

# Verma's unique machine puts P'kula on world map

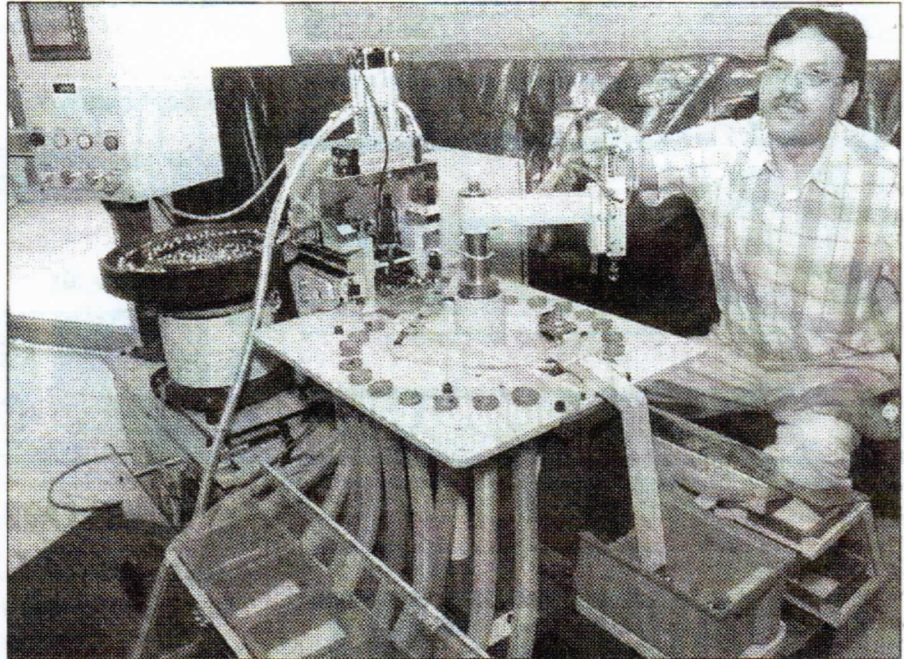
**RUCHIKA M. KHANNA**  
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Fourteen years ago he had started out with a small capital but determination to succeed in the field of designing machines. With clientele like General Motors, Suzuki, Subros, Gates and Phillips, and a Bharat Udyog Ratna award under his belt, Mr Hari Om Verma has brought Panchkula on the international industrial map.

Operating from a non-descript building in the Industrial Area here, this mechanical Engineer had won accolades worldwide for designing a simplified version of Crimping Machine (used for manufacturing power brakes), which has been adopted by General Motors in its manufacturing units all over the world. To add another feather to his cap now, Verma has designed a simplified version of an automatic shoe clearance checking machine for Subros, world leaders in car air-conditioning manufacturers.

This new innovation by Verma's company — Ramani Automation Systems — automatically checks the mechanical accuracies of an assembled car airconditioning compressors. The accuracies are manufactured within one thousandth of a millimeter (micron), with absolute results on a computer controlled touch screen. This is



**Hari Om Verma exhibits his automatic shoe segregation machine for AC compressors at his unit in Panchkula. A Tribune photograph**

for the first time that such a machine has been designed, claims Mr Verma. Until now, the shoes used in the compressors were segregated manually, requiring more time and workforce, and less accuracy.

"This machine is based on inspection standards of Japanese car air conditioner manufacturer — Subros. This tests the main parameters of any air-conditioner compressor — torque required to rotate the shaft for engine load, checking clearance between shaft and the end-bearings and checking the clearance between the rotary plate and bearing shoe slot of the five

pistons in the compressor one-by-one. These tests are done within 60 seconds of time per assembly. After all these tests, the complete data with readings in microns is displayed on the coloured touchscreen," explains Mr Verma. Various instrumentation gadgets such as laser sensors, safety light curtains, large size PLC controller etc have also been used.

Mr Verma was earlier an employee of Punjab Tractors Limited. A mechanical engineer by qualification, he quit his job to set up an independent unit more of a laboratory for designing machinery outsourced by

multinational companies. "My big break came in 1997, when General Motors gave me a design for a crimping machines. They had designed for four machines to make the power brake, which I simplified and included all functions in one machine. The officials of General Motors were skeptical when I sent my own design. Only a Britisher, Mr Barry Smith, liked my designs and gave me a go ahead. This machine reduced the time taken for making power brakes from 140 seconds to 28 seconds, thus also increasing production," he says.

ard's conduct

**F.S.P.I. union opposes**