Testing the Micro Tester

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The Micro Tire Tester, manufactured by Tekonix Enterprise Inc. (TEI), of Minneapolis, Minnesota, is one of the newest entries in the inspection field for the tire retreading industry.

TEI built the first Micro in 1999. My introduction to the unit was in April 2000 at The World ITRA Expo in Nashville, Tennessee. The company tested several units during the past year, and U.S. retread plants using the equipment report excellent results.

TEI donated a Micro Tire Tester to the International Tire & Rubber Association (ITRA) Training Center in Louisville, Kentucky, where more tests on the unit's capabilities are being conducted. The unit arrived fully assembled and was operating less than five minutes after removal from the box, simply by plugging it into a 120 volt outlet.

The Micro does not have a spreader of its own, but it is can be used on virtually any type of spreader. It also can be used on tires without spreaders, provided the bead opening is wide enough to allow insertion of the unit into the tire. The unit is very portable with two wheels and a fold down handle that allow it to be pulled around the plant using only one hand.

Photo I - The Micro Tire Tester is a very portable unit with a fold down handle and two rollers, allowing it to be easily moved from one spreader to another in just a few seconds.

The scanning unit is extremely lightweight and can be lowered into the tire with one hand. When the switch is activated, the unit scans as the tire rotates, or the tire can be scanned by moving the unit back and forth inside the tire by hand.

The Micro Tire Tester at the ITRA Training Center is set up to inspect only radial tires. We found nail hole penetrations, open splices and even a thin liner created by a run flat condition on a zipper ruptured tire. The run flat condition was very obvious.

I'm not suggesting using this unit to check for zipper ruptures, but in the case of the tire we inspected, it did pick up an indication of broken wires in the tire sidewall.

The Micro easily found metal objects and nails embedded in the tread of the test tire even though they did not penetrate the tire. Equally as impressive, the unit found a liner penetration in a 26.5R25 earthmover tire, but the manufacturer said tests are still underway regarding the Micro's use on earthmover casings.

The Micro unit sells for $10,000 and comes with a two-year warranty. It is similar to the Hawkinson NDT in that the electrical pulse generator for testing steel belted tires is virtually identical. However, the Micro does not have the ability to spread the tire and depends on other equipment to open the bead areas to access the innerliner. The flash of the probe crossing the flawed areas and the sound of the spark are almost identical to the NDT.

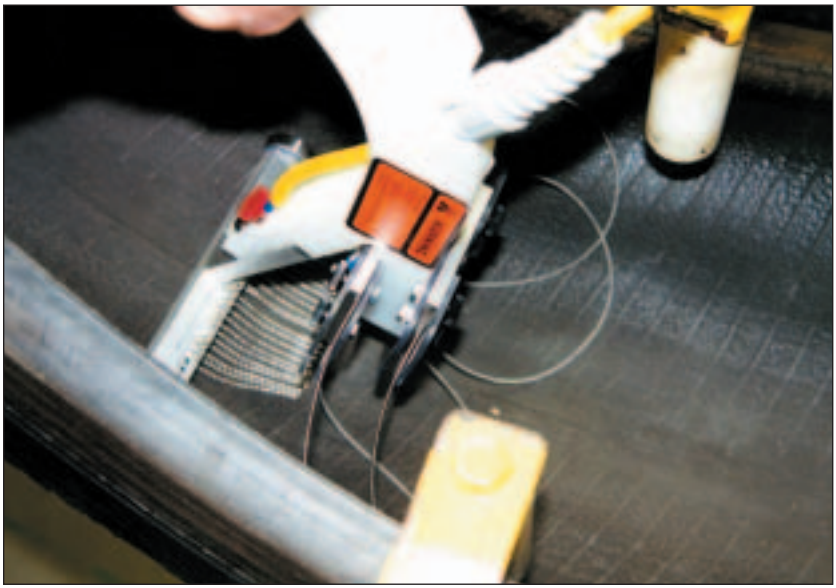

Photo II - The Micro can detect a nail hole penetration as well as an open splice.

The Micro is sold directly to users in North America by TEI.

TEI, in business for 23 years, has focused its efforts on the design and manufacture of tire testing equipment for the retread industry. In the late 1970s, it developed and patented ultrasonic tire testing technology that was sold to the AMF Tire Equipment Division.

In the early 1980s, TEI developed electrical pulse tire testing technology, and in 1983, TEI and the Hawkinson Company formed a joint venture to build tire testers. TEI licenced Hawkinson exclusively to use its patent to build and sell NDT's. TEI participated in the manufacture of the NDT and was a primary agent for customer service as well. This arrangement continues at the present time.

TEI can be reached by phone at 877-834-4638. To see this unit firsthand, visit TEI in Booth 527 at The World ITRA Expo. ■

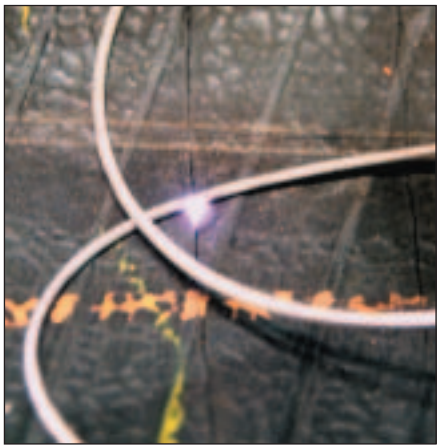

Photo III - A white or blue spark is visible when either the small chains or wire coils pass over an injury.

Photo IV - The Micro scanner is very lightweight (4.5 lbs) and can quickly and easily move in and out of a tire with one hand.