

TELESIS TECHNOLOGIES, INC.

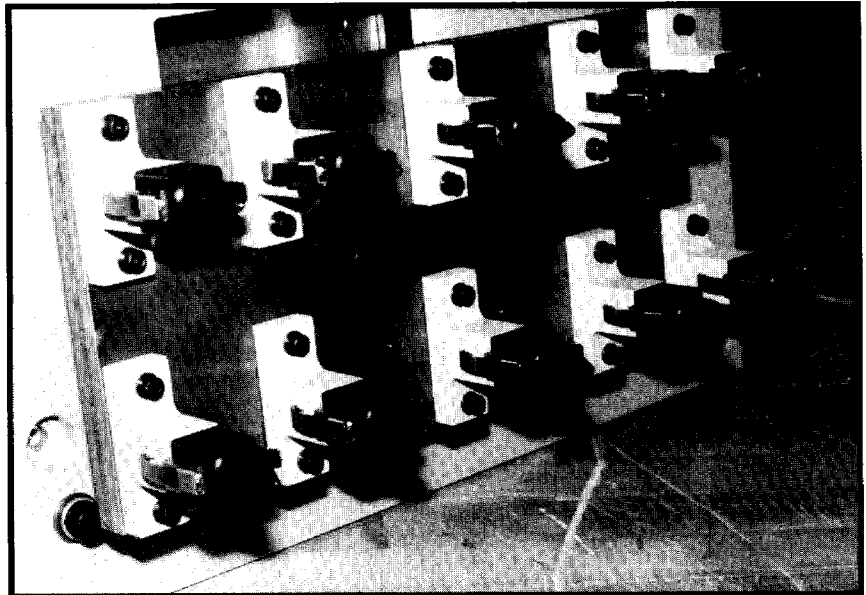
*Industrial Identification/
Traceability Equipment*

TMM7200 Adapted to Mark Ten Bearing Caps at a Time

One of the nation's premier machine tool builders and manufacturing systems integrators, recently built a flexible transfer system for a major American automobile manufacturer. Requirements included marking cylinder head bearing caps, ten at a time, on left and right hand cylinder head assemblies. They needed to mark all ten bearing caps with three, 3/16" high characters in less than six seconds. The short cycle time made synchronous marking of the caps necessary. The spacing of the bearing caps required an individual marking pin for each cap.

Telesis Sales and Applications Engineers adapted two PINSTAMP® TMM7200 Multi-Pin Marking Systems to meet the customer's specifications. The rugged TMM7200 systems include 10 single-pin cartridges with size 25L carbide pins spaced five across, in two rows. The controls for the systems are located in wall-mount style NEMA-rated enclosures. The left-hand and right-hand marking systems have mirror image pin locations and slightly offset pins, but are otherwise identical.

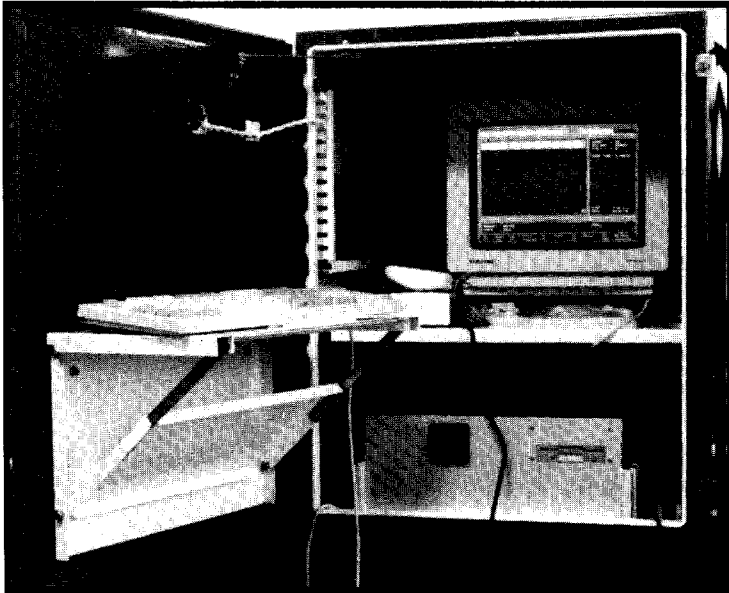
The marking head assemblies are equipped with large aluminum mounting plates that attach to the customer's flexible transfer system. When a cylinder head with the bearing caps attached comes to a marking station, the customer's mechanism moves the marking head over the caps from the side. When the marking head is properly positioned, a voltage input is sent to the



Ten single-pin cartridges are combined with a TMM7200 Marker to mark 10 bearing caps simultaneously

marking system controller to initiate a print cycle. The head assembly retracts to the start position each time a print cycle is completed.

The marking pattern consists of 3 characters for each of the 10 caps, including a numeral from 1 to 5 to indicate linear location; either an E or an I, which represents the two rows of caps; and a caret indicating orientation. The markings are necessary because, later in the assembly process, the caps will be removed for further assembly of the cylinder head. It is mandatory that each cap be replaced in the same location and orientation.



The controls are housed in a NEMA-rated enclosure.

So that the marking operation does not slow production, all ten caps must be marked in 6 seconds or less. The Telesis systems more than meet the requirement, marking all the caps in just 3.9 seconds.

This customer has worked with Telesis in the past to integrate marking systems with complex manufacturing systems. They knew they could count on Telesis to meet their marking requirements. The combination of wide spacing of the bearing caps and short cycle times presented a complex marking problem. The collaborative efforts of Telesis' Engineering Team and the innovative combination of 10 single-pin cartridges and the multi-pin TMM7200 provided the solution.