



**MS** MAGAZINE



**LIGHTERING OF 9,000  
TONS OF DRY CARGO AT  
BALBOA ANCHORAGE**

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Talleres Industriales, S.A.  
 Av. Central Cl. 16, Colón, Panamá.  
 +(507)4339500  
 talleres@talleresindustriales.com

## UNDERWATER PBCF INSTALLATIONS



Talleres Industriales has been the leader in the underwater installation of Propeller Boss Cap Fins (PBCF) on various types of vessels crossing the Panama Canal for decades. PBCF, a specialized hub with small fins attached to the propeller cap, significantly enhances the efficiency of ship propulsion systems.

By breaking up the hub vortex formed behind rotating propellers, PBCF installations reduce fuel consumption and CO2 emissions, making it an attractive investment for medium and large vessels. Its proven economic value, with minimal cost and substantial fuel savings, has been widely accepted across the maritime industry. This expertise, combined with a strong focus on quality and speed, positions Talleres Industriales as a key service provider for vessels seeking to improve propulsion efficiency and reduce environmental impact.



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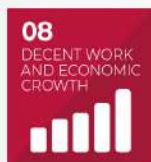
talleres industriales

## NEW BLOOD WILL TAKE TALLERES TO THE NEXT LEVEL



For over 55 years, Talleres Industriales has been a cornerstone of afloat ship repairs, taking on complex and challenging projects for vessels across America. The company's culture, likened to an emergency room for ships, is built on the values of relentless dedication and readiness to serve the maritime industry. Employees embrace a doctor-like mentality and are always prepared to resolve critical global logistics issues. Talleres plays a crucial role in ensuring vessels are back in operation swiftly, so cargos arrive on time and keep supply chains moving, delivering satisfaction to people worldwide.

In this evolving landscape, Talleres Industriales is investing in the future by mentoring the next generation of leaders. Our senior managers are passing down decades of knowledge and experience to younger employees, ensuring the company's tradition of excellence continues. This new blood brings fresh energy and perspective, helping Talleres maintain its strong commitment to provide employment in the community and ensuring stakeholders achieve their goals. The company's success is a collective effort, and Talleres remains grateful for those who embrace the challenge of leadership and continue to uphold its proud legacy.



# LIGHTERING OF 9,000 TONS OF DRY CARGO AT BALBOA ANCHORAGE



In August, Talleres Industriales faced an unusual request requiring an innovative solution. A Panamax bulk carrier, which had suffered severe engine damage on the Pacific



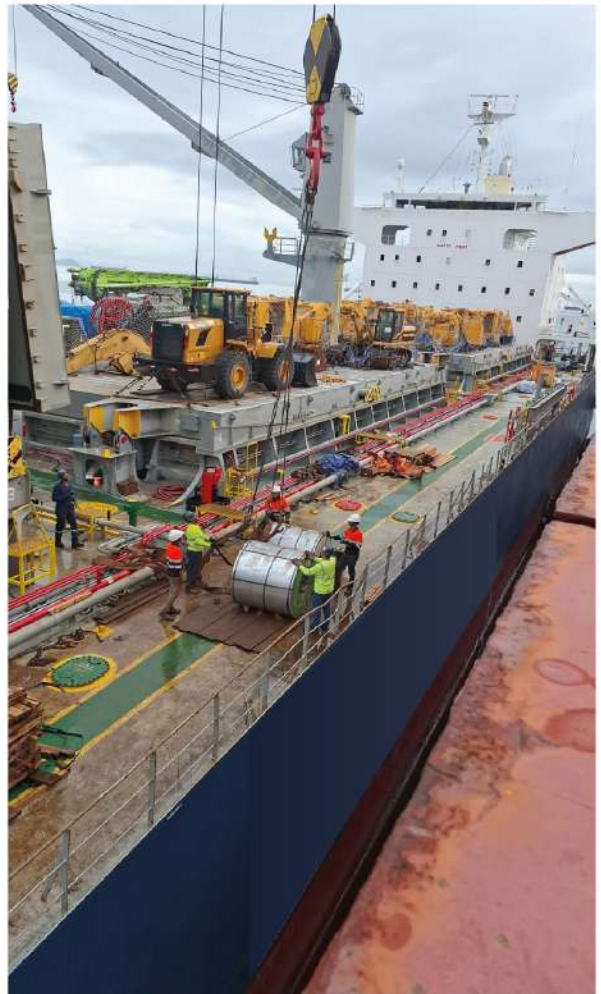
side of Mexico, needed major repairs, and owners had to decide where to mobilize their vessel for repairs.

