Commercial Marine

FRED. OLSEN FERRY BENCHIJIGUA EXPRESS SERVICED IN RECORD TIME

Who Fred. Olsen S.A.
What Twin Series 8000 units overhauled in just 15 days
Where La Palma, Spain

Technicians have succeeded in servicing in record time two of the four Series 8000 engines installed in the largest high-speed ferry in the world: the trimaran *Benchijigua Express*. The assignment was exceptional because the 20-cylinder engines were overhauled in-situ, with overhaul of the other two units planned to take place in January 2019. The high-speed ferry *Benchijigua Express* serves the Canary Islands routes between La Gomera, Tenerife and La Palma.

A Rolls-Royce solution

La Palma, Spain. 29 technicians from Friedrichshafen, Italy, Spain and Malta needed just 15 days to perform a full in-situ overhaul of two Series 8000 engines. Even the most experienced of the experts from MTU admitted to having been daunted by the task: “This was the biggest service assignment I have ever taken on,” said Selahatin Tiryaki, chief of operations and site manager. “We worked three shifts over 15 days, overhauling the engines on the ship and fitting spare parts in the ship workshop. Thanks to fantastic teamwork by our colleagues and perfect coordination with the ferry operator team, we were able to guarantee the customer a hitch-free performance,” he said.

Servicing an engine in-situ presents very special challenges. Normally, the engine is removed, taken to a factory workshop, disassembled and the components where necessary overhauled. However the Fred. Olsen company had decided to have the engine disassembled while on the vessel. Any components in need of repair were overhauled in the ship’s garage, where new parts were also fitted.

For ship owners, having an engine serviced in-situ saves a lot of precious time. Like an airline, a ferry company depends on having its vessels in service as far as possible all-year round, and the avoidance of idle time is crucial. Previously, a basic overhaul meant completely removing the engine, resulting in downtimes spanning some four months. As an alternative, swing engines could be installed, although this also involved huge time and cost expenditures. In the case of the Benchijigua Express, the international team of MTU technicians worked three shifts, enabling downtime to be reduced to just 15 days.

Ivan Fernandez, technical manager at Fred. Olsen said: “We are highly satisfied with the smooth execution and the great support given on site in coordination with our superintendents and crewmembers. Our trust in the service and expertise of MTU goes back 12 years, since vessel delivery, and our experiences with them have always been positive. A QL4 on two engines with the amount of parts and technicians involved plus a limited working area and limited movements resources need to be planned more than 12 months in advance, and it is very satisfactory for all parties when everything goes according to the plan.”

Whether QL4 maintenance can be realized with the engine in-situ largely depends on whether the main bearings can be replaced without having to tilt the engine. This is the case with Series 8000 units, so an overhaul can be carried out with them in place on the

vessel. Engines from other MTU series can also undergo QL4 maintenance on the ship if the conditions are right for replacing the main bearings.

The Series 8000 engines onboard the ferry are among the biggest and most powerful (delivering 9,100 kW) engines built by MTU.

The *Benchijigua Express* ferry is a trimaran ferry launched by operator Fred. Olsen in 2005 for transfers among the Canary Islands of Tenerife, La Gomera and La Palma at a service speed of 38 knots, although on seatrials she reached up to 40.6 knots. The 2,500-ton vessel was built by Australian shipyard Austal Ships and can accommodate some 1,300 passengers and 340 cars or 450 line meters of trucks plus 120 cars. It is in service over 10-12 hours a day.

“Passenger numbers have risen very substantially and vehicle traffic has become much heavier” said Ivan Fernandez from Fred. Olsen. “New ferries should have to be able to take more capacity on board and still make the crossing in exactly the same time or even less. We cannot afford prolonged standstills. Our passengers deserve the best service we may provide them, thus speed, comfort, reliability and efficiency of all systems have to take top priority. With MTU, we are sure that it is being the case for a long time, and we would like to even improve all ratios in the future.”

Fred. Olsen’s fleet currently carries almost three million passengers, 600,000 cars and 150,000 trucks per year on five Canary Island routes using five large high-speed ferries. And these days a new small catamaran is joining their fleet for a new route around la Gomera ports, connecting with the *Benchijigua Express*.

Specialized service personnel on location

To ensure that the marine engines can perform their demanding task without failures or ferry delays, preventive maintenance of the propulsion systems has to take place on a regular basis. Minor tasks such as filter changes or daily oil level checks are carried out by the crew itself. However more extensive preventive maintenance requiring special expertise such as corrective maintenance or replacing fuel injection units are performed by MTU as part of the service agreement signed with Fred. Olsen. The service agreement runs for a term of eight years or maximum 24,000 operating hours, and has been extended twice by Fred. Olsen. It was initially signed in 2003, at the time that the ferry construction was signed. Service work itself started in 2005 when the ferry started regular operations and covers all spare parts required for both preventive and corrective maintenance actions, irrespective of whether these are performed by MTU or the ship’s crew.

Besides carrying out service measures, the MTU service team stationed on La Palma also takes care of spare parts logistics. The local MTU team is the primary point of contact for the ferry owner and takes care of the marine engines on behalf of MTU.

MTU experts based in Friedrichshafen are also available as ‘flying doctors’ and are on call at any time to support the Fred. Olsen maintenance team in exceptional cases. This helps make maintenance work plannable and ensures its efficient execution to secure maximum ferry availability.