Case Study

INDUSTRIAL GEARBOX BEARING REPAIR

MACTECH
ON-SITE MACHINING SOLUTIONS

Project Description

The customer spun a bearing in a large gearbox resulting in 2 broken studs, broken gear teeth and an untrue bearing bore. Mactech removed 2 broken studs from the gearbox so the bearing cap could be bolted back on and undercut. We then undercut the bearing bore, built up weld material in each half, and machined back to size.

Mactech On-Site Field Machinists take pride in being leaders in industrial gear box bearing repair.

Mactech's Role in the Project

The studs were drilled out and removed, the existing bearing cap bolted back on, and a laser inspection performed on the box for bore location after repair. We built up weld material for the bearing bore, then finish machined it to original spec in the correct location.

Mactech's Value Added to the Project

Mactech was selected and directly contacted because we had performed a similar repair elsewhere in the same mill with outstanding results. Additionally, there was a lack of companies available with the ability to perform the same caliber work. We provided the added comfort and confidence of knowing the bore would be located correctly through laser inspection. We could also advise them where the shaft lines were in respect to each other.

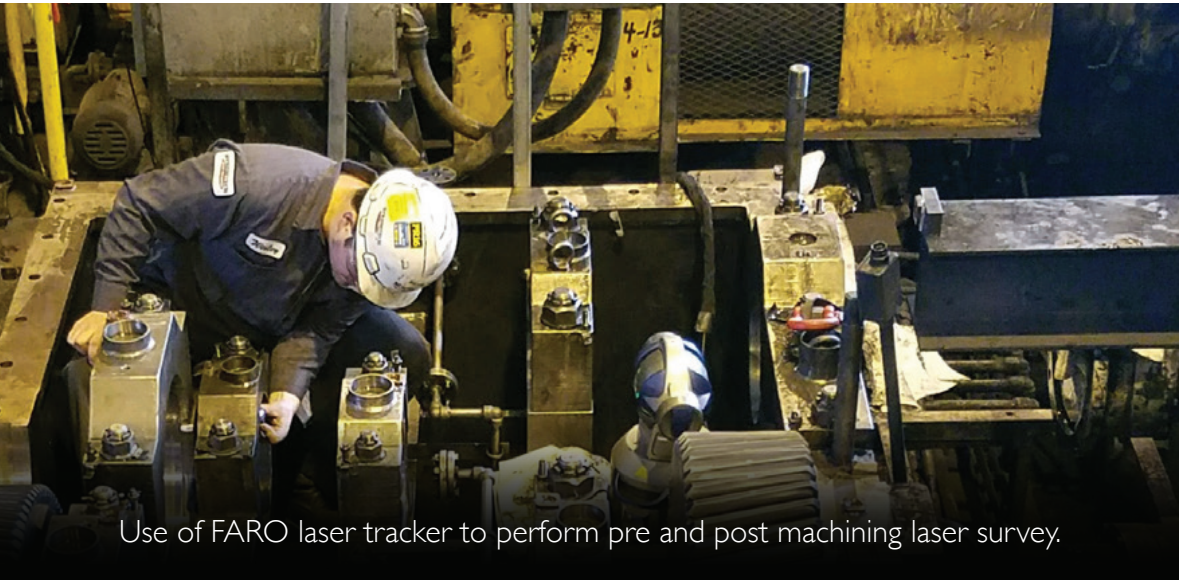
Alternative Methods Considered

To the best of our knowledge, no other methods were as efficient.

Machining bearing bore to original spec in the correct location.

Steps to Job Completion

1. Remove broken studs
2. Install existing bearing cap
3. Perform laser survey and report to the customer
4. Install and align boring bar to clean bore before welding
5. Weld build up of material in bearing bore
6. Finish machine bearing bore to original size using laser inspection for proper location according to customer specifications
7. Final survey and report



Use of FARO laser tracker to perform pre and post machining laser survey.

Challenges & Advantages

The most complicating factor was the amount of clearance inside the box. Our boring bar just fit into the envelope needed. The box was also a tight fit for the laser equipment. On top of equipment clearance issues, our technicians also had to work within the provided space.

Equipment Used

- 4” X 8’ boring bar setup
- Laser tracker
- Mag drill

Important Job Statistics

- The bore was 6” long and 11” in diameter
- About one hour per cut with 7 cuts

Results

We machined the bore to customer specifications for both diameter and location.

We create final surveys and reports to insure customer satisfaction on every job.

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tools AND technicians tailored to meet the needs of the industry

WE ARE
adaptable for *any* circumstance

WE FOLLOW
a "Solutions" approach

WE CREATE
quality, reliability, innovation

EXPERIENCE
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Talented techs with a wide array of field machining experience

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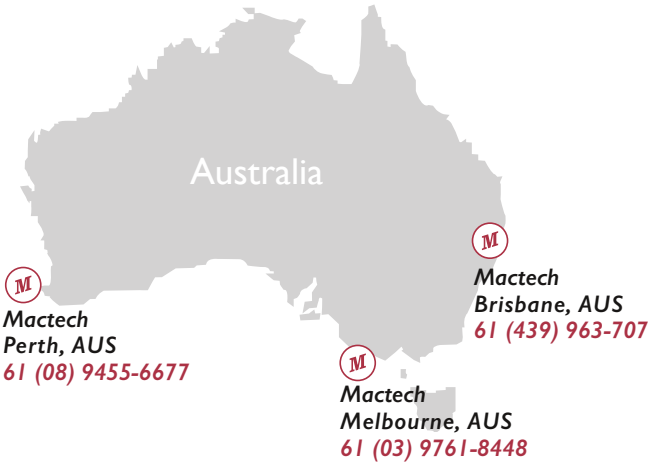
Tooling and equipment can be customized for a specific job quickly

TRAVEL
Worldwide support
Experienced Traveling Technicians

MACTECH LOCATIONS

For more information on contacting your nearest sales agent, contact us at info@mactechonsite.com



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