

**TELESIS**  
TECHNOLOGIES, INC.

Industrial Identification/  
Traceability Equipment

## TMM5000 With Special Clamps Allows Chrysler to Mark Mini Van Bodies in Two Locations

**Chrysler Corporation** manufactures their popular Dodge Caravan, Plymouth Voyager and Chrysler Town and Country mini-vans at plants in Fenton, Missouri and Windsor, Ontario. In order to comply with the new federal anti-theft policy, Chrysler wanted to mark the bodies of their mini-vans in two locations: the right front fender and the rear sill.

Normally, this would not be a problem, but the two VIN locations and orientations differ, and adjacent lips that the marker could grip for stabilization while marking are not in the same locations relative to the surface to be marked. The right front fender of the mini-vans needed to be marked on a horizontal surface, so a nearby vertical extension of the body near the marked surface was ideal for clamping the marker in place. Figure 1 is a schematic showing gripping and marking locations on the right front fender.

The marking area on the rear sill of the mini-vans is part of a vertical surface. Directly below the marked surface the body extends horizontally, affording a good grip location. This arrangement can be seen in Figure 2.

Telesis' Engineering Department customized a PINSTAMP® TMM5000 Five-Pin Marking System, giving it the versa-

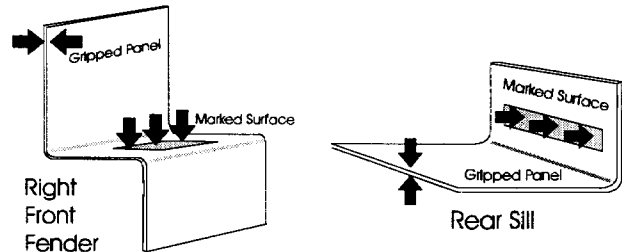


Figure 1

Figure 2

tility to mark in both locations on all mini-vans at the two plants.

The uniquely designed clamping mechanism makes the system work. It uses two double acting pneumatic cylinders, with 2 position 4-way spool valves, that clamp onto a right angle extension of the body either above or below the marking head. This arrangement works because the TMM5000 can be maneuvered to mark vertically in the case of the front fender, and horizontally in the case of the rear sill. Figure 3 shows how this is accomplished by rotating the marker.

The clamping device has an anti-tie-down feature that requires the operator to press two buttons on the pistol-grip style handles. This safety feature prevents pinching of the operator's fingers. This is particularly important since both clamps are activated simultaneously, leaving one set of clamps to close without attaching to the frame.

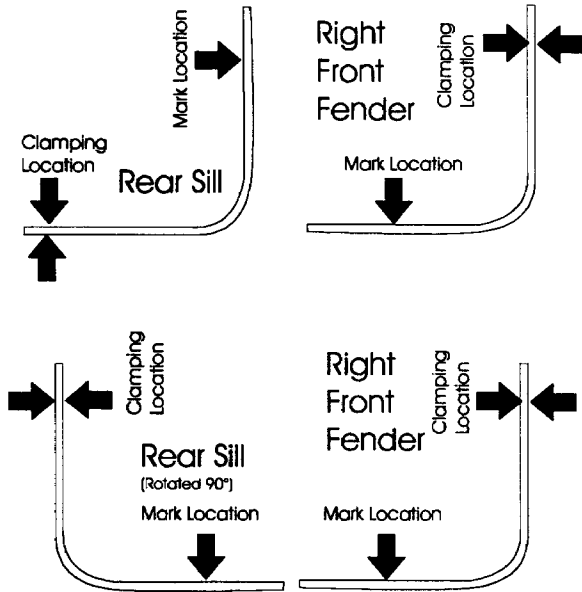
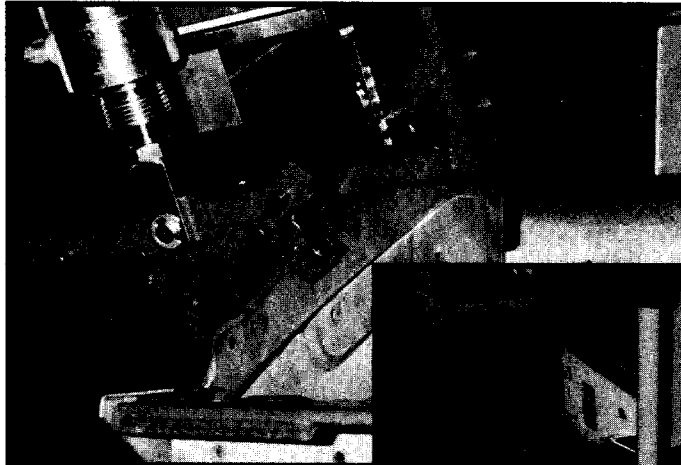


Figure 3

In addition to the pneumatically actuated clamping device, the marking system includes a NEMA-rated, air conditioned cabinet for the controls. The controls include the standard 486 computer, the TMC1000 controller for the marker, and an Allen Bradley PLC controller for the clamps.

The 17 character vehicle identification number is marked in about 4 seconds by the speedy five pin TMM5000. This allows time for a single operator to mark the two areas of the body without stopping or slowing the assembly line. The number becomes a permanent part of the body allowing Chrysler to conform to the new federal statute, and making it more difficult to resell stolen vehicles.



Left: The TMM5000 with custom clamping device grips the vertical lip to mark the right front fender of Chrysler mini-vans.

Right: The TMM5000, rotated 90°, grips a horizontal extension of the rear sill and marks the vertical surface.

