

Thruster Customer Report

WESMAR Bow Thruster at Work on New USS Arizona Memorial Ferry

Only a rugged, reliable bow thruster can handle 64 departures and dockings a day. So when Modutech Marine, Inc., Tacoma, Washington, received the contract from the U.S. Navy to build five new 78-foot excursion vessels to carry visitors to and from the historic USS Arizona Memorial at Pearl Harbor they specified WESMAR's robust hydraulic V2-12 Bow Thrusters.

"The specifications called for equipment that would allow the sailors to pull the boat up alongside the memorial and the visitor center even when fighting a side wind," said Brian Swindahl, CEO of Modutech Marine, builder of the five new boats. "We chose WESMAR systems, because we knew they could do the job. We install a lot of their bow and stern thrusters and have for many years. We have had excellent success with them, and the company supports them. We also chose WESMAR hydraulics, because the Navy contract called for hydraulics to run the bilge pump and the fire hose off the system as well as the bow thruster."

The first of the five new boats, #39-1 the John W. Finn, has been in service since late March. The sailors operating the vessel report good results.

The ferry travels at 11 knots, and makes 16 round trips daily, or a total of 62 loadings and unloading. This happens 362 days a year as they travel between the Visitor's Center at Pearl Harbor, Hawaii, and the



Photos courtesy of U.S. Naval Station Pearl Harbor

Naval Station Pearl Harbor and the National Park Service activated the first of the USS Arizona Memorial Ferry Boats (#39-1) the John W. Finn, during a dedication ceremony on April 7 at the USS Arizona Memorial and visitor center.

USS Arizona Memorial, one-quarter mile away.

Excursion ferries are the only way for visitors to get to and from the memorial, which is the final resting place for about half of the 2,390 people who died when Pearl Harbor was attacked on Dec. 7, 1941, leading the U.S. into World War II. The wreck was not salvaged and continues to lie at the floor of the harbor. The Memorial spans the sunken hull of the battleship without touching it, and is visited by more than 1.5 million people annually.

Naval Station Pearl Harbor's USS Arizona detachment has a crew of 16 sailors who transport as many as 4,500 people each day. Warrant Officer Tim Gordon, officer in charge of the detachment, told

WESMAR the bow thruster has made the pilots' jobs much easier. "The bow thruster helps the operator line up the boat alongside the pier to dock and helps in the same way for getting underway." Warrant Officer Gordon says the bow thruster's highest value is during high winds.

"The bow thruster has reduced the amount of time to moor the boat to the piers. It saves us an average of 3 minutes per trip," says Warrant Officer Gordon.

At 16 round trips per day, 362 days a year, WESMAR estimates a time savings of approximately 30 days annually! Considering the cost of fuel, personnel, and the increased revenues, that is very significant and well over the cost of the bow

(continued on back)



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thruster equipment in just one year, according to WESMAR.

Energy Efficient, Easier to Dock and Lighter Weight

All five of the new ferries will be in service by early 2010 replacing an aging fleet of 5 smaller tour boats, built in 1981 and 1992. The new boats are larger with a shallower draft. They are of foam core, fiberglass construction, 78 feet long and 23 feet wide and carry 149 passengers. Power is from twin Cummins QSB 5.9 HD Diesel engines configured to run on Bio-diesel 100% (B-100).

Most U.S. Navy boats have hull registration numbers only, no names. These five boats are unique because they are named after five Medal-of-Honor recipients from the Pearl Harbor attack. The first, the John W. Finn is the namesake of the only living survivor out of the five. Finn was a chief aviation ordinance man at Naval Air Station Kaneohe Bay on December 7, 1941. He was awarded the Medal of Honor after continuing to shoot at Japanese planes despite having been shot five times himself.

The boats are numbered 39-1 through 39-5, as tenders to the Battleship Arizona which is the BB-39. A dedication ceremony was held at Pearl Harbor for the first boat in



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April. The second boat will be delivered in August of this year and the fifth and final boat will be delivered in early 2010.

The boats were acquired through a Federal Transit Administration grant and State of Hawaii matching funds, which required procurement of boats that demonstrate clean fuel technology. The vessels run on a blend of off-the-shelf clean-fuel propulsion technologies (biodiesel fuel, diesel oxidation and fuel borne catalysts) to reduce emissions.

The builder Modutech Marine Inc. was founded in 1970, and originally

built fiberglass fishing boats for Bristol Bay, Alaska, gillnetters. Now the Tacoma, Washington based company primarily does government work including haul out and repair and new construction on work boats, tug boats, and excursion boats.

WESMAR's commercial grade, stainless steel, counter rotating dual prop system has a long history of tough jobs. For the past 45 years, WESMAR has provided sophisticated electronic and mechanical equipment for commercial and pleasure boats throughout the world including many of the world's navies.

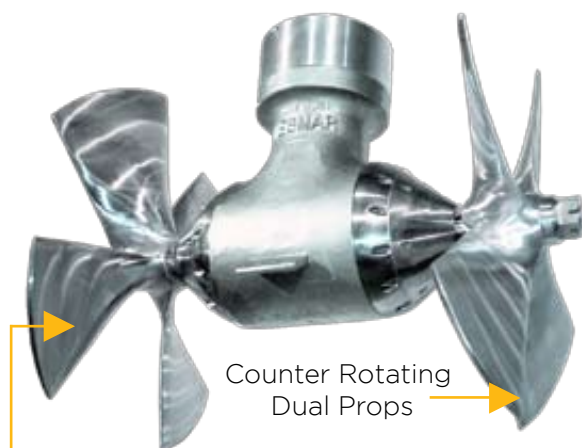
WESMAR Commercial Bow Thrusters

Key features of WESMAR's DC Thrusters

- No thermal shutdown with DC Pro Motors
- 5 to 490 horsepower
- Efficient 8 to 48-inch counter rotating dual props
- Up to 40% more thrust over competitors
- Optional: Pre-mounted in Steel or Aluminum Tubes

Hydraulic, AC, Direct Drive and DC Operation

- Provides the most thrust per input horsepower
- Dynamic Power Control for easy maneuvering
- Optional proportional controls
- Heavy duty stainless steel casting
- Low maintenance & Built rugged



Stainless Steel or NiBrAl Props