



Rear wheel spindle and drive train maintenance underway on a 400t payload dump truck (supported by Hedweld's Trilift XC30).

New LaserBond® Deposition method offers superior REMAN parts made in Australia.

Large dump trucks are used extensively in the Australian mining environment. The CAT 777 is a common mid-sized off highway dump truck and a characteristic off highway vehicle used in mining. Wheel spindles are a high wear high cost component that can readily be remanufactured but not within Australia until now. With the downturn in mining there is a growing number of dump trucks 'parked-up' awaiting maintenance overhauls. By using our laser cladding to reclaim these - and other high cost components - significant time and money can be saved on waiting for new or replacement parts.

The Problem:

Fretting of the bearing surfaces, damage to the drive splines and contamination can all lead to drive spindle failures. When a truck is not in active service ('down time') this represents lost capacity within the fleet of trucks, and decreasing efficiencies. The process of remanufacturing these complex, load bearing, safety critical components needs to be carefully controlled. Quality is an extremely important consideration for this type of work. Sometimes unsuitable repair processes like welding or thermal spraying are used which can compound the problem further.

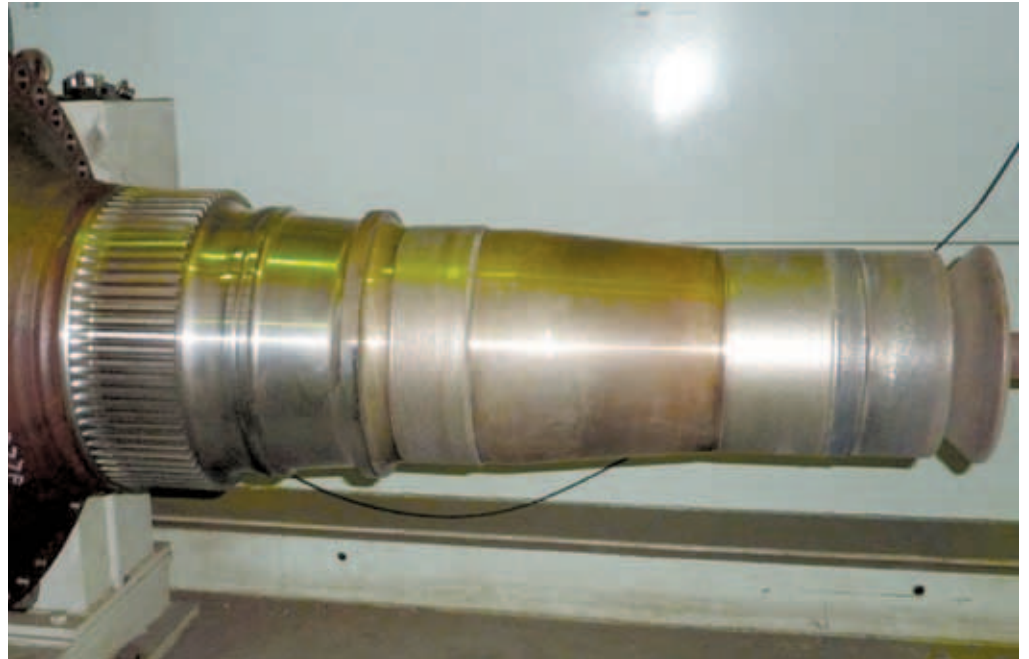


((left) Wheel spindle bearing journal fretting and spline damage before LaserBond repair.
(right) Delamination of previous spray repair.

After benefits and feedback

The Solution

LaserBond uses the same laser cladding process used by OEM's like CAT to rebuild worn or damaged surfaces. The metallurgical bond allows applied layers to be used in high impact, heavily loaded situations with no risk of spalling or separation of the overlay. The infinite controllability of the laser energy allows minimisation of undesirable thermal decomposition of hard phases such as carbides, resulting in decomposition, dilution of substrate and distortion effects associated with other repair methods.



CAT 777F wheel spindle after Laserbond deposition of the bearing journal surfaces.

Key Benefits

- Faster component turn around means less service time for fleet equipment – overall increase in operating efficiency
- Machine availability improved with increased OEE and less maintenance
- Cost savings over OEM replacement parts
- Better outcome for environment - less waste, lower carbon footprint



The CAT 777F dump truck spindle ready for shipping back to customer.

Feedback

The customer commented: "Now we don't have to pay and wait for new parts or overseas REMAN. LaserBond offers a better than new replacement part at a fraction of the cost."

About LaserBond

LaserBond Limited is an Australian engineering company specialising in surface reclamation and engineering, precision machining and fabrication. LaserBond manufactures, repairs, reclaims and enhances the performance of high wear, critical metal components in a range of capital intensive industries including mining, minerals processing, energy, agricultural, transport, steel, aluminium, marine and manufacturing sectors.