# Zetec Component Testing Solutions

**Uson's Custom Approach to Applications.** Uson has an application-specific approach for your inspection needs. Starting with your material samples and requirements for flaw detection, Uson designs and builds innovative test solutions. The entire solution is engineered to meet your specifications, from the first feasibility study through design, prototyping and manufacturing. Thorough quality testing is completed before installation at your facility.

**Free Feasibility Study Guarantees Results.** With a free feasibility study, your real samples are carefully evaluated for detection and test reliability before you make any commitments. Our application specialists have extensive knowledge in eddy current testing and can determine if eddy current is the best solution for your test situation. A formal feasibility report and cost estimate is forwarded to you for your consideration. Budgetary quotations are also available.

**Custom Designs Fit Your Process.** Uson designs are customized to your application. Let us help you achieve 100% quality inspection. For more information about Uson or our products, visit: **www.uson.com**

Uson's Zetec eddy current NDE solutions are the result of almost 40 years of market leading experience in safety critical industries.

The relationship between Uson and Zetec combines the non-destructive test experiece of two companies who understand the challenges faced in the manufacturing environment.


Uson

Uson LP
Component Testing Solutions
8226 Bracken Place S.E.
Suite 100
Snoqualmie, WA 98065
U.S.A.
Tel: +1 425-974-2905
Fax: +1 425-974-2897
Email: eddycurrent@uson.com
**www.uson.com**



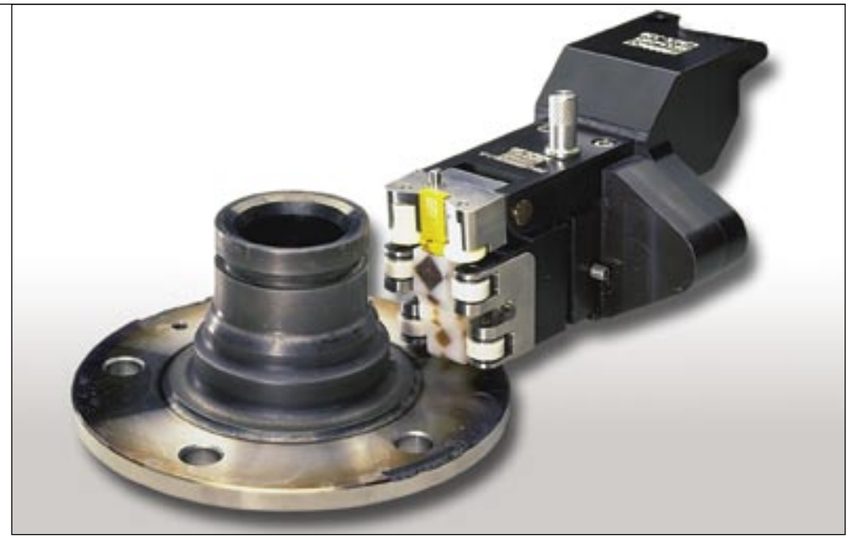
Printed in the USA


Uson

# In-Line Hub and Spindle Inspection Systems

## Catch Defects Before They Cost You Customers

- Achieve fast, repeatable in-line production testing of critical areas
- Cut the high cost of failure
- Meet increased quality requirements
- Lower warranty costs
- Fully automated, real-time process
- Test multiple critical locations simultaneously



## For in-line inspection with no room for error, fast and accurate eddy current testing is the solution.

This remarkable equipment developed for the nuclear power industry allows critical automotive components such as hubs, spindles and CV joints to be 100% tested for defects. Uson's Automated Hub and Spindle Inspection Systems can verify correct material properties such as hardness, alloy content and case depth. They can also detect pattern cracks, porosity, fissures or other surface flaws.

Until the development of eddy current tests for automotive hubs, spindles and CV joints, such flaws were only detectable with time-consuming X-ray, mag particle, dye penetrant and ultrasound procedures or costly destructive testing.

