



PROJECT OVERVIEW:

Repower of 1980's Lifeboat Means Safety for Crew and Meets New Regulations

TYPE OF VESSEL

50 Person Open Life Boat

PRIME MOVER

BUKH AS Diesel Engine, 28 hp

PROJECT REQUIREMENTS

- Ensure safe operation of the system
- Comply with latest class requirements
- Minimize costs using existing engine box

Life Boat Repower – MSHS Yacht and High Speed Services

PROJECT OVERVIEW

Motor-Services Hugo Stamp, Inc. (MSHS) was commissioned by the customer to replace the existing propulsion engine on-board a 50-passenger open life boat. The repower was performed to ensure the safety of the crew during mandatory monthly testing of the engine as well as during an actual emergency.

The installation was completed at the MSHS facility in Fort Lauderdale, FL. The lifeboat was delivered with an air-cooled LISTER PATTERN diesel engine. Strenuous manual cranking was required to start the 30 horsepower engine. Due to the outdated technology of the 1980's engine, there was concern that the manual cranking posed a safety hazard for the crew, and potentially a risk for severe injuries to the operator responsible for cranking the handle.

A diesel engine by Danish manufacturer BUKH AS was chosen for the project. The BUKH EPA 28 horsepower engine meets the most recent class regulations, including EPA compliance, ABS Class Approval, US Coast Guard Approval, and SOLAS.

In order to minimize the repower costs, the existing engine box was utilized with minor modifications. The installation and necessary modifications were designed and mapped-out using a RHINO 3D drafting program. The visualization of the assembly and installation helped identify problems well in advance, saving labor and material costs for the customer. Additional components were designed digitally and fabricated in-house.

PROJECT OVERVIEW :

The newly installed engine is equipped with two separate starting systems. The first system starts and stops the engine through a push button, connected to the starting battery and the electric start motor.

The second start system consists of a complex 200 bar (3000 PSI) hydraulic system. The system has a hydraulic tank with a mounted hand pump which is operated through light strokes in order to charge the hydraulic accumulator. Approximately 10 strokes are sufficient to start the engine. A foot valve is used to release the hydraulic pressure charge to the hydraulic starter motor, causing the engine to turn at a sufficiently high speed rate in order to start.

The hydraulic pump charges the accumulator to full pressure during

operation. Two pressure regulating valves keep the pressure at or below 200 bar (3000 PSI). A charged hydraulic system maintains the pressure for four weeks and can be used during the monthly tests.

The redundancy of the starting system ensures the availability of the engine when it's needed most. In case of a drained battery, the hydraulic system can be used to start the engine and the mounted alternator recharges the battery. A battery switch will reduce the risk of drainage between usages. A full instrument panel with gauges and alarm lights / horn will keep the operator informed.

A keel cooler was added to the engine cooling system. The engine can be started and tested with the lifeboat in the davit, eliminating the need to lower the boat to the water.

The installation was completed in Fort Lauderdale, FL and the lifeboat launch, sea trial, and function test were witnessed by ABS, US Coast Guard and the customer.

The engine repower was completed to the customer's satisfaction.

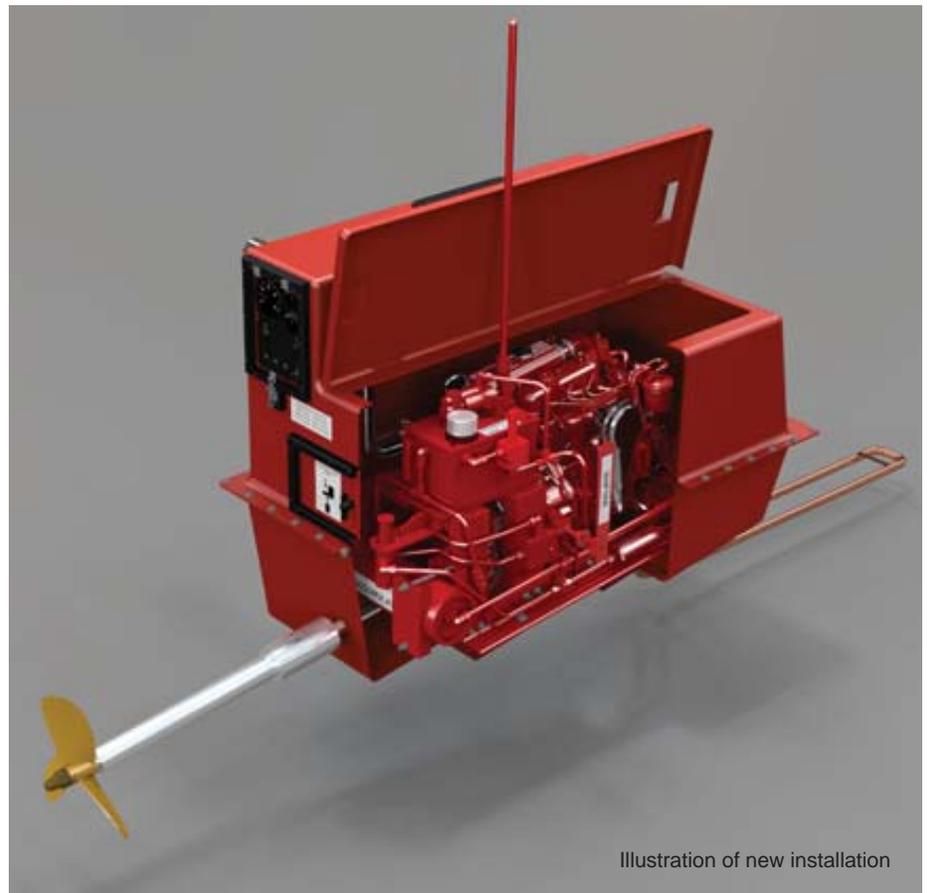


Illustration of new installation

Motor-Services Hugo Stamp, Inc. (MSHS) is the authorized distributor and service center for most of the world's major diesel engine and turbocharger manufacturers and is proud to operate under ISO 9001:2000 certification. Through innovative products and services, MSHS specializes in the testing, maintenance, repair, and overhaul of diesel engines, turbochargers, water jets, and filtration systems. Factory-trained service engineers and technicians are on 24-hour call providing everything from complete overhauls to laser alignment, engine diagnostics, and video inspections. MSHS maintains an extensive inventory of OEM parts.

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