

Look out, Detroit — Here comes the Silver Bullet

By John Hubbard
Of the NEWS Staff

University of Maine seniors in the Mechanical Engineering Technology Department are still finding ways to perfect "Supercar," but the question of whether any of four projects will float will have to wait until Saturday morning for an answer.

It has become an annual tradition at the University of Maine at Orono to build proof that man can triumph over the challenges of land and sea travel, even over shortages of fuel, with man-powered vehicles. The resulting bicycle-boat-like contraptions might lead anyone to wonder if they were not the answer to why his Ford refused to start that morning — or maybe gave up the ghost in heavy commuter traffic at the end of the Chamberlain Bridge, to a chorus of angry horns behind.

After all, these UMO students will find jobs in Detroit and other places where cars are made.

A Thursday morning visit to the machine tool shop began with an introduction to a bizarre aluminum frame with bicycle wheels and styro-foam padding strapped to it. Four university seniors fiddled intently with the drive sprockets, which would be powered by two very athletic soon-to-be graduates.

The design and engineering project is to the undergraduate seniors what a doctoral dissertation is to the graduate student, but a lot more fun. Design and building efforts will be judged Saturday morning by members of the engineering department and there will be an endurance race around the university mall, followed by the water race.

If the machine should fail in its attempt to traverse both land and the Stillwater River Saturday morning, the students' grades might reflect that shortcoming. As one



CAR OF THE FUTURE? Jeff Dutton, Jim St. Laurent, Rick Loisel and Jim Gould work on the Silver Bullet preparing for final trials and the Satur-

day morning test that will determine, in part grades they get in their Mechanical Engineering Technology course. (NEWS Photo by Carol

member of the crew observed, "The captain goes down with the ship." Meanwhile, last-minute work to fine-tune the "Silver Bullet" continued.

"Phew! That smells good!" Jeff Dutton sarcastically commented as he brushed away the residue from a hellarc weld on one drive sprocket. A pungent, indefinably sour odor filled the the tool shop entry. The chain and drive did not line up correctly and the four were trying to find ways

to keep the bicycle chain from slipping off the sprocket.

In truth, it was the axle on which the bicycle wheel rode that didn't line up, explained Jim St. Laurent, a member of the team. Someone mentioned something about the Titanic just as Dutton had finished brushing the dust off the welding job. "Yeah," St. Laurent retorted. "But there's no icebergs here."

The idea behind the project involving about 20 seniors in the Mechanical Engineering Technology Department is to create an unusual design for land and water travel. It has got to be something that has not been thought of before. Each uses human power via bicycle chains, sprockets and wheels. And each, its builders hope, will float.

All have two things in common: They have bicycle wheels and aluminum frame members. All hold two drivers whose physical prowess will be responsible, to one degree or another, for the success of their team's project.

The most complex machine, in appearance and weight, is the Silver Bullet. The others appear to be more compact, even the one that is built on a modified canoe hull.

All of the materials have been donated by local companies, such as the Old Town Canoe works where a test hull, damaged at the company, was given to the team for its project.

As Thursday's work refining and redesigning wore on, the crew of the Silver Bullet, St. Laurent's group, began to pilot their amphibian out of the shop onto the pavement for a test run across the campus.

St. Laurent's team had their machine upright just in time to hear the sheet aluminium holding the foam in place rattle in the ominous, thundering way that loose sheetmetal does when disturbed. The foam blocks in the back settled onto the cement floor and the four stood transfixed, arms rigidly at their sides, as they thought of ways to correct the design.

After the repair, the Silver Bullet was taken outside for a ride down the street. Jeff Dutton and Jim St. Laur.

the running gear, audible over grumbling of aluminum sheet bled one of the designers.

Working with Dutton and St. Laurent on the project were Rick Loisel, Jim Gould, Pat Sherman and McEwen. Loisel stopped to examine the sprockets and chains and they were working on the steering mechanism, too, where a universal joint had to be adjusted. The joint made with the drive from a wrench, which fit inside a pipe tubing leading to bicycle handlebars.

Then it was off to the Stillwater River, across the campus, for a newly-designed challenge to gravity and conservation of energy.

After considerable discussion among the four members of the team who were available, a launch place was chosen and Dutton and Laurent joined in the effort to launch the three-wheeled monster on bank.

Dutton was last into the water after some discussion about weight. The craft immediately tilted toward Dutton's side and it was that the life vests were pulled on.

"You're taking your time? The water is not warm!" Loisel reminded Dutton and St. Laurent. According to Loisel, his feet were frozen in the river bottom. The foam block at the rear of the amphibian was submerged and some of the foam blocks in the back would float. The drivers tried their pedals built into two aluminum wheels attached to the rear of the craft and by a belt. The belt slipped a paddle wouldn't turn.

That was the Thursday morning test run of the Silver Bullet. In the end, the crew took the machine to the shop where more refinements would be attempted.

Professor Herb Crosby, of the Mechanical Engineering Technology Department had been wandering around the campus checking on progress Thursday morning, talking to the members and lending encouragement wherever possible.

Crosby smiled a lot Thursday morning. So did the students



WILL IT FLOAT? was the question that four University of Maine at Orono seniors in the Mechanical Engineering Technology Department asked as they hauled the Silver Bullet into the Stillwater River Thursday. Jim St. Laurent, Rick Loisel, and Jim Gould were among six members of a team who designed and built the amphibious vehicle for a senior thesis. And, yes, the Silver Bullet did float. (NEWS Photo by Carroll Hall)