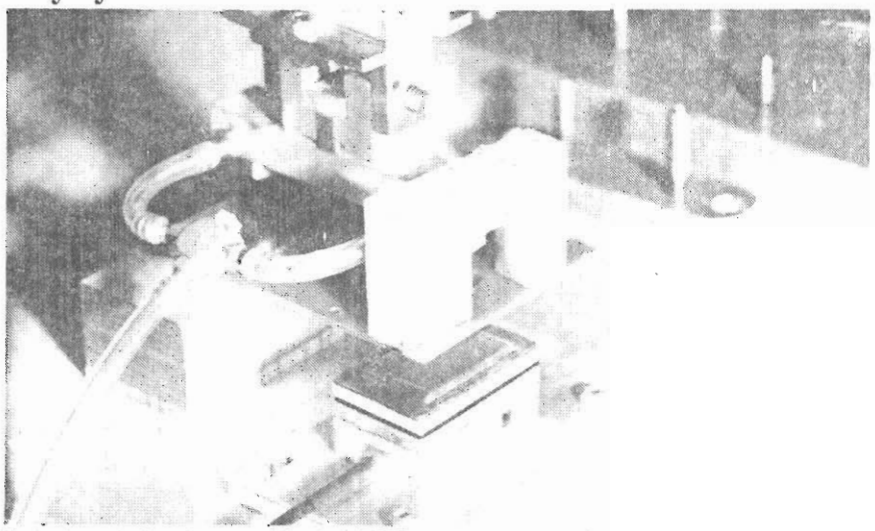
DESIGNEWS

Students design robotic assembly system

PETERBOROUGH — In a paper published recently by the Robotics International Association of the Society of Manufacturing Engineers, two students at Sir Sandford Fleming College describe a design for a robotic assembly system for printed circuit boards (PCB). The design by Dan Kohn and Alf Bowser uses a tactile sensor in place of a $30,000 machine vision system.

Kohn and Bowser created a successful demonstration work cell using a Seiko RT 3000 robot and Lord Corp. tactile sensor under the control of an IBM PC and Allen-Bradley PLC-4 for their sixth semester robotics class in the Electromechanical Engineering Technology program. Additional features they say could be added to the design are a bar code reader that would enable the cell to assemble different types of circuit boards without re-programming, and the addition of a pneumatic drilling head to the end effectors for automated drilling of the PCBs.



Robot end effector positioning PCB over sensor prior to placement on chip insertion pallette

Motor configuration reduces startup power

TORONTO — After 12 years of research and testing, technician David Walker has received a U.S. patent for a unique configuration of electric motors, gears and drive electronics that provides savings of up to 50% in startup power requirements. Transit systems, ice breakers and wheelchairs are some of the start-stop applications that could benefit.

Walker, who has endured suggestions of quackery, took a prototype of the design to the Innovation Center at Ryerson Polytechnical Institute in order to have its performance confirmed. According to Bill Taras, of Ryerson's Electrical Engineering Department, "Mr. Walker's own test results were crude. But our tests have confirmed the basic figures he brought to us."

When asked to speculate on the future of the invention, Taras raised questions about its economic feasibility. "It's a complicated gearing system, sort of a planetary gear system in reverse. The challenge will be to design it for both reliability and economy. As it stands now, a dc chopper drive can provide similar performance. Any application for this design will have to be carefully evaluated for its power consumption characteristics to determine whether there will be any savings."

Taking TIPS from the Production Show

TORONTO—The National Production and Machine Tool Show, long an institution in Canadian industry, is dead. That rather surprising announcement was made by Brian Boyle, show manager, Industrial Trade Shows of Canada. He hastened to add that a new show of comparable scope, TIPS (The Industrial Production Show) will immediately follow in its footsteps.

"We're retiring an old workhorse," Boyle commented. TIPS will be much more comprehensive, including sections for metal removal, metal stamping and forming, alternative materials, design engineering, and welding.

Boyle stated that the decision was customer-driven. His research indicates that potential exhibitors dislike the plethora of small, fragmented shows that seems to characterize the industrial trade show market today. "This is the only show that anyone will need to attend," he said.

The first show will be held October 11 to 14, 1988 at Exhibition Place, Toronto. ITS predicts attendance in the 15,000 range.

SUMMARY NEWS UPDATE

□ Canadian industry could save as much as $1.3 billion a year by correctly applying existing technology to lubrication problems. That conclusion comes from *A Strategy for Tribology in Canada*, prepared by the National Research Council's Associate Committee on Tribology. The science of tribology is concerned with the design and performance of mechanical parts such as bearings, seals and clutches in which surfaces interact.

□ Nova Scotia has taken a major step into high tech manufacturing with the opening of its $9-million Automated Manufacturing Training Centre at the Nova Scotia Institute of Technology.

BUSINESS BRIEFS

□ The SSS Clutch Co. of New Castle, DE has appointed Scott Industrial Inc. as their representatives for Ontario, Quebec and New Brunswick. The address is 5859 Ch. St. Francois, Montreal, PQ, H4S 1B6.

□ Due to increasing business, Kaybar Fluid Power Ltd. has made its first move, into larger premises at 1111 Fleet Road, Unit 15, Downsview, ON, M3J 3C7.

□ The Standards Council of Canada will be closing the offices of the International Standardization Branch Mississauga, ON, and moving the operation to Ottawa, where it will be consolidated with the National Standardization Branch. The re-organized Standardization Branch will remain at 350 Sparks St, Ottawa, ON, K1R 7S8.