

# USL Ultrasonic testing systems for industry

## *News March 2015*

# JEC



### **JEC Composites Exhibition**

We are exhibiting at the JEC Composites exhibition in Paris on March 10, 11, 12th at Porte de Versailles in Paris. Please come and see us on Stand S70.

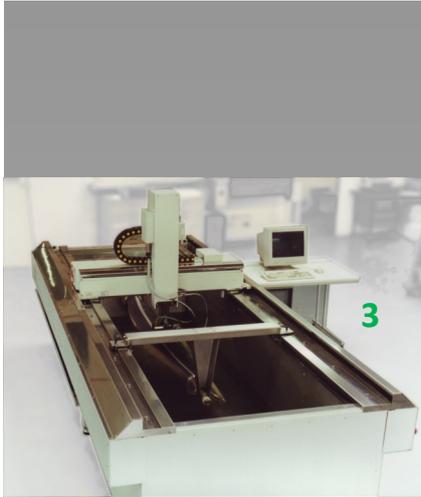
### **Large forging system nears completion**

An immersion C scan system for inspection of forgings (Figs 1 and 2) is nearing completion in the USL factory. The scanner is designed for inspection of roto-symmetrical forgings on a 1.1 metre turntable and for other shapes when positioned on a removable support framework. The system has 6 axes (X, Y, Z, A, B, R) and a scan envelope of approximately 3.5 x 1.3 x 0.8 metres. With the integrated contour following capability it will be able to inspect a wide range of forgings in steel, nickel, titanium and aluminium based alloys.

The turntable has self centring jaws which are adjusted from a hand-wheel which is positioned outside the tank at a convenient height for the operator.

The system will be mainly used for C scan imaging with the standard USL multi-gate capability in addition to programmed contour following of both turntable based and more complex forgings. A secondary amplifier is provided for back-wall monitoring purposes.

For operator convenience an access platform is provided around three sides of the scanner, with the operator working from a desk at one end of the platform. The system will be installed in a new factory currently under construction in UK.



### New orders for composite inspection systems

We have received orders for three immersion systems for inspection of complex composite components. Two of them are similar to the system shown in Fig 3, which was first installed in 1997 primarily for B scan inspection, using full RF waveform acquisition and processing. At that time the computer and graphics technology available made this a difficult and unusual task. Things are a little easier now and since then we have installed multi-axis systems for similar composite inspection applications. The new systems are required for pulse echo inspection only, but machines have been supplied for composite parts with simultaneous through transmission and pulse echo inspection from both sides and also with full waveform acquisition.



### System calibration

Calibration of ultrasonic systems has become a significant part of USL activity in recent years, not only for systems that we have manufactured, but also for third party manufactured equipment. This includes systems with electronics manufactured by Midas, Meccasonics, SDI and others. Standard calibration is carried out in accordance with EN12668-1 but testing and certification to other standards such as ASTM E1324, CSIM-1, RPS705, ASTM E317 and Airbus AITM6-0013 is possible.

We have calibrated systems throughout the world, including Australia, Malaysia, Japan and most European countries.

In support of this the USL Calibration Quality system is certificated by British Standards Institute according to ISO-9001:2008.