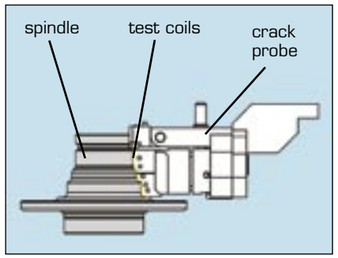
Even rigorous sampling can miss statistically unpredictable or previously unencountered defects.

In safety-related components where a high cost of failure exists, quality is of ever-increasing importance. Improperly heat-treated component parts can develop structural problems that dramatically shorten a product's life and can ruin an entire batch of finished products.

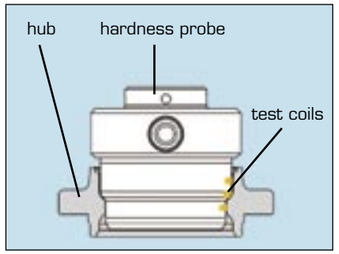
United States | United Kingdom | Germany | China

"We used to do 100% mag particle inspection. But since we switched to eddy current testing… That saved us approximately $900,000 in one year."

— Major wheel bearing plant engineer




Simultaneous testing of multiple critical locations on the spindle is possible.




For internal hardness testing, the probe is inserted inside the hub.

When Uson's Automated Hub and Spindle Inspection Systems are in place, every component can be fully tested in the production line without slowdowns. In fact, products can be automatically inspected on the factory floor after the rough machining and grinding stages and before adding more machining costs to the part. So, zero defects in production are not just a goal but also an affordable reality for manufacturers.

Whether it's discrimination of material hardness, heat treatment state, chemical composition, cracking or dimensional tolerances, Uson systems are built to meet your product specification requirements.

"Crack detection is now a lot more robust with increased throughput. That's important because we manufacture 5,000 to 6,000 units per day."

— Midwestern plant manager

**Crack Detection.** The Zetec +Point® coils are specifically engineered to detect flaws in critical areas on wheel bearing spindles. The probes are designed with replaceable coils that reduce the overall cost of ownership. What's more, multiple critical locations on the product can be tested simultaneously right on the production line.

**Hardness Testing.** The Uson Hub and Spindle Inspection Systems can test for proper hardening and heat-treatments during the manufacturing process with interchangeable eddy current probes. Conditions such as shallow case depth or misplaced case, delayed quench, short or no heat treatments, material mix and structural differences are quickly and easily detected on the factory floor. Uson's Automated Hub and Spindle Inspection Systems conduct real-time process validation without waiting for sample tests, cutting open parts or using dye penetrants.

**Manufacturing Verification.** The process of verifying quality at critical areas of hubs, spindles and CV joints may include determining the presence and accuracy of threaded holes, splines, and double broaching. The Uson system is fully self-contained and includes all aspects for parts inspection, material handling, motion control, data acquisition and network connectivity. A straightforward color display shows product parameters as they are tested, further assuring verification confidence.

Uson systems are self-contained with integral material handling and data acquisition functions.

Interchangeable probes can test for a variety of defects including improper hardening or heat treatment.

**Hub and Spindle In-Line Inspection Systems.** Uson can provide probes and instruments for specific quality assurance applications. Or, we can supply a complete turnkey operation. Uson automated systems provide full I/O capability allowing the separation of "good vs. bad" parts as well as the activation of paint markers and sorters. So, every defective unit is clearly labeled or sorted. In addition, our rugged and reliable eddy current test equipment can be mounted within environmental enclosures designed for harsh factory environments.

"Eddy current testing is faster, better and more accurate."

— Wheel bearing assembly plant engineer

**Perfect Instrument for the Job.** The powerful MIZ®-27CT is a state-of-the-art platform for the best in eddy current testing — containing the same electronic circuitry used for critical nuclear inspections. The MIZ-27CT can support multiple coils, which allow a single, unified system to inspect a number of critical locations with one test instrument. Four independent frequencies enable the MIZ-27CT to maximize the difference between acceptable and rejected parts.

During the manufacturing process, test data is shown on the MIZ-27CT's color display for simple data interpretation.