Despite being farther from the ship position, the client considered Panama due to the country's reputation as a ship repair hub, with its friendly environment, vast resources, technical know-how, and expertise.



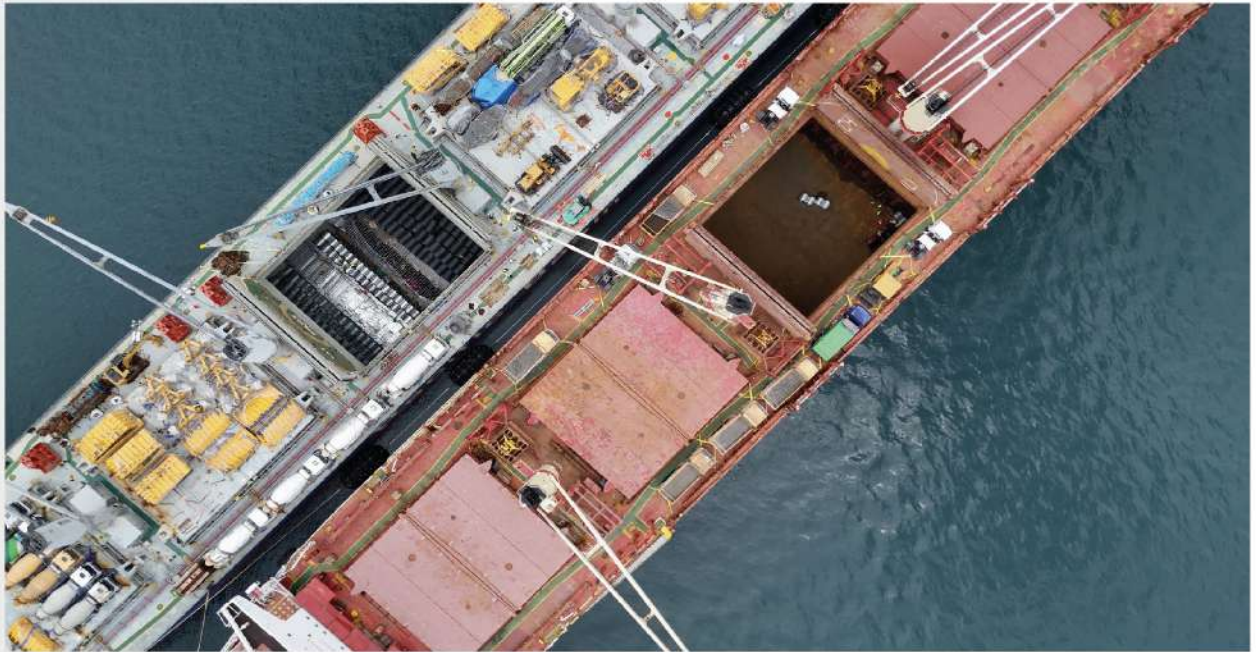
After evaluating other options in the United States and Mexico, the client ultimately chose Panama for the critical repair job.

Once the vessel was towed to Panama, a new challenge emerged: the available lay berth had insufficient draft to accommodate the ship.



To solve this, approximately 9,000 tons of dry cargo needed to be lightened to reduce the draft.





Talleres, a trusted Ship-to-Ship (STS) service provider in the Americas, collaborated with Teekay Marine Solutions to develop a lightering plan.



