

# SHAFT SEAL LINER REMOVAL FOR THE USNS RED CLOUD

## IN-PLACE MACHINING BAYONNE DRYDOCK

At the height of the COVID-19 pandemic in the Northeast United States in May of 2020, Goltens received a call from Bayonne Drydock to attend for inspection and to make a proposal to remove a damaged shaft seal liner on the USNS Red Cloud, one of the US Military Sealift Command's nineteen Large, Medium-Speed, Roll-on/Roll-off Ships. Goltens deployed its In-Place Machining specialist to New Jersey observing all of the special precautions required to stay safe.

### INSPECTION AND WORK SCOPE

Goltens determined that the shaft seal liner could be removed from the shaft but due to the short space between the shaft and shaft housing, special tooling and brackets would have to be fabricated at Goltens Miami to carry out the on-site machining. Having all of the required measurements, Goltens' specialist returned to Miami to fabricate the mounting brackets and repurposed one of their milling machines to mill across the outside liner surface to split the liner.

### JOB EXECUTION

While Goltens is renowned for its ability to conduct high precision journal repairs, this project was not as delicate, but still required a high degree of care and control to ensure the propeller shaft surface was not damaged during the machining of the liner.

After preparations were complete, the team arrived on site, observing as many precautions as possible and proceeded with mounting the prefabricated brackets and milling machinery to begin the works.

### THE RESULT

The liner removal was completed using two shifts of machinists working around the clock. Goltens completed the repair successfully over an 11-day period onsite in Bayonne and the shaft was left in good condition with no damage from the removal process.

Goltens' front line workers continue to perform essential service for the world's military and merchant fleets during these trying times.

Another successful job completed safely by Goltens during the pandemic.

### PROJECT FACTS: SHAFT SEAL REMOVAL

Customer:	Bayonne Drydock
Location:	Bayonne, NJ, USA
Vessel Name:	USNS Red Cloud
Date:	May 2020



Figure 1: USNS Red Cloud in Bayonne Drydock



Figure 2: Installation of milling machine on prefabricated brackets



Figure 3: Utilizing diamond grinding Discs to remove tungsten surface layer.



Figure 4: Milling shaft seal liner



Figure 5: half of shaft seal liner removed



Figure 6: Shaft after liner removal



Figure 7: Goltens' In-Place Machining team after another successful job