



Working on an industrial robotic arm at the University of Michigan-Dearborn are (from left) John Bratcher, Professor Victor Syed and Howard Turek of Redford Township and Michael Christie.

## UM 'arming' industry

A small, versatile robotic arm is being developed for use in light-industrial automated manufacturing by a group of electrical engineering students and a professor from the University of Michigan-Dearborn.

The robotic arm is being built for less than \$8,000 with grant money from the Society of Manufacturing Engineers (SME) and funds from the U-M-Dearborn student government and department of electrical engineering, said project director Victor Syed, associate professor of electrical engineering.

Syed said his team's 25-pound aluminum, computer-controlled "arm" will prove to be more versatile and efficient for light-industrial use than expensive, less-adaptable robots now being used.

"IF WE DECIDE to market this it will cost less than \$20,000 including the

robot, the computer and the software," Syed said.

"A comparable one on the market today costs \$20,000 — and with ours, you don't have to redesign the robot if you change products, you just reprogram it."

Syed notes other features of the robot.

The joints of the "arm" can make a complete circle, and its speed can be programmed to assemble items smoothly while parts pass by on a conveyor belt, Syed said.

The arm can lift up to three pounds, which makes it suitable for light-industrial use.

"It's more versatile than a human arm, in a way," he said. "This capability to follow a path smoothly while matching the speed of a moving object hasn't been done before in a general-purpose robot."

SO FAR, the student team has completed the base, the main arm and the forearm.

The robot's reach is 31 inches when fully extended. The group plans to design and build an adjustable grip "so it can be programmed to pick up steel or an egg," Syed said.

The next step is to develop "eyes" for the robot which will allow the arm when programmed sequentially by its computer to differentiate between objects on the conveyor belt.

"The costs for that could easily run into \$30,000," Syed said. "We will try to get grant money for it this summer."

Engineering students who worked on the project include John Bratcher, a senior, who developed the computer software and electronics; Michael Christie, of Redford; and spring 1981 graduates Rosanne Mihm, Greg Gallinet and Howard Turek, who designed the mechanical aspects of the robot.

Thursday, June 11, 1981 (F-11A, (BWT)BA)

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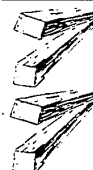
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