

## Press Information

### CRACKED FORGING PRESS CROSSHEAD LIVES ON, THANKS TO METALOCK REPAIR

Casting repairs to a cracked forging press crosshead that Metallock Engineering carried out for Somers Forge were originally designed to be of a temporary nature while the company waited for a new crosshead to be delivered. In the event, the repair was so effective that the new component was never used.

Metallock Engineering was asked to give its opinion on the 200mm crack on the crosshead underside of one of the company's 3000t forging presses at Haywood Forge and was able to offer a metallock cold process repair but with no warranties, due to the crosshead being of cast steel construction.

Somers had already decided to progress with a weld repair and had consulted the Welding Institute for the correct procedure. A prominent welding company was called in and followed all the relevant procedures. However, during the cooling process following completion of the weld, two new cracks appeared on the side of the crosshead from top to bottom.

Metallock Engineering was asked to assist with the new problem and devised a metallock repair followed by regular inspections thereafter. Following an NDT inspection the crosshead was marked out for milling to accept "masterlocks" to restore strength to the crosshead. Seven rectangular masterlocks were used, three of which were double masterlocks to provide increased strength. These were located at strategic points across the fractured component. To save time, Metallock Onsite Machining department engineers used a portable milling machine for the masterlock apertures and once machined the special steel masterlocks were inserted and secured in place with dowels and studs. Finally the surface was peened and dressed.

To enhance the repair it was agreed at the design stage to fit specially made tie rods. Anchors for these extended the full depth of the crosshead and the nuts for the tie rods were secured by locking pins to prevent movement during forging production.

As a new crosshead had been ordered, Metallock inspected the repaired component on a weekly basis until it arrived. However, this was never used, such was the effectiveness of the Metallock repair. Eventually, the forging press was sold to an overseas company with the repaired crosshead intact and the new as a spare.



*The Metallock repair was enhanced by fitting tie rods. The repair was so good that the new crosshead was never used*

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