



Before



After



Before



After

Who We Are

Originally founded in 1952, Nicol & Andrew serviced a critical need within the on site marine repair sector. Since that time our emergency on site repair work has expanded significantly and we now provide many specialist services across all industry sectors.

In June 2010 Nicol & Andrew started offering a Metal Stitching service and became the UK representative of the: -



Metallock International Association Ltd.

This association has enabled Nicol & Andrew to use the Metallock stitching process for cast iron, steel, aluminum & other alloy repairs.

Contact Us

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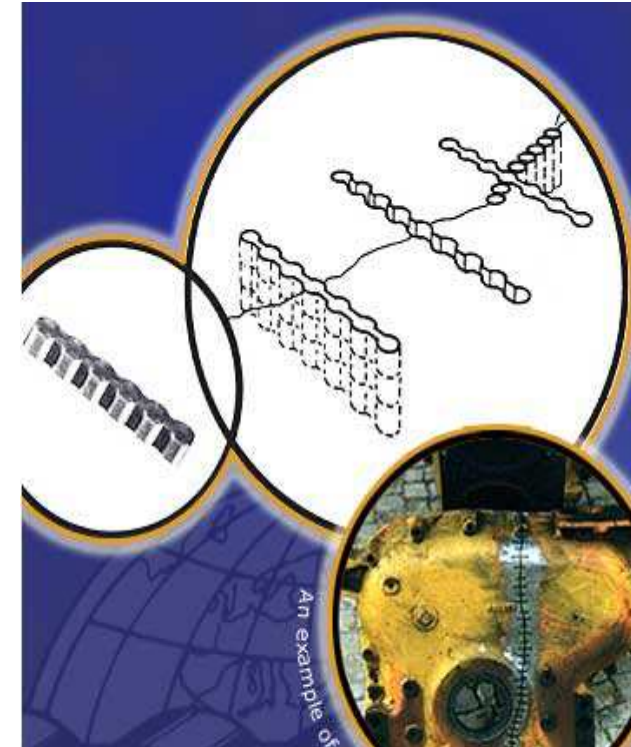
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NICOL & ANDREW GROUP

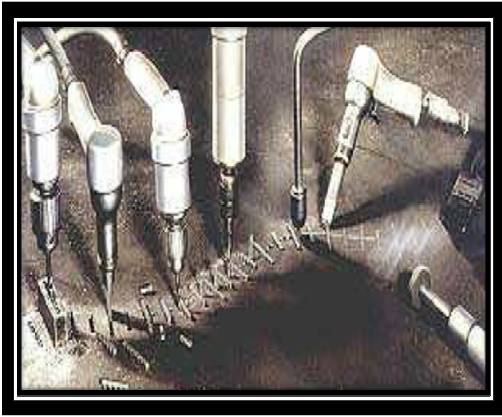
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**NICOL & ANDREW
GROUP**

**Metal Stitching
On Site Machining
Laser Alignment**

**ISO 9001 2008
Approved**



Stitching a crack showing tooling used

Metal Stitching Process

1. The fracture, after a survey and report has been presented to the customer, is positioned, realigned, and firmly held together by special fixtures and clamps.
2. By the use of special Jigs, groups of holes are drilled across the line of fracture to the tool depth of the casting.
3. The Metallock Key is a multi-dumbbell shaped section of highly ductile alloy, the size and length being selected to suit the type of the fracture.
4. The holes are then joined by the use of pneumatic chisels to conform to the shape of the Metallock Keys.
5. Individual layers of Keys are inserted in the apertures and peened into a metal-to-metal condition, which becomes almost integral with the parent metal.

6. Holes are then drilled along the line of the fracture, then tapped,
7. Then filled with studs.
8. Each stud bites into its predecessor, resulting in a pressure-tight joint and restoring rigidity to the casting.
9. A Metallock stud is an important aspect of the Metallock process, bearing in mind that pressure repairs are often required.
10. The studs are then run down until the heads shear, any remaining rough metal being removed by pneumatic chisels.
11. The whole repair then receives treatment from hand grinders.
12. Then a final coat of paint.

“We employ fully trained & accredited technicians who pride themselves on their quality, attention to detail & outstanding customer service”



The New High Wycombe Factory



Damaged press after metal stitching repair

Main advantages of a Metal Stitching process:

- ✓ Dampens and absorbs compression stresses
- ✓ Provides a good ‘expansion joint’ for such castings as cylinder liners, diesel heads or any vessels subject to thermal stresses
- ✓ Distributes the tension load away from fatigue points
- ✓ Maintains relieved conditions of inherent internal stresses where rupture occurred
- ✓ Maintains alignment and original surfaces, since lack of heat produces no distortion
- ✓ The vast majority of repairs can be done in situ, with consequent savings in time with little or no dismantling
- ✓ In a volatile environment this is an ideal method of metal repair including Aluminium & Steel