



Entertainment at the Chrysler-Plymouth display at the Auto Show features a mini stage show by the Alice Dysart Players.



The GXL model of the 1986 Mazda RX-7 comes fully equipped with a complete range of comfort and convenience.

U-M researchers help auto workers

Auto workers locked in a routine of stoop and stretch, bend and reach are becoming more comfortable, productive and safe in work stations that University of Michigan scientists helped design.

"The auto industry has had rising medical costs from injury and illness; they're often chronic rather than acute problems," said Don Chaffin, director of U-M's Center for Ergonomics.

"It's the wear and tear on the human body; problems such as tendonitis and back pain. It can tear people down early so that 20 or 30 years into their working lives, some become disabled."

Researchers in medicine, public health and engineering who comprise U-M's Center for Ergonomics have merged their talents to analyze the burdens placed on auto workers by the conditions under which they toil.

"TRADITIONALLY, ERGONOMICS (human factors engineering) has been concentrated on the product rather than on how the product is manufactured," said Chaffin, who holds joint appointments in the College of Engineering and the School of Public Health.

Halfway through a four-year, \$2 million research contract from Ford Motor Co., Chaffin and his team have inserted a number of innovations into existing automobile factories and have helped design some work stations at Ford's new Aerostar minivan assembly plant in St. Louis.

For example, a computer analysis of the St. Louis assembly line showed racks of engines elevated 17 inches from the floor would reduce strain and improve efficiency, so the work stations were designed accordingly.

"Anyone working here now that it's done would feel the improvement in their backs and their legs," said Ed Childrey, an engine assembly worker at the St. Louis plant. "There's a lot less bending, and it's faster work, too."

U-M researchers have entered 12 of the 30 plants in Ford's Body and Assembly Division and have ongoing studies at plants in St. Louis, Dearborn, Utica, Chesterfield Township and Wixom.

The U-M scientists recently began an analysis of cost savings realized by ergonomic innovations in plant designs.

GENERAL RESEARCH at the Center for Ergonomics has centered on ways to reduce stress to the upper arms, back and hands, wrists and elbows through studies of hoist designs and work place layouts to make materials handling easier and more efficient.

U-M's analysis of work place design is aided by a computer program developed at the university to simulate the effect of different designs on the health and performance of workers without having to build those designs.



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