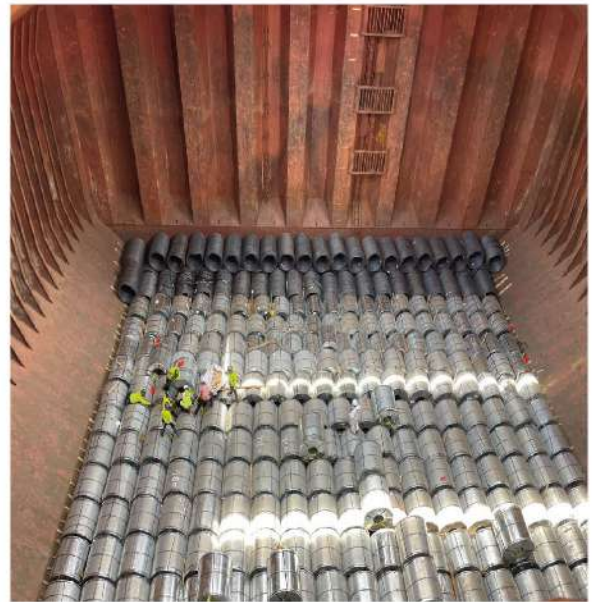
With the help of a Mooring Master, a precise mooring arrangement was set up with another bulk carrier that arrived to collect the cargo.





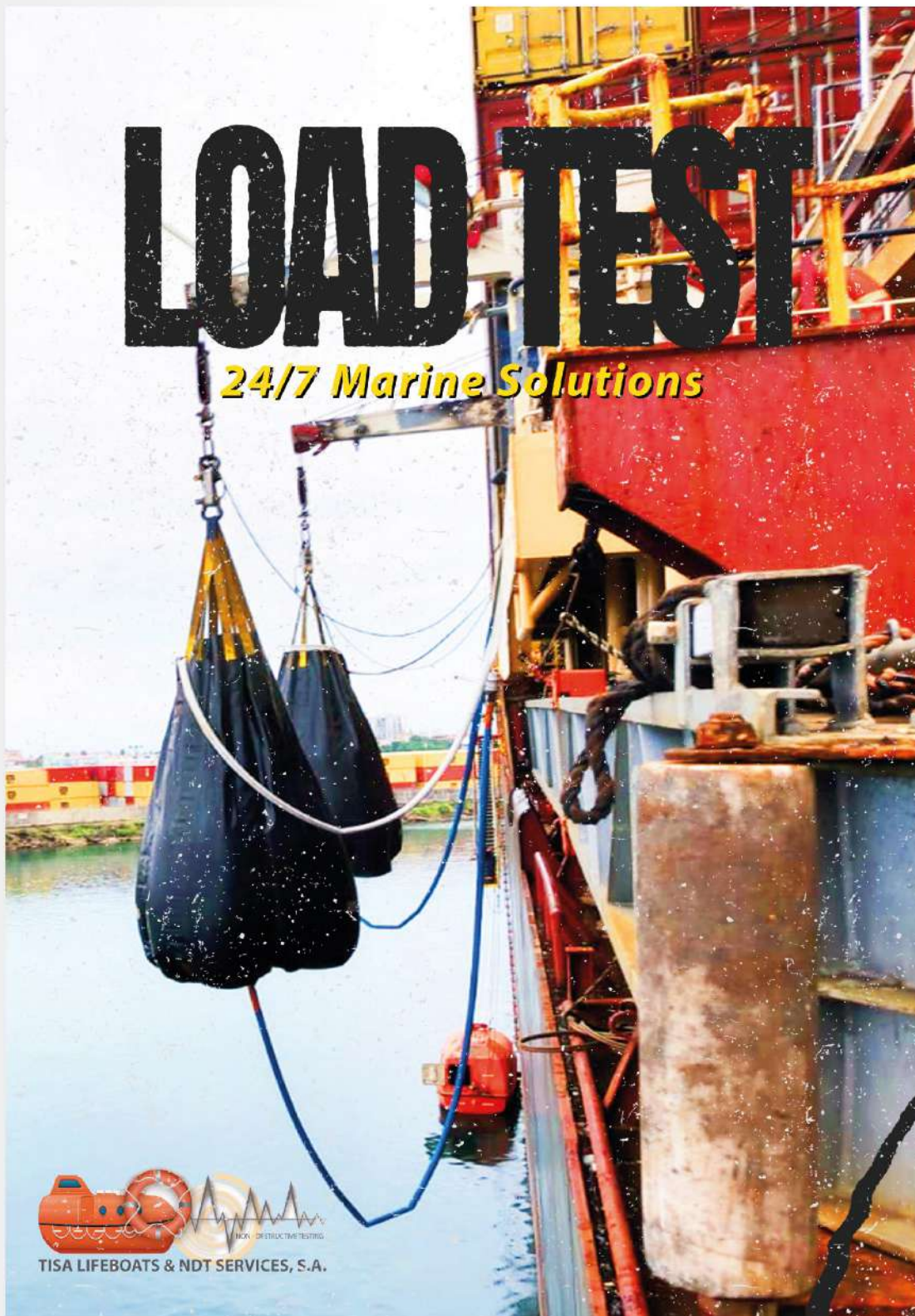
Talleres' stevedores, project managers, and the client worked together to design a stowage and lashing plan to safely transfer the cargo, which included trucks, steel coils, plates, and bars from both the deck and cargo holds. The primary goal of the STS lightering mission was to reduce the ship's draft by more than a meter, bringing it down to a manageable 10 meters to ensure a safe stay at the lay berth. This was crucial for the vessel's crankshaft repairs, which required calm water for the duration of the project.

