A Case Study

Metal Stitching

Background To The Metal Stitching Repair

One of our customers had an engine block with a cracked (main bearing cap) stud hole. Nicol & Andrew were approached to see if our casting repair technique could salvage the block.

Survey Findings (Libya)

NDT checks showed extensive cracks radiating from the stud holes in two positions. Local metal stitching would obviously have been of insufficient strength. We suggested that “in our experience” the best repair method would be to cut out the whole of the main bearing pocket and to metal stitch in a new one.

How We Carried Out the Repair

We drilled a series of holes around the damaged pocket conforming to the shape of the new insert. We removed the damaged portion, then carefully positioned, restrained and metal stitched the new insert into place. (We manufactured the insert in our workshops in the UK).

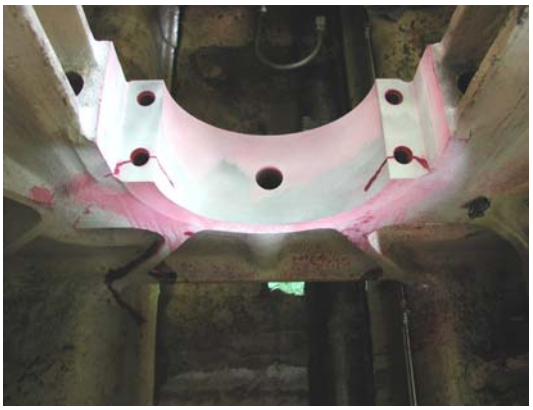
After stitching we carefully hand ground and dressed the surrounding areas to blend in seamlessly with the original.

Precision Line Boring To Standard Size

We set up precision line boring equipment referencing the existing undamaged pockets either side. We then line bored the new pocket out to the original size and OEM tolerances.

Timescales

Design and manufacture of the insert took 12 days. The on site metal stitching and boring process took 7 days. The engine was then reassembled and ran without any problems.



Damaged Main Bearing Cap Stud Hole

Main Bearing Pocket Section Removed

Inserting The New Pocket

Finished Repair After Hand Dressing

Call 0044 (0)7000 667483

Part Of the Metalock International Association

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