

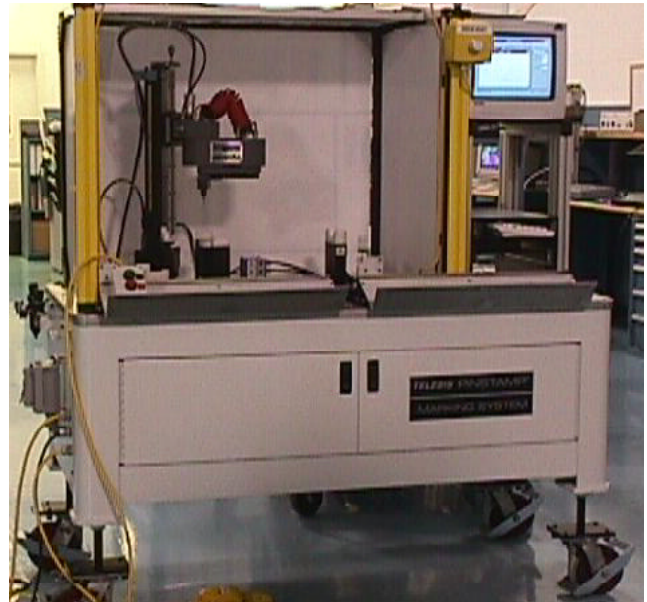
## **“Intelligent” TMP6100/700 System Matches Parts to Patterns and Directs Barcode Label Printer**

An automotive gear manufacturer needed gears of varying sizes with safeguards to part. They also wanted to send the marked ing system had to be portable so it could and worker safety had to be ensured.

signed a TMP6100/700 marking station to

### **The system includes:**

- TMP6100/700 Marking System
- Software that allows the system to download data to the barcode printer
- Mounting post with a motor-driven Z-axis drive
- Elevated shelves for the monitor and keyboard
- Custom-designed part nest with part present sensors
- Plexiglas® enclosure and light curtain to ensure worker safety
- Programmable Logic Controller (PLC)
- Custom machine base with casters for mobility
- Remote pendant with Start Print and Abort pushbutton controls
- Foot switch



**An integrated TMP6100/700 Marking System combines parts nests and sensors with custom software to match parts and patterns. Valid print data is then sent to the barcode label printer. The system, including automatic Z-axis mounting post, is mounted on a custom wheeled base.**

The part nest accommodates several different models of steering gear. Part sensors in the nest determine which part is loaded. These sensors interact with the PLC to lockout the marker if the loaded pattern and part in the nest do not match. The PLC directs marker head and Z-axis movements. Custom software sends the marking pattern data to a barcode label printer that rests below the monitor on the base. The TMC700 controller resides in the lockable base.

The light curtain, which is mounted on the sides of the Plexiglas enclosure is a safety

feature. When the light beam is broken by anything, particularly by an operator's hand, the marking cycle is immediately aborted.

### Sequence of Operations:

1. The operator loads the appropriate pattern.
2. The operator loads a part in the appropriate fixture orientation depending on the type of part. The nest contains sensors to identify the type of part loaded. If the pattern loaded and the part in the nest do not match, the marking system is not enabled.
3. The operator removes his/her hands from the area inside the Plexiglas® enclosure then presses the Start Print pushbutton or footswitch.
4. The PLC converts the input from the nest sensor binary code (BCD) signal and transmits it to the TMC700 controller.
5. The PLC verifies that the light curtain beam is unbroken, then sends a Print command to the TMC700 Controller.
6. The TMC700 compares the BCD input to the pattern nest parameter.
7. If the signals match, a print cycle begins the serial number increments (after printing), and the pattern data is automatically sent to the barcode label printer.  
  
If the BCD signal does not match the identified part in the nest, the system does not print, and the Error Reset button to the right of the light curtain lights.
8. The TMC700 directs the barcode label printer to print a label.
9. The operator removes the part from the fixture.
10. The operator places the newly printed barcode label on the packaging.

Telesis Custom Engineering Team designed a system to meet this customer's exacting specifications for accuracy, reliability, safety and portability. A unified design combining the TMP6100/700 with custom software, electrical and mechanical systems resulted in this unique marking solution.