After more than three weeks of continuous operation, Talleres' stevedores team completed this complex STS operation. Even though we faced challenging weather conditions and the high-level hazard of the cargo transfer, we accomplished this project without any accidents, which was our main goal. We take pride in having contributed to this unique project, which reinforces Panama's position as the premier destination for ship repairs in the Americas.



# LOAD TEST

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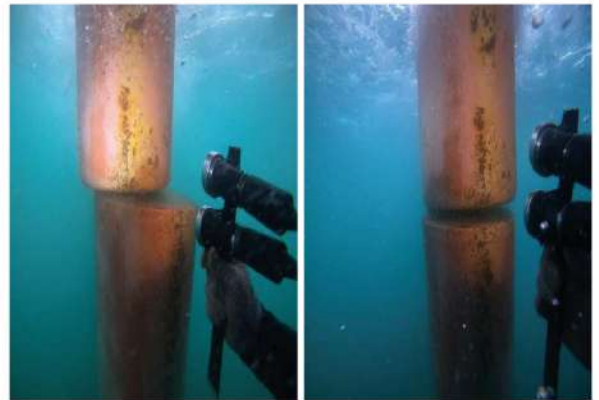
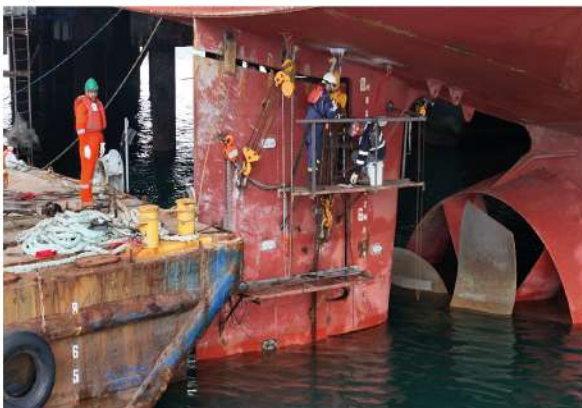
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## DRY DOCK AT SEAS – AFLOAT RUDDER REPAIRS



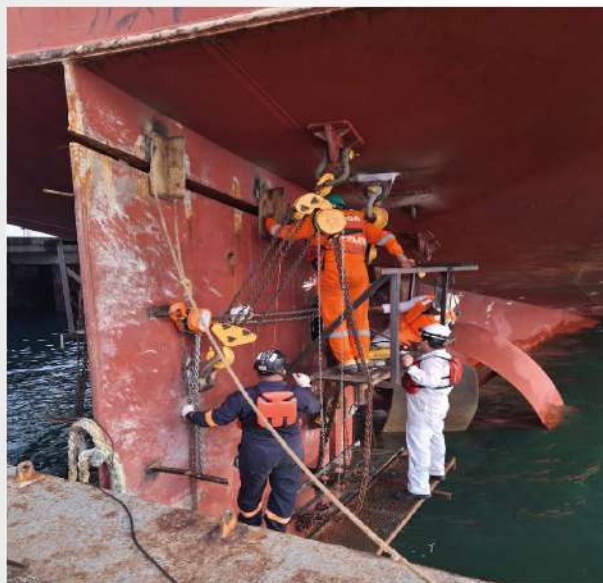
Last month, a bulk carrier vessel that had run aground in Peru in June was diverted to Panama for afloat rudder permanent repairs, following temporary underwater structural repairs completed in Peru. During the final inspection before the vessel could continue its voyage to dry dock, it was discovered that the rudder blade had rotated on the rudder stock. Talleres Industriales, well known for its extensive expertise in afloat rudder repairs, was promptly contacted, and the vessel was rerouted to Balboa, Panama, for the necessary repairs.



