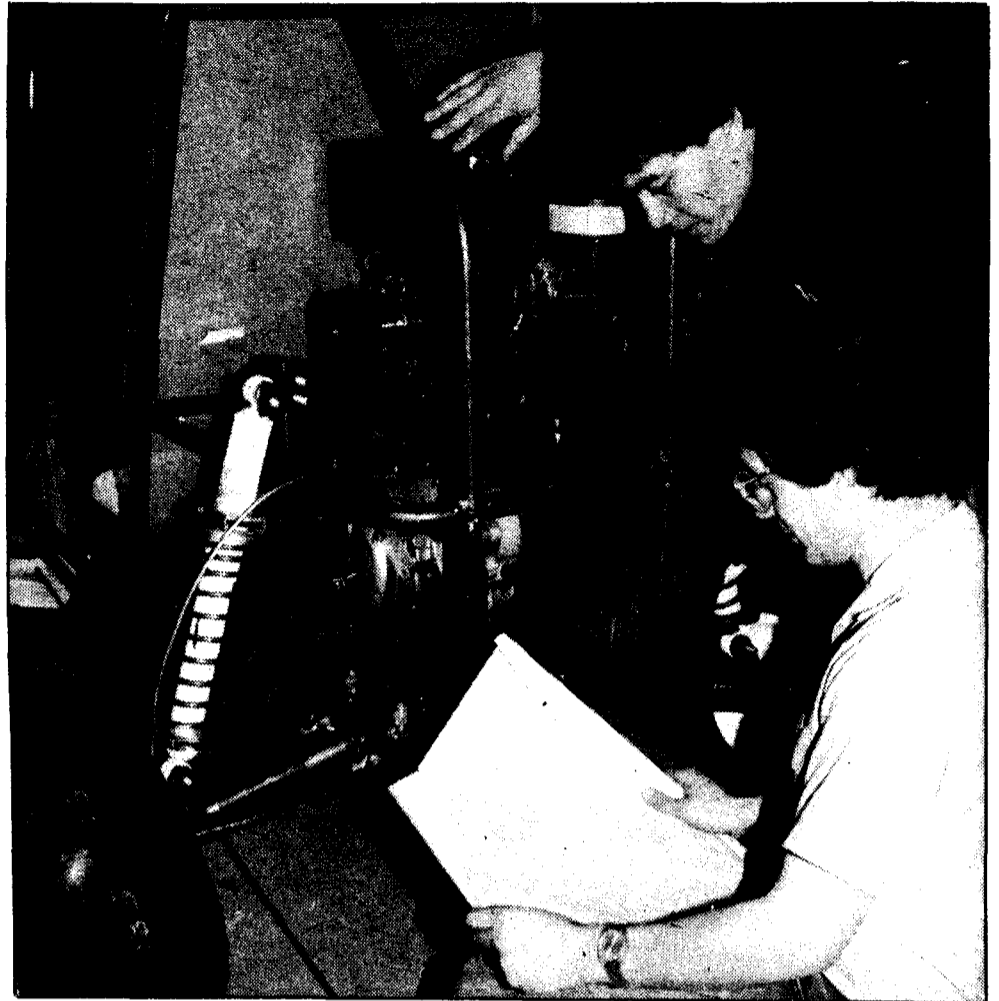


Photo by Joe Hart

more before it's finished."

According to Rishel the design of Capitol Campus' baja vehicle is a bit different. "We're using a motor-cycle transmission which may give us an advantage over a regular transmission.

Each of the students will drive the vehicle through some part of the competition. Answering a question as to whether driving ability may affect the outcome, member Rod Carson stated, "I doubt it. The vehicle cannot

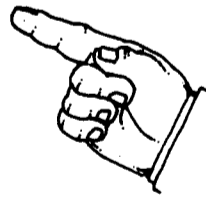
reach that high of a speed where driving ability (or lack of it) would be a factor."

Don Miller summed it by saying, "The concept of Mini Baja is a wonderful opportunity for the students to practice their engineering skills, to participate in a head to head competition with other schools, and to enjoy the fellowship of their own team members and that of other teams. Some people might view the Baja as worthless, but we feel it's a real challenge."

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