

# MACTECH

## CASE STUDY

### PROJECT: INDUSTRIAL GEARBOX BEARING REPAIR

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'S ROLE:

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.

### EQUIPMENT USED:

- 4" x 8' Boring Bar Setup
- Laser Tracker
- Mag Drill



Industrial Gear Box

### MACTECH'S VALUE ADDED TO THE PROJECT:

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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:

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

### STEPS TAKEN TO COMPLETE JOB:

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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



*Using FARO laser tracker to perform pre and post machining laser survey*

## CHALLENGES AND ADVANTAGES:

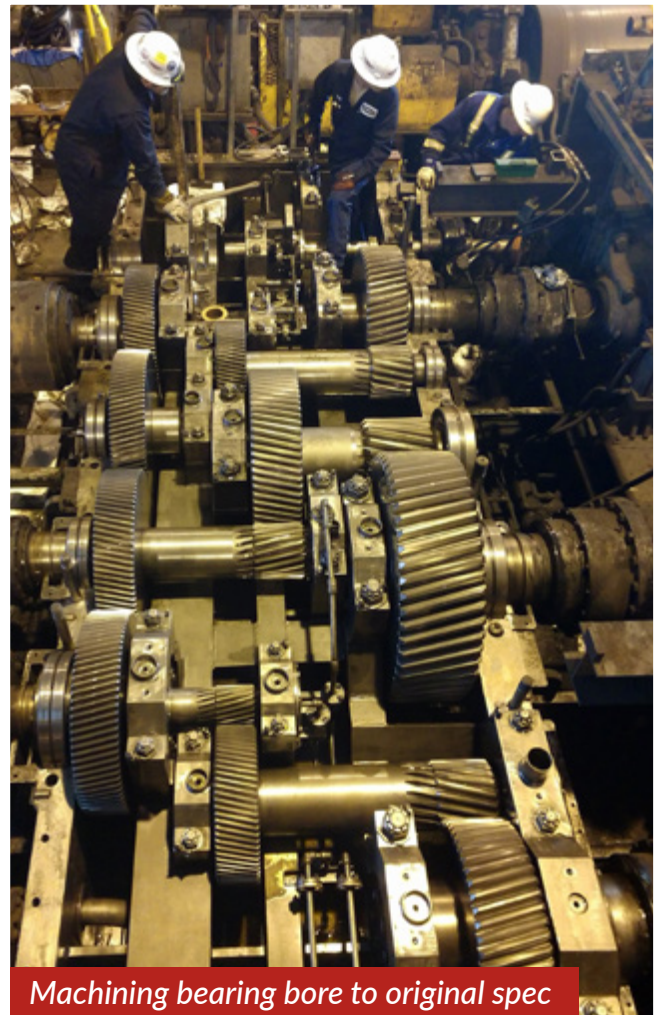
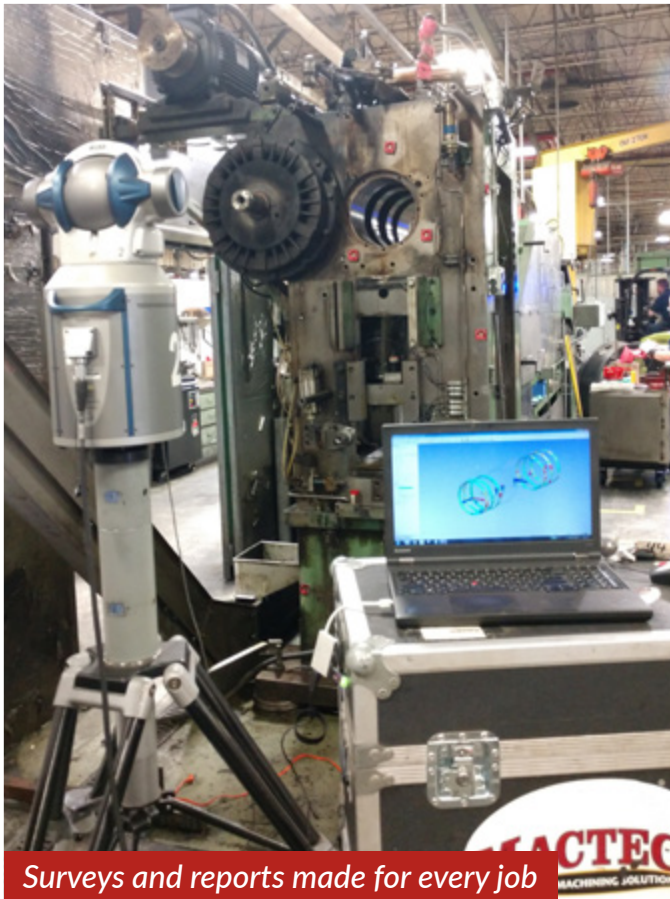
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The most complicating factor was the amount of clearance inside the box. Our boring bar just fit into the envelope needed. The box was also a tight fit for the laser equipment. On top of equipment clearance issues, our technicians also had to work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

## IMPORTANT STATISTICS:

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



## RESULTS:

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

### THE INDUSTRY LEADER IN FIELD & OFFSHORE MACHINING SOLUTIONS

*Mactech is the leading global provider of machining tools, technologies and on-site & off-shore solutions for the industrial machining industry.*