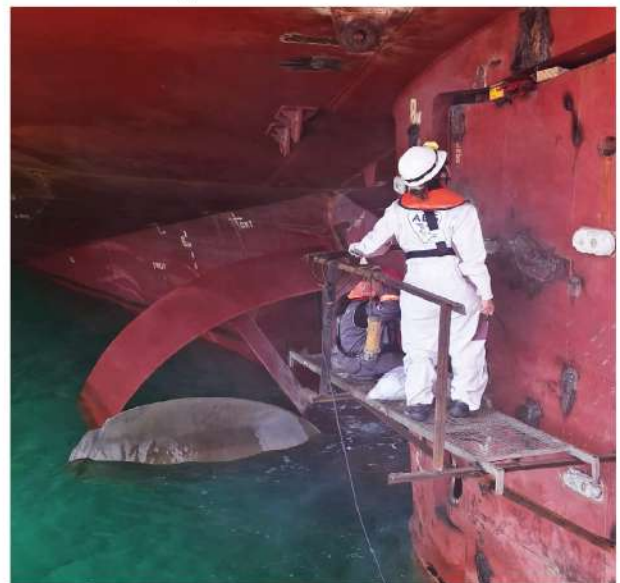
Talleres' engineering team, alongside the vessel's manufacturer's service engineer, reviewed the case and developed a comprehensive repair plan. The strategy involved realigning the rudder blade by slackening the hydraulic nut and the rudder actuator on the rudder stock while the vessel remained afloat. Our highly experienced team executed the repairs by cutting open the rudder plate to access the hydraulic nut. Hydraulic pressure was applied to the nut to slacken it, and the rudder blade was shifted to the original position using the chain blocks.



Upon the vessel's arrival in Balboa, the vessel was trimmed, the rudder was inerted and prepared for hot works, and Talleres positioned a working platform to ensure safe access for the team to perform the repairs. The procedure was meticulously coordinated with the manufacturer's service engineer. The operation was conducted simultaneously on two fronts: inside the steering gear room and outside on the rudder blade. Inside, the steering gear was disassembled for alignment and seal replacement.



Outside, fitters constructed staging to safely access the rudder, welding six 35-ton pad eyes and using 15-ton heavy-duty chain blocks to lift the rudder blade. Two access cuts, each 500 mm by 660 mm, were made to inspect the condition of the rudder stock nut. Once the rudder blade was suspended and the nut slackened, the rudder was freed from the stock and repositioned to its original alignment. The repairs were carried out following class requirements, to the satisfaction of the insurance surveyor and the client. Talleres once again demonstrated its ability to handle complex afloat repairs, ensuring that dry docking is only required when the scheduled maintenance period arrives.

