

Heavy-lift ship

A **heavy-lift ship** is a vessel designed to move very large loads that cannot be handled by normal ships. They are of two types:

- *Semi-submersible* ships that take on water ballast to allow the load—usually another vessel—to be floated over the deck, whereupon the ballast is jettisoned and the ship's deck and cargo raised above the waterline.^[1]
- *Project cargo* ships that use at least one heavy-lift crane for handling heavy cargo and sufficient ballast to assure stability and sea-keeping properties.^[2]



MV Dan Lifter returns *RFA Sir Tristram* to the United Kingdom in 1983 after she was badly damaged during the Falklands War of 1982.



Empty heavy-lift vessel in the harbour of Valletta (Malta)



MV Blue Marlin carrying *USS Cole*.

Contents

Description

Semi-submersible ships

Project cargo ships

History

See also

References

External links

Description

There are several types of heavy-lift ships:

Semi-submersible ships

Semi-submersible heavy-lift ships have a long and low well deck between a forward pilot house and an aft machinery space. In superficial appearance, it is somewhat similar to a dry bulk carrier or some forms of oil tanker. Its ballast tanks can be flooded to lower the well deck below the water's surface, allowing oil platforms, other vessels, or other floating cargo to be moved into position for loading (float-on/float-off). The tanks are then pumped out, and the well deck rises to shoulder the load. To balance the cargo, the various tanks can be pumped unevenly.^[1]

Float-on/float off vessels transport oil drilling rigs. Such ships can carry the rigs from their construction site to a drilling site at roughly three to four times the speed of a self-deploying rig. Rapid deployment of the rig to the drilling site can translate into major savings. They also transport other out-sized cargo and yachts.^[3]

The U.S. Navy has used such ships to bring damaged warships back to the United States for repair.^[4] The first was the guided missile frigate *USS Samuel B. Roberts*, which was nearly sunk by a naval mine in the central Persian Gulf on 14 April 1988. The frigate was towed to Dubai, then floated home to Newport, Rhode Island, aboard *Mighty Servant 2*.^[5]

Eleven years later, *MV Blue Marlin* transported the U.S. guided missile destroyer *USS Cole* from Aden, Yemen to Pascagoula, Mississippi, after the warship was damaged in a bombing attack on 12 October 2000.

USS Fitzgerald was transported from Japan to Alabama after its 2017 collision with *ACX Crystal*.

The U.S. Navy has also chartered other heavy lift ships to carry smaller craft, usually mine-countermeasure craft, or other patrol craft. Since there are no US-flagged heavy float-on/float-off ships, the U.S. Navy normally relies on its Military Sealift Command to charter them from the world commercial market.^[4]

In 2004, *Blue Marlin* carried the world's largest semi-submersible oil platform, BP's Thunder Horse PDQ, from the Daewoo Shipbuilding & Marine Engineering shipyard in South Korea to Kiewit Offshore Services in Ingleside, Texas.^[6]

Many of the larger ships of this class are owned by the company Dockwise, including *Mighty Servant 1*, *Blue Marlin*, and *MV Black Marlin*. In 2004, Dockwise increased the deck width of *Blue Marlin*, to make it the then-largest heavy transport carrier in the world until it was surpassed by the launch of *Dockwise Vanguard* in 2012. One of the company's vessels, *Mighty Servant 2*, capsized and sank after hitting an uncharted single underwater isolated pinnacle of granite off Indonesia in November 1999.

Project cargo ships

Project cargo ships are non-submersible ships that load large and heavy cargo items with one or more on-board cranes. Such vessels have between 13,000 and 19,000 deadweight tonnage (DWT) capacity. Examples of cargo transported includes container cranes, bridge sections, and suction piles.^[2]

History

In the 1920s, the Bremen-based shipping company DDG Hansa saw a growing demand of shipments for assembled locomotives to British India. That led to the construction of the world's first heavy lift vessel, *SS Lichtenfels* with a 120 t (118 long tons; 132 short tons) derrick.^[7] After World War II, DDG Hansa became the world's largest heavy lift shipping company. In terms of lifting capacity it reached its peak in 1978 with refitting the Japanese-built bulk carrier *MV Trifels* with two 320 t (315 long tons; 353 short tons) Stülcken derricks. Shortly after that, in 1980, DDG went bankrupt. With that, only the Dutch shipping companies Jumbo, BigLift Shipping (until 2001 named Mammoet Shipping) and SAL Heavy lift ^[8] were left as heavy lift shipping specialists.

See also

- Semi-submersible naval vessel



The incomplete Australian landing helicopter dock *HMAS Adelaide* embarked on *Blue Marlin*

References

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External links

- [Description of military heavy lift ships \(http://www.globalsecurity.org/military/systems/ship/heavy-lift.htm\)](http://www.globalsecurity.org/military/systems/ship/heavy-lift.htm)

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