

## Ultrasonic/Eddy Current System for Automotive Shock Absorber Tubing



**M**agnetic Analysis Corp. has supplied an ultrasonic/eddy current multi-test system to inspect cold drawn welded tube being used in manufacturing shock absorbers at a plant in Monterrey, Mexico, built by Prosankin, formerly known as A-4C-Sankin. The plant's focus is production and sales of cold drawn tubes primarily for automotive use, although the test system is also designed to provide the future capability of meeting API 5CT testing requirement for oil country tubular goods (OCTG).

Shock absorbers are a critical component of automotive chassis. While they are commonly called "shock" absorbers, their function is actually not to absorb shock but to reduce and decelerate the vibrations of vehicle springs that are contained within the shock absorber tube – in effect, acting as a vibration dampener. Working

together, the springs and the shock absorbers provide the link between wheel suspension and car body, compensating for uneven road surfaces. Most cars produced in mass production today feature gas-filled shock absorbers. Accurate and thorough testing of the tube during its production is essential in order to prevent leaking gas.

The test system supplied by Magnetic Analysis Corp. to the tube producer utilizes two technologies for inspecting the cold drawn welded tubes during production – ultrasonic and eddy current. The 100mm Echomac® rotary ultrasonic test system uses 4 test channels to detect transverse defects, 4 channels for longitudinal defects, and 4 for measuring wall thickness. In addition, a Multimac® eddy current encircling coil test fulfills the API requirement for detecting a through wall drilled hole, representing a transverse

defect, required for some grades. The system is designed to run in an automatic mode, performing both the ultrasonic and eddy current tests, marking any defects and creating a record (chart, defect list, test parameters etc.) of each tube and batch, while keeping pace with the production line. Data from the tests is stored locally and can be transferred to the customers network.

The tubes range from 12mm to 100mm diameter with wall thickness of 1.5mm to 7mm. A new Water Package, designed by MAC, features a counter weight that allows the water box cover, including the attached heavy copper heat exchanger coil, to be easily raised up and remain in the open position for access during maintenance. The system includes automated drive mechanisms on a V-Roll Bench and a Demagnetizer for any residual magnetism created by the eddy current test saturation coil.

**Multi-Test System for Automotive Shock Absorber Tubing, & OCTG featuring 100mm ultrasonic Echomac® Rotary test and a MultiMac® eddy current tester.**

A-4C-Sankin was formed in 2015 as a joint venture of Grupo Prolamsa, a leading steel pipe manufacturer in Mexico; the Sankin Corporation, a manufacturer of cold drawn steel tube; and JFE Shoji Trade Corporation, the trading arm of Japan's second largest steel company.

**Jean R. Gould,**  
Marketing Manager  
Magnetic Analysis Corp.  
103 Fairview Park Drive  
Elmsford, New York 10523  
Tel: 914-530-2000  
Email: [jgould@mac-ndt.com](mailto:jgould@mac-ndt.com)  
[www.mac-ndt.com](http://www.mac-ndt.com)

## FC Laser increases capacity with new 10kW laser



**P**recision laser cutting specialist FC Laser has installed a new 10kW Bystronic fibre optic laser centre which is capable of cutting materials as thick as 30mm with incredible accuracy. Two more identical machines are to be ordered over the coming months.

At the same time, the company - which celebrated its fifth birthday in early June - has taken on undergraduate Swarrendeeep Samra on a 12-month internship. His main responsibility will be to get the absolute best productivity levels out of the Swiss-made machine and the others that will follow. He will also look at overall process improvements across the company and at problem-solving in many different areas. With an in-house specialist capable of maximising what the fibre optic lasers can achieve, FC Laser can move even further ahead of its nearest competitor.

The new 10kW laser is 40% more energy efficient than its predecessor so FC Laser will be able to boost its productivity while

reducing its energy costs. Also, the machine is as easy to operate as using a mobile phone. With just a few swipes across a touch screen, the operator can sort job lists, assign cutting parameters, define the automation mode and start the cutting process.

FC Laser's General Manager Steve Connolly says: "Speed, accuracy, quality and maximum uptime - the new Bystronic machine is literally at the cutting edge of laser technology and it is so easy to use."

He adds: "When the other two machines are installed we will be in our best position yet to meet the requirements and demands of our expanding customer base."

FC Laser recently announced a record year - with 30 per cent growth in 12 months - and a move planned for 2018 to a new 20,000 sq ft factory. The company was also recently accredited to the ISO 9001:2015 quality management system.

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