

## BERGEN CRANKSHAFT REPLACEMENT ON AHTS OFFSHORE SUPPLY VESSEL

### MAIN ENGINE: BERGEN B32:40L8P

Goltens was engaged by Rolls Royce to inspect the damage on a Bergen B32:40L8P crankshaft onboard an Anchor Handling Tug (AHTS) in Vung Tau, Vietnam. Goltens specialists performed crack tests on the affected crankpins and found deep crack lines on the crankpin surfaces. Following direction from Rolls Royce, Goltens conducted local grinding and determined that the crack depth went as deep as 1.2mm.

As the maximum undersize for the crankshaft in -2.00mm, the shipowner decided to proceed with the replacement of the crankshaft on the recommendation of the maker.

### BERGEN B32:40L8P PLANNING AND PREPARATION:

Goltens created a work procedure and schedule for the replacement of the crankshaft that was reviewed and approved by the maker and owner. Goltens then manufactured the tools required to lift the engine block and removed the condemned shaft, counterweights, pistons and connecting rods to Goltens workshop.

In the workshop, Goltens technicians refit the flywheel and damper to the new crankshaft and performed contact tests between the counterweights and the shaft. In addition, Goltens completed calibration checks and overhauled all pistons and connecting rods, replacing the two damaged connecting rods with onboard spare.

### CRANKSHAFT REPLACEMENT AND REBUILD:

All components were packed and prepared for transfer back to the vessel where preparations to rig and install the new crankshaft had already been made. Once rigged into the engine room, Goltens installed the crankshaft and rebuilt the engine with the overhauled components.

Laser alignment was performed on the engine and the team chocked the engine with Chockfast® Orange. Once complete, the engine was flushed and checked by the Rolls Royce engineer and dock and sea trials were completed with no issues. The entire repair was completed in only 20 days and the vessel was returned to service.

### PROJECT FACTS: CRANKSHAFT REPLACEMENT

Engine:	Bergen B32:40L8P
Location:	Vung Tau, Vietnam
Vessel:	Lewek Penguin
Tonnage:	2,437 DWT
Vessel Type:	AHTS/DP2
Horsepower:	10,800 BHP



Rigging of replacement crankshaft onboard



New crankshaft on deck in engine room





Crankshaft installation in process



Piston assemblies in workshop for overhaul



Rigging condemned crankshaft off vessel



Rebuilding of engine



Laser Alignment of engine



Chocking of engine