

CRANKSHAFT REPLACEMENT ON DEUTZ RBV12M350 MAIN ENGINE IN MALTA SHIPYARD

LINEBORING AND CRANKSHAFT REPLACEMENT RESTORES BADLY DAMAGED ENGINE

Goltens was contacted by the superintendent of a 7,359 DWT cement carrier to repair severe damage to its Deutz RBV12M350 main engine resulting from a main bearing failure.

Goltens mobilized its Diesel and In-Situ machining teams to the shipyard in Malta and disassembled the engine, which included the removal of the 5,500KG flywheel and the lifting and securing of the 20,000KG engine block to gain access to remove the crankshaft.

Inspection revealed that main bearings No. 1, 2, 3 and 4 had spun in the bearing pocket and had caused severe damage in the bedplate and crankshaft. It was determined that the crankshaft was condemned and would require replacement and that the bedplate would need to be line bored to oversize. Goltens presented the recommendations to the superintendent and began efforts to line bore the bedplate, replace the crankshaft and restore the engine to service.

IN-SITU MACHINING AND DIESEL REPAIRS:

- Dismantling of engine and removal of crankshaft
- Measurement of bedplate
- Hardness and crack test on bearing pockets
- Machining of the bearing caps and blue fitting
- Line boring of bedplate to oversize +2mm and +3mm
- Rigging of replacement crankshaft and reassembly of engine
- Laser alignment and chocking the engine using ITW Polymers' Chockfast Orange chocking product
- Operational testing of the engine and successful sea trial

DIESEL ENGINE REPAIR RESULTS:

Goltens completed the crankshaft replacement, line boring of the engine bedplate and rebuild of the engine resulting in satisfactory operational testing and sea trials returning the vessel to service. All work was accepted by the Lloyds Register surveyor, insurance company and vessel superintendent.

PROJECT FACTS: CRANKSHAFT REPLACEMENT

Engine Make/Model:	Deutz RBV12M350
Engine Output:	3,236 kW (4,400 hp) at 430 rpm
Vessel Tonnage:	7,359 DWT

