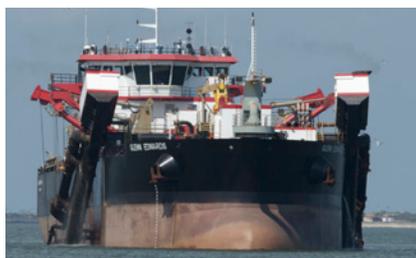




RETROFITTING Z-DRIVES FOR HIGH SPEED

Nautican Units Maximize Speed and Performance for Manson Hopper Dredge



VESSEL

Glenn Edwards

OWNER

Manson

LENGTH

390' long with a light draft of 15' and a loaded draft of 28'

PRODUCT USED

2,600mm high-efficiency nozzles and propellers designed to integrated with Schottel 1,920 kW azimuthing Z-drive units

SPEED GAIN

2 knots when light or loaded

The *Glenn Edwards* is part of the Manson fleet of hopper dredge vessels and is the largest capacity trailing suction hopper dredge in the United States. Dredge vessels offer channel and harbor maintenance as well as upland disposal and beach nourishment. The *Glenn Edwards* stores just over 10,000 square meters of dredged material in hoppers to transport to disposal sites, or can disperse the material directly through discharge outlets.

For operations to be economical, speed is essential for a dredge vessel. Speed will dictate how many runs the vessel can make and how efficiently it can complete a run. To accommodate a necessary speed of 12 knots while loaded and 14 while light or empty, Manson originally specified and installed Schottel 1,920 kW azimuthing Z drive units fitted with nozzles, and a bowthruster, for easy maneuvering in ports.

As the project progressed, it became apparent that the Schottel units could not meet the owner's speed requirements and once in service the vessel achieved 10.5 knots loaded and 12.5 when light. Manson, a long-time customer with several Nautican vessels in their fleet, was very familiar with the performance of the Nautican high-performance nozzles and approached Nautican to see if the company could offer a solution. After a year in service, the decision was made to retrofit the Schottel units with Nautican high efficiency nozzles and propellers. Nautican designed a specialized unit without pre-swirl stators, which integrated seamlessly with the Schottel drive unit.

Nautican delivered four 2,600mm high-efficiency nozzles and propellers to Manson in 2005. Since the retrofit with Nautican units, the vessel has consistently achieved 12.5 knots while loaded and 14.5 when light, exceeding expectations and assisting in the efficiency and value of the *Glenn Edwards* operations.



NAUTICAN

Because Performance Matters

www.nautican.com