



## Spiral Welding & Onsite Machining

### Boat Lift Shaft Repair

**THE STRENGTH TO PROTECT**

#### Background

We were recently approached by a successful family run company who specialise in tugs and workboats to support them with an urgent boat lift shaft repair.

The growing company have supported the marine sector since 1971, delivering a range of services including harbour and coastal towage, vessel charter for marine civil engineering, diving and dredging and they were looking for specialist onsite machining support.

#### Scope

The request for assistance was to repair a boat lift shaft which was the housing of two large wheel bearings.

Due to a collapsed wheel bearing, the shaft had sustained damage. Furthermore, the shaft was heavily pitted and corroded as a result of the boat lift spending long durations in salt water during the execution of lifting and loading vessels in and out of the sea.

#### Solution

Following initial inspection of the boat lift shaft at site, we recommended that the shaft dog leg would be removed from the boat lift and transported to the Fortress Energy machining workshop in Ellesmere Port.

Upon arrival, the shaft was further inspected, and a full report was developed to capture all pre-machining measurements and document the condition, outlining the damage. The repair process then began with heat treatment of the shaft to allow the Fortress Energy Fabrication team to weld up both parts of the shaft where the bearings would be placed.



# Local and skilled. Global and strong

## Solution

On completion of welding and NDT, a highly skilled machinist machined each section down to the required measurement. Both sections of the shaft were machined and the measurement was achieved within tolerance using a Climax Clamshell machine with an Axle feed slide.

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## Results

After all machining activities were complete, the shaft was collected by the client. The leg was placed back on the boat lift where the bearings were fitted along with the wheel.

