

## CASE STUDY

### PROJECT: ON-SITE ANGLED DRILLING

Customer had a gear box that needed to be spot faced approximately 1" and 6MM holes drilled and tapped to 1/4" NPT at a 45 degree angle.

### **MACTECH'S ROLE:**

Mactech proposed designing, fabricating, and mounting a custom fixture in order to properly position tooling to be able to drill, counterbore, and tap two holes at 45°

### **EQUIPMENT USED:**

- Custom Fixture
- Compound Slide





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

The ability to design and manufacture a custom fixture in-house to use existing bolt patterns on the gearbox for mounting and drilling at the proper angle.

### **ALTERNATIVE METHODS:**

Disassemble the gear box and send the necessary components out for machining.

### **STEPS TAKEN TO COMPLETE JOB:**

- 1. Engineer and fabricate custom fixture to mount on existing bolt patterns and accommodate compound cross slides
- 2. Mount and align fixture to the gearbox in place
- 3. Drill and tap instrumentation holes





### **CHALLENGES AND ADVANTAGES:**

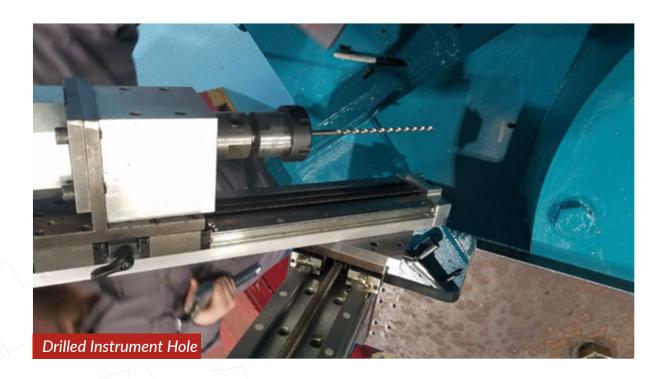
There was not an off-the-shelf fixture to perform this work. Mactech had to design a bolt-on fixture to locate the drill spindles on the centerline. Different tooling was purchased to meet clearance issues as well. Mactech was able to mount the fixturing using an existing bolt pattern.

### **IMPORTANT STATISTICS:**

Specs called out holes at a 45° angle and 131mm depth.

### **RESULTS:**

Customer was extremely happy with outcome of this project. The work was completed as quoted and came out under budget.





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