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Quasar: Reinventing auto parts testing integrity

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An Albuquerque maker of equipment used to test automotive castings says an unreleased industry report confirms that its testing method is better than those now used by automotive parts suppliers.

Officials from Quasar International Inc. say they hope the report's findings will convince Detroit's top automakers to require parts suppliers to use Quasar's equipment as the new standard for quality testing.

"The industry is committed to the old way," says Jim Schwarz, president of Quasar International. "We've been in a battle to convince people we are right."

The report is based on data collected from an experiment comparing and evaluating Quasar's non-destructive testing equipment with conventional methods used for decades. The experiment is part of a larger effort by the U.S. auto industry to explore the use of magnesium as the metal of choice for casted auto parts because it is lighter and offers increased fuel efficiency over aluminum, which, years ago, replaced iron for the same reasons.

Because lighter metals react more with oxygen during casting, they present more challenges to manufacturers and automakers that need them to be dependable in order for their cars and trucks to be safe. Schwarz says that necessitates the very best testing of the parts for quality.

Experiments evaluating Quasar's equipment on aluminum castings were completed late last year. Magnesium tests should be completed later this year.

The experiment and subsequent report were overseen by the U.S. Council for Automotive Research (USCAR), a collaborative research entity formed in 1992 to help domestic automakers better compete against foreign companies.

USCAR is funded by the federal government as well as member companies. It is composed of representatives from the Big Three which includes Ford (NYSE: F), General Motors (NYSE: GM) and Chrysler, a division of DaimlerChrysler AG (NYSE: DCX).

Schwarz, whose company assisted USCAR in its experiment by providing equipment and technical assistance, also delivered a presentation on the experiment's results to USCAR. He declined to comment on the details of the report's findings because it is still being prepared.

"If I had made up the results I could not have made them more desirable for Quasar International," says Schwarz.

Bob Powell, senior staff research scientist with General Motors and leader on the \$1 million plus magnesium project, confirms that Quasar's equipment was included in the test. But he declined to comment on results because the report has not yet been released. "For better or for worse, their results will reach a broad audience," Powell says.

Non-destructive testing is used to look for faults or defects in castings that could compromise a piece's performance. Traditional methods have included visual inspection, X-ray analysis, ultrasonic imaging and dye staining.

But Quasar's method, which traces its roots back to Los Alamos National Laboratory, vibrates metal castings to determine their resonance frequency. That frequency is measured against standards and a part is either accepted or rejected. Instead of simply looking for the indication of a fault, Quasar's equipment tests a casting's structural integrity to determine if it is

defective.

"We're trying to replace visual inspection with structural testing and evaluation," says Robert Nath, Quasar's chairman. He says that not only does the experiment show that Quasar's method is superior, but that other methods tested are not as good as previously thought. He says that could be the real driver for industry change.

"(The report) showed that all of today's conventional methods do not predict how well that part will operate in a vehicle," Nath says.

Schwarz says testing can account for up to 10 percent of the cost of a part, not to mention blemished pieces that are rejected but are actually sound.

The size of the automotive castings market is huge. Schwarz says about 10 billion components are cast each year. Because one Quasar machine can test up to 1 million parts per year, the company could theoretically sell 10,000 of its units to parts manufacturers at a price of \$100,000 apiece.

To date, Quasar has sold about 100 units, mostly to parts makers in North America.

Quasar International was founded in 1992 and has been funded by revenues and investments. In 2000 it received a \$3 million investment from Arizona's Valley Ventures which maintains an office in New Mexico.

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