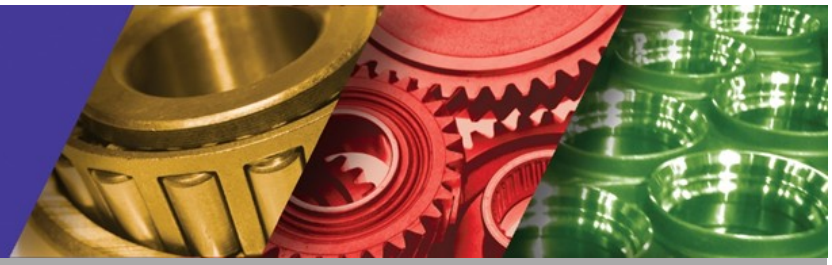

Test Type: Feature Verification

Case Study – Thread Inspection

Equipment: InSite HT, Thread Probes

Customer Problem

Thread inspections using thread gauges and vision systems are time and labor intensive. They are often used off-line as part of a batch sample inspection. A manufacturer of wheel bearings wanted to install a fast, clean and cost-effective test method for thread inspection – which was also 100% reliable. The customer also wanted a test that would identify the following conditions:

- Partial and damaged threads
- Oversized and undersized threads
- Broken Tap
- No hole
- Incorrect thread

Figure 1 - Eddy Current Thread Probe with SS Sleeve

The Solution

Eddy current technology provides a fast, clean way to inspect threaded holes. Eddy current probes are lowered into the threaded hole and the actual inspection takes place in less than a second. Multichannel instruments like the InSite HT are capable of running up to 8 probes simultaneously. Single channel instruments like the CR-11 can test one threaded hole at a time, but if combined with a robot can test multiple component holes extremely fast.

Figure 2 –Thread Probe

Figure 3 shows the four coil thread inspection probe and fixture developed by Criterion NDT. The eddy current instrument was interfaced to their production material handling system. A stainless steel sleeve was placed around each eddy current coil for longevity, and a spring loaded probe housing was developed for the test.

Figure 3—Eddy Current Multi-Probe Test Fixture

The eddy current thread inspection system provided a savings of approximately $100,000/year for each thread inspection production line. The inspection system paid for itself in less than one year with production savings.

For more information visit our website at www.criterionndt.com or call Criterion NDT at 253-929-8800.