**EXCEPTIONAL PEOPLE AND EQUIPMENT**



**PASSIONATE CUSTOMER COMMITMENT**



**EXPERTISE FROM EXPERIENCE**

## RENT FROM MACTECH



### **COST EFFECTIVE**

Renting is less capital intensive than a full product purchase



### **HANDS-ON EXPERIENCE**

Your team gets a chance to handle the equipment before making a purchase decision



### **FLEET MAINTENANCE**

Access to a fleet of products that are maintained and ready to go

### **WE HAVE AN EXTENSIVE FLEET OF RENTAL MACHINES AVAILABLE:**

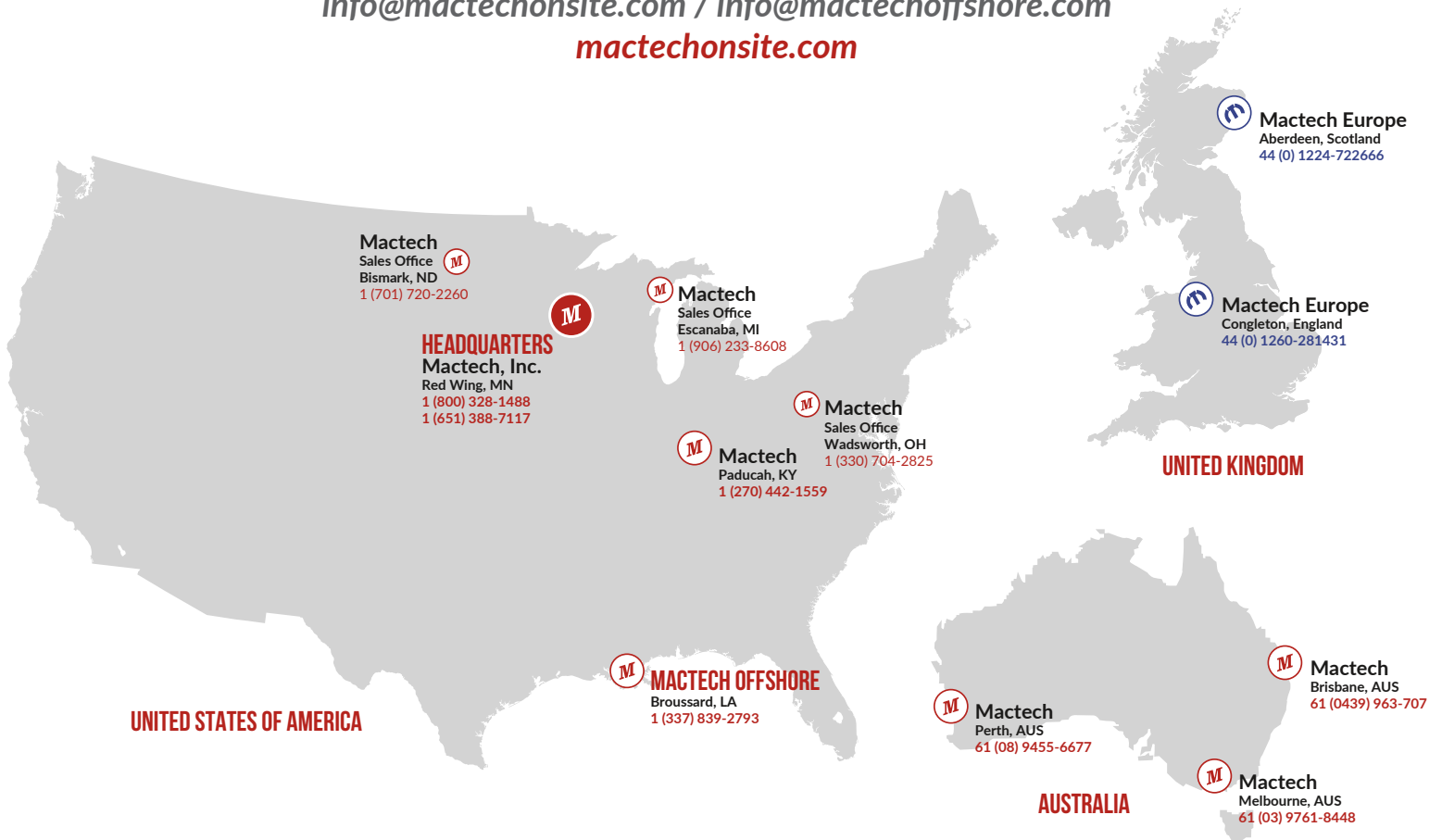
- ▶ 200+ Clamshell pipe cutting machines 2"-110"
- ▶ 40+ Diamond Wire Saws
- ▶ 100+ Portable Drills - up to morse #5 taper
- ▶ 25+ Flange facing machines 1" - 240"
- ▶ 10 Shaft lathes 1"-24"
- ▶ 30+ Line boring machines 3/4" - 10" diameter
- ▶ 50+ Portable milling machines - XYZ, gantry, boring

# MACTECH

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## MACTECH LOCATIONS

For more information on contacting you nearest sales or rental agent, contact us at:  
[info@mactechonsite.com](mailto:info@mactechonsite.com) / [info@mactechoffshore.com](mailto:info@mactechoffshore.com)  
[mactechonsite.com](http://mactechonsite.com)



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