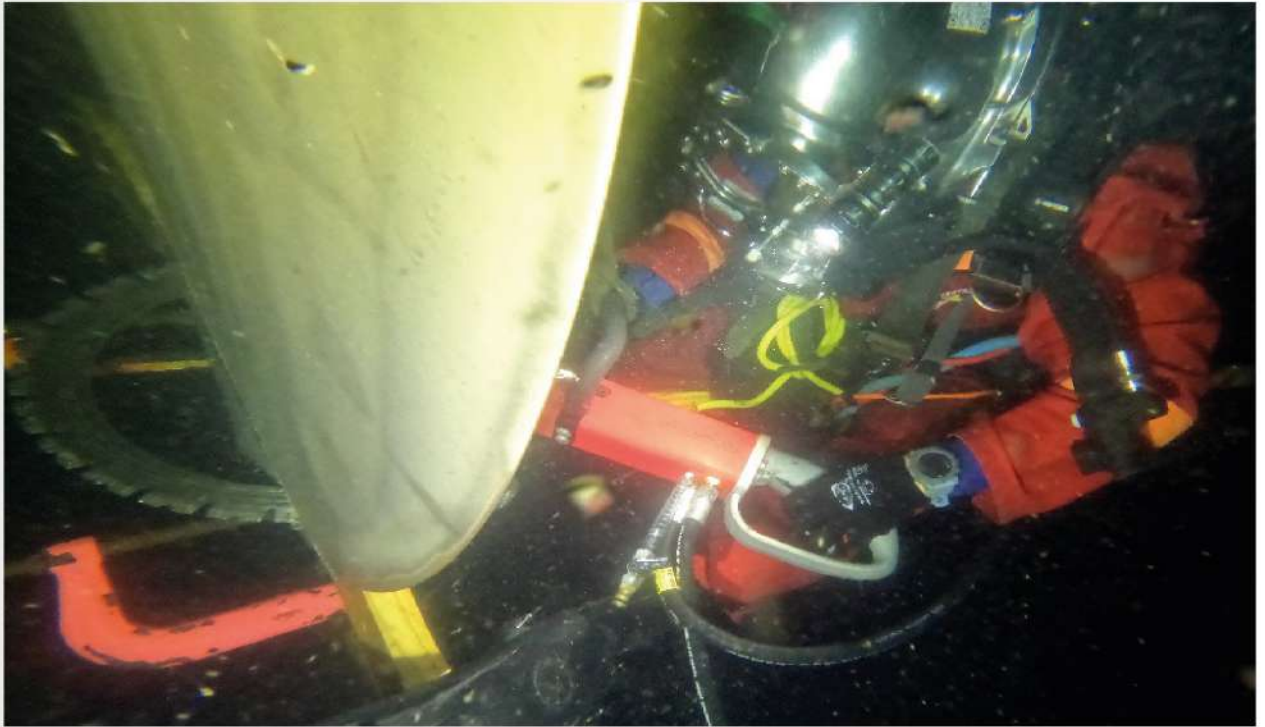




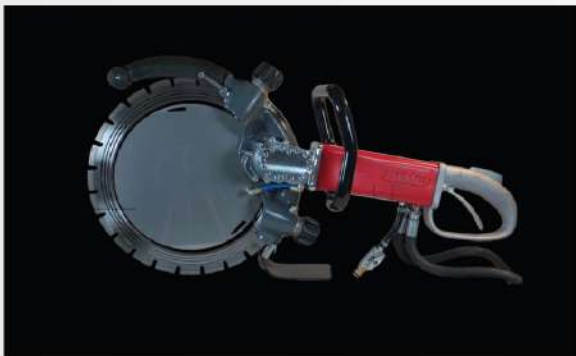
# MARINE SOLUTIONS

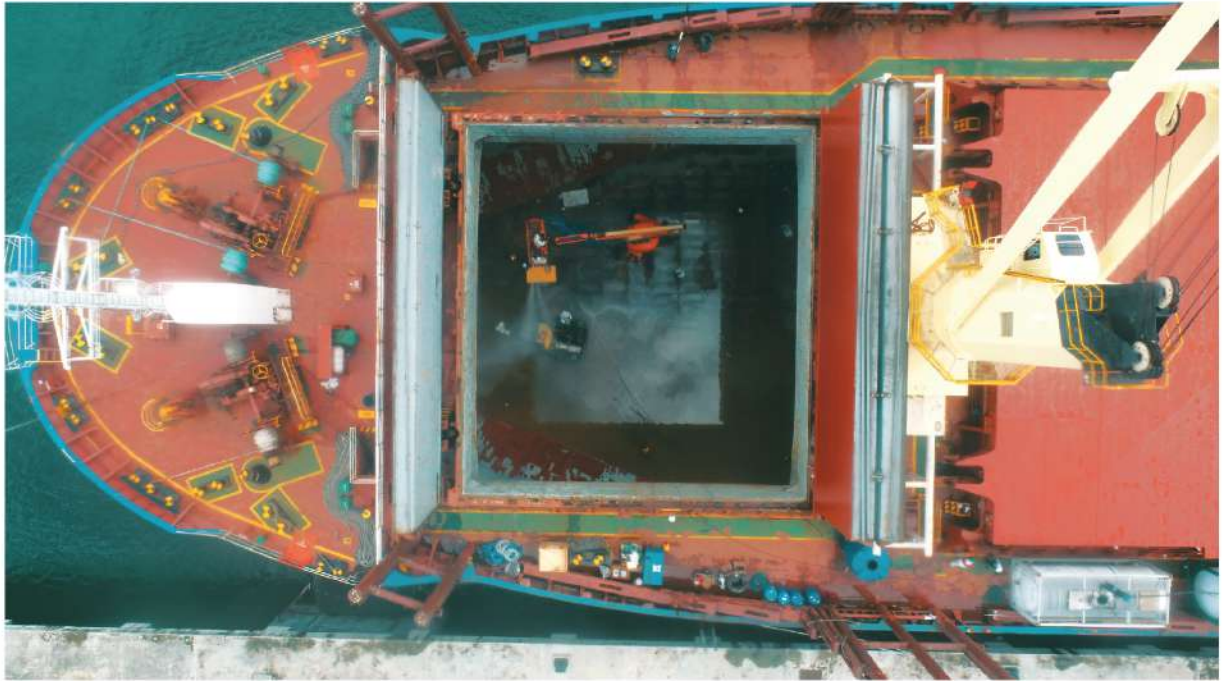
 PANAMA CANAL AREA

# UNDERWATER CROPPING & BALANCING OF PROPELLER



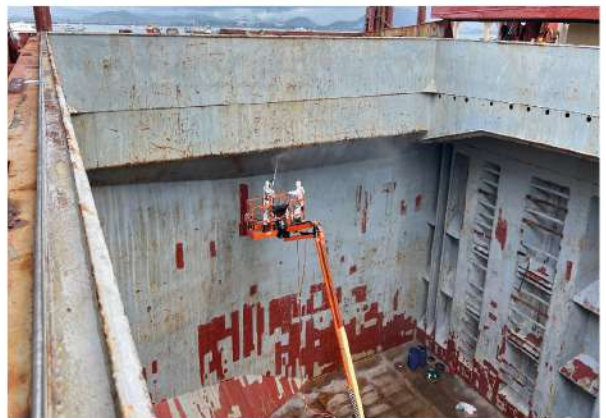
Talleres Industriales, S.A. always investing in the latest technology brings to its portfolio a new service and equipment for cropping the damaged propeller blades an accurate and effectively using a new state-of-the-art hydraulic saw of 16 inches for underwater works. In this way, we demonstrate our commitment to continue serving our clients with the highest standards of safety and quality.





## TALLERES INDUSTRIALES: ENSURING TOP-QUALITY CARGO HOLD CLEANINGS

At Talleres Industriales, we provide comprehensive cargo hold cleaning services, leveraging our extensive resources and expertise. Preparing cargo holds for the next shipment is a critical operational requirement for bulk carriers. If not properly executed, inadequate cleaning can result in costly delays and claims.



Recently, a bulk carrier that had previously transported coal needed its cargo holds cleaned to an exceptionally high standard before loading grain. Talleres Industriales mobilized multiple teams to work simultaneously across various holds, ensuring that the vessel met stringent cleanliness requirements. This swift and efficient operation enabled the vessel to continue its trading schedule without disruption.

## REWINDING ELECTRIC MOTORS



At Talleres Industriales, our team of service engineers and electricians have extensive experience in handling major electrical repairs onboard vessels at the Cristobal and Balboa ports. We specialize in addressing fire damages and other electrical issues by replacing kilometers of cables for main switchboards, generators, and main engines.

We are equipped to repair all types of AC and DC motors, generators, alternators, and transformers of any size. Our skilled personnel can rewind damaged motors up to 50 kilowatts within 24 hours, and return them onboard, ensuring minimal downtimes and no off-hire expenses. Our swift, high-quality service is designed to meet the needs of vessels transiting through the Panama Canal.



# "PASSING THE TORCH: TALLERES' VETERAN LEADERS SHAPING THE NEXT GENERATION"



"Through their decades of expertise and commitment, these three pillars are not only ensuring the continuity of excellence at Talleres Industriales but also fostering innovation and growth in the leaders of tomorrow."

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