

## AROUND THE CLOCK ENGINE OVERHAUL KEEPS SEISMIC SURVEY VESSEL ON SCHEDULE

### BERGEN KRG-9 MAIN ENGINE OVERHAULS IN HOUSTON, TEXAS

A major geophysical services operator contracted with Goltens Houston to provide complete service maintenance, shore side support and supervision for the 60,000-hour overhaul of their Rolls-Royce main engines, performing the complete overhaul on one engine and supporting them on the other two. The seismic survey vessel is powered by three Rolls-Royce Bergen KRG-9 Main Engines and due to the vessel's critical schedule, the customer requested Goltens to operate in two shifts supporting 24-hour service activities on board.

Goltens immediately mobilized two teams and worked tirelessly to meet the schedule. Due to a delay in delivery of the planned exchange heads from the OEM, Goltens' shore side support provided transportation of cylinder heads to the Goltens workshop for cleaning and rebuilding, without any disruption to the onboard service activities and resources.

#### BERGEN KRG-9 MAIN ENGINE OVERHAUL SCOPE

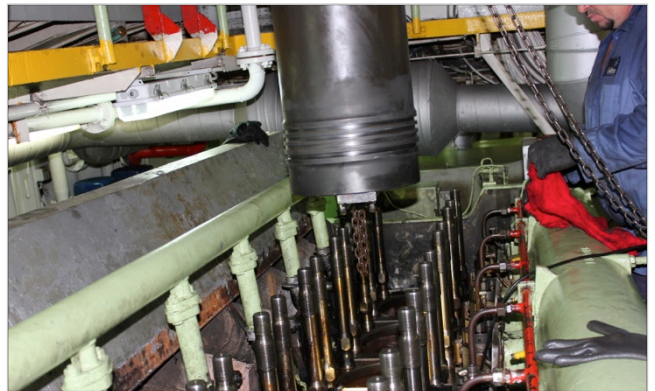
- Disassembly of engines
- Inspection and measurement of all key components
- Inspection of all contact and running surfaces
- