

# SORJ

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# Underwater Repairs

## World-wide activities at Hydrex

In a period of only 10 days Belgium's Hydrex diver/technician teams have flown all over the world to perform a wide range of underwater operations on five different continents. The services offered ranged from routine inspections and maintenance work all the way through to highly technical major repairs.

Among these jobs were two welding operations in the US, a propeller blade replacement in Bermuda and an azipod thruster operation in Japan. A stern tube seal repair and a spinner cone replacement were performed in Singapore, while a hull repair was carried out in Uruguay and a cofferdam operation was completed in India. Hydrex diver/technician teams also performed a doubler plate repair

in Belgium, underwater cleaning work in the USA and the Bahamas on vessels coated with the Ecospeed hull coating system, and hull monitoring surveys in Spain, Gabon, the Netherlands, and Equatorial Guinea.

One of the reasons Hydrex can offer its customers the high quality of service they deserve is the stringent training all divers go through, whether they work for the Hydrex main office in Antwerp or for one of the other offices. Besides being required to have official international commercial diver certificates and taking high standard external courses, including offshore courses, they also receive comprehensive in-house training.

Over the last couple of months Hydrex teams of diver/technicians mobilised to vessels berthed in Zeebrugge (Belgium), Amsterdam (the Netherlands) and Douala (Cameroon) to perform insert repairs on a ro/ro vessel and two tankers.

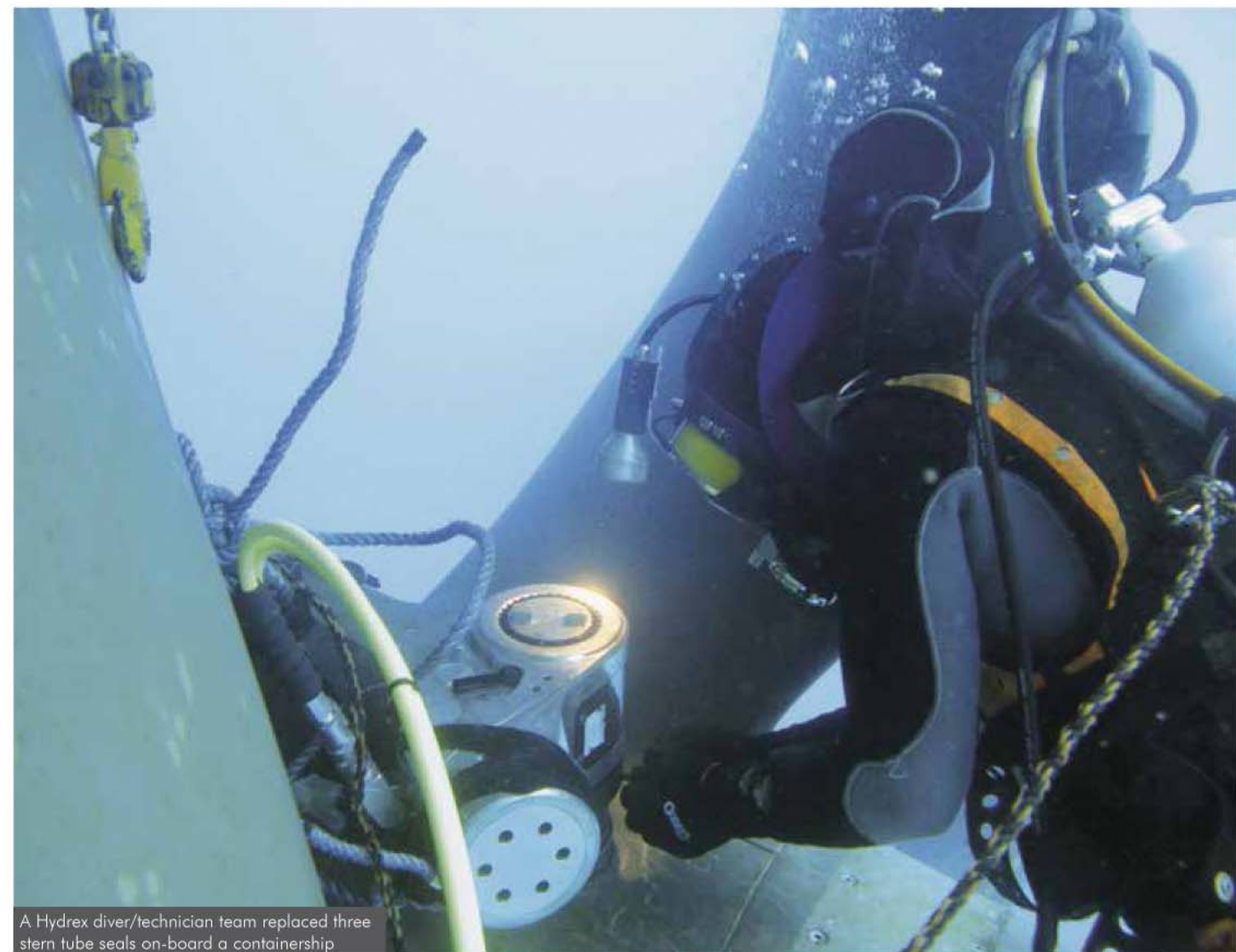
These repairs were carried out according to the Hydrex class approved procedure for the welding of inserts in a vessel's shell plating while afloat by using an external cofferdam.

To save time and money for the owners of a 270 m container vessel that was leaking oil, a Hydrex diver/technician team replaced three stern tube seals, using one of the company's flexible mobdocks. This enabled the team to carry out the entire operation on-site and underwater during the vessel's stop in Le Havre.

After the divers and all equipment had arrived at the vessel, the Hydrex team leader met up with the vessel's owner and superintendent while the rest of the diving team set up a workstation to monitor all underwater activities. Next, all quayside preparations were made for the main activity, which started immediately with the removal of the rope guard. The divers then performed a thorough underwater inspection

A Hydrex diver in action





A Hydrex diver/technician team replaced three stern tube seals on-board a containership

and shaft wear-down readings. This revealed that a rope was tangled around the stern tube seal assembly, causing the oil leak. The rope was removed and the split rings were disconnected and brought to the surface to be cleaned.

The team then installed the flexible mobdock, creating a dry working environment around the stern tube seal assembly that allowed the entire assembly to be cleaned. Subsequently the divers removed the first seal and replaced it with a new one which was then bonded. This procedure was repeated with the other two damaged seals. They then reinstalled and secured all parts of the stern tube seal assembly. After a successful leakage test the flexible mobdock was removed and the rope guard repositioned.

With all five blades of its propeller severely bent, a 290 m container vessel needed a fast, on-site solution to restore the propeller's balance and efficiency. Hydrex diver/technicians are trained to carry out repairs underwater in the shortest possible time frame and a team was therefore mobilised to the ship's location in Diego Garcia in the British Indian Ocean Territory to perform a cold straightening of the blades.

Through an ever-expanding, worldwide network of offices and service stations, Hydrex can provide a wide range of services economically at any location. Headquartered in the Belgian port of Antwerp, Hydrex has offices in Tampa (USA), Algeciras (Spain), Mumbai and Vishakhapatnam (India), and Port Gentil (Gabon).