Baker & Provan Engineering News

Heavy Engineering & Reclamation Specialists

April 2007 Newsletter

Service and Repair of RAN Cranes and Davits

Baker & Provan has been manufacturing and servicing Royal Australian Navy cranes and davits since the late 1980's. In that time, Baker & Provan now services and maintains approximately 41 davits and cranes in total on the following class of RAN ships/vessels

- ANZAC's
- FFG's
- Mine hunters
- HMAS Manoora and Kanimbla
- HMAS Sirius

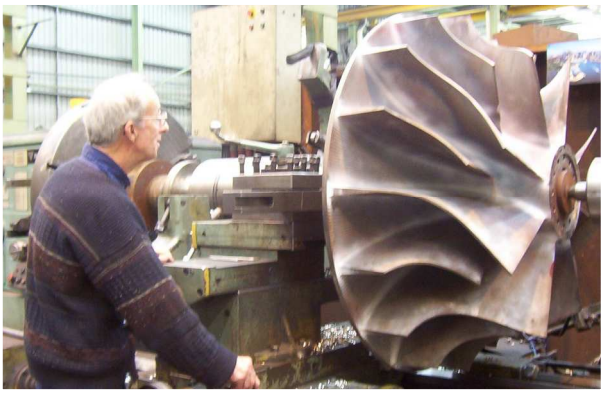
In the recent past, Baker & Provan also delivered a couple of winches on HMAS Manoora and HMAS Kanimbla, which were upgrades of existing winches in lifting capacity and features for the stern door.

With the amount of servicing, repair and general assembly requirements that Baker & Provan performs, Baker & Provan has recently invested in creating a cleaner fitting environment away from the general workshop. While the fit out of the dedicated fitting bay is underway, it is expected to be completed in the next few weeks. The pictures above show HMAS Anzac crane and one of our apprentice fitter/machinists John Mason-Trinnie "carefully" disassembling parts on the HMAS Parramatta Cranes (ANZAC Class) in our dedicated fitting bay - still under development.

12 Metre Lathe Attracts Interesting Work

Baker & Provan's 12 metre lathe comes in handy for all sorts of interesting jobs and the job in the picture above right with the large impeller is no exception. This impeller is a ventilation fan for a mine in Western Australia. What makes this job interesting is that the impeller's operational speed is approximately 4,000 rpm. Now while that isn't as fast as other blowers and impellers, it is quite fast when noting the OD is around 1.4 metres in diameter. Also, as these impellers have very high stresses on them, to achieve the strength requirements they are milled from a solid block of alloy steel (by the OEM out of Europe).

Baker & Provan's role was to carefully separate the shaft from the keyway which was seized onto the impeller. The shaft was first turned down on the lathe by Peter McDonald (pictured) to be cut off. Then the seized section was milled out very carefully, removing minimal material from the impeller's internal diameter. The impeller was then TIG welded and re-machined. During this entire process, our customer had their Quality Inspector, who'd flown in from Europe to oversee the repair procedure. As any shortfalls in the workmanship would be quickly found out when rotating at 4,000 rpm, hence the customer's close inspection.



NuBuilt Reclamation – Bogie Casting Repair

The bogie below had the liner bush on the centre pivot point wear through to the housing. The customer suggested welding as the repair procedure. However, an alternative repair procedure was required for this bogie where it was a single casting. Metal spray was considered as an alternative method of repair, albeit briefly. Baker & Provan suggested that an insert be locked into position without any welding and machined back to specification. This method of repair maintains the capability of the bogie and avoids any heat being applied into the aged material, providing the best possible technical solution at a competitive price.

This process was accepted by the customer and the repair was successfully completed, with the customer satisfied with the new repair process.

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HEAVY ENGINEERING & RECLAMATION SPECIALISTS
Contact: Steve Zakaria, Direct Line: 02 8801 9022
Business Development Manager
Email: szakaria@bakerprovan.com.au
Web: www.bakerprovan.com.au