3D Inspection of Welds on Auto Steering Motors

Automated 3D inspection system inspects electrical contacts prior to a laser welding operation to confirm correct position and other dimensional data. After the contacts are welded, the system again inspects to assure the welds are acceptable.

Features:

- Use of high precision 3D scanner technology
- Advanced image processing techniques to evaluate weld topography
  A high precision 3D sensor provides micro level topography information of electrical contact pins.
- Image processing software evaluations the contacts and provides detailed positional data to a laser welder which then welds the contacts.
- The inspection system provides weld size and positional information to the customer's PLC for dispositioning.
- The system inspects motor electrical contacts both pre and post weld. Similar systems could be used for quality assurance in many weld operations where 2D systems might fail due to incorrect evaluation of welds (due to particle contamination, etc.).
- Cycle time is approximately 30 seconds per motor, but the inspection system requires only 2 seconds to scan and perform image processing. The remaining time is part handling by the customer's system.
- This solution can be used for a variety of automotive component inspection applications.