

Speedy containership repair

It should have been a regular scheduled day for unloading of container cargo. However, when a Panamax container vessel was waiting to berth outside a US port it faced a rudder steering failure.

The vessel's crew reacted immediately and captured a video of the top of the rudder stock through an inspection port. This determined the reason why the rudder was not responding. The rudder stock was broken at the cone, and the rudder blade had dropped by approximately half a metre.

Crucial decisions had to be made fast. Should the vessel go for drydocking, requiring it to be towed a much longer distance and risking losing the rudder blade at sea, or should she go with an afloat repair solution?

Replacement only option

A decision was made to stay – a decision that turned out to be a speedy and cost-saving solution. With assistance from a tug, the 294m-long container vessel was manoeuvred into an inner anchorage.

Subsea Global Solutions was assigned the afloat disassembly task (see page 58). MarineShaft has worked with this company on several projects, and knew how experienced it was with this type of emergency job. The company removed the 110-ton rudder in the water, which required tremendous cooperation and experience, and everything went by the book.

With the rudder blade and stock ashore, it was brought to a local workshop, which is when MarineShaft got involved.

A broken rudder stock and a damaged pintle left replacement as the only option.

Short delivery time

MarineShaft was able to offer a delivery time of only 15 days. This short delivery time was only possible because MarineShaft had the raw material in stock – with class approval and ready to be cut and machined as soon as the order was received. The order also included the manufacturing of a rudder stock lower hydraulic nut and a new pintle nut.

Having solved plenty of complete repair solutions, MarineShaft offered its total packing service solution to the client – including rudder alignment, in-situ machining, blue fit test, and final reinstallation and control measurements.

MarineShaft's mobile machining equipment was urgently sent to the location in the US, followed by four of MarineShaft's service engineers. The work onsite was performed by two teams of two service engineers working in shifts around the clock.

The new rudder stock was delivered with 4 mm oversize and the pintle with 10 mm oversize on the cone





The new rudder stock was delivered with 4mm oversize and the pintle with 10mm oversize on the cones. The reason for this was to have sufficient material to machine in the rudder blade cones and be able to adjust the rudder blade cones if any misalignments were measured.

24/7 work

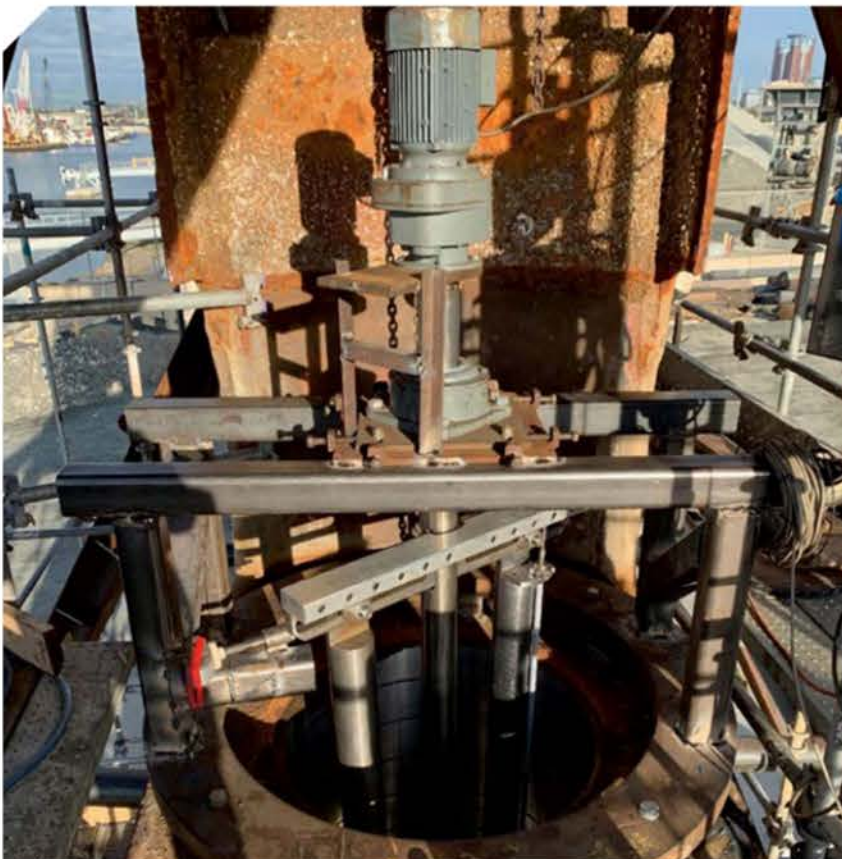
MarineShaft machined the rudder blade cones and castings. New O-rings had also been manufactured to ensure a tight seal between rudder blade lower casting and the pintle sleeve. MarineShaft's engineers worked around the clock and completed the reinstallation according to schedules.

For the in-water repair of the rudder horn pintle bearing, it was necessary to build and set up a cofferdam. In cooperation with a local workshop and the underwater service company, MarineShaft assisted with replacing the pintle bush in the rudder horn. It also carried out the laser alignment of the pintle bush to ensure a straight line through the rudder bearings.

An urgent repair like this requires trustworthy subcontractors working closely together, ensuring and coordinating so timelines are kept.

MarineShaft has the machine capacity and skilled workforce for this type of job, and keeps the necessary equipment for onsite machining services and a team of certified engineers willing to step in at short notice to work 24/7.

"We are proud to have assisted this vessel in getting back in its schedule with minimum downtime, and we thank all involved parties for their fantastic operation," says Hanne Magnussen, Marketing Manager/Area Sales Manager for MarineShaft. "We thank the client and the classification society involved for trusting MarineShaft with this project." ■



MarineShaft carried out the laser alignment of the pintle bush to ensure a straight line through the rudder bearings