AUTOMOTIVE SPINDLE INSPECTION SYSTEM

Automotive Spindle Inspection System

- **Division**
  CT
- **Market**
  Automotive
- **Customer**
- **Production Rate**
  240 parts per hour

System Description

The system is designed to inspect Automotive Wheel Spindle Hubs for cracks in critical areas and proper heat treatment in four different zones utilizing eddy current technology. Parts are presented into the machine via the customers existing conveyor. A rotary pick and place unit, with grippers, transfers them through four different stations and onto a customer-supplied conveyor.

The first station supports the part on tooling while a live center lowers into the part to secure it. The tooling then rotates, spinning the part. At this point, two servo controlled 3 axis manipulators, move eddy current probes along the part to scan the different zones for cracks. Once complete, the manipulators retract the probes, the parts stop rotating and the live center rises.

At the second station, the part is again placed onto tooling. This tooling moves the part away from the grippers, and then an eddy current coil lowers over it. At this point, four different zones of the part are tested for proper case depth and hardness. When complete, the coil raises and the part is retracted back to be picked up by the pick and place unit.

When the part is transferred into the third station, it again rests on tooling. Here another live center lowers into it to clamp it to the tooling. At this time, a vibrating tip marker puts a stamp on the part signifying whether it was rejected or accepted.

The fourth station is a reject station. Here if either of the first two stations rejected the part, it is pushed out of line and onto a reject track capable of holding ten rejects.

If the part is accepted, the pick and place carries it onto the customer-supplied conveyor where it is carried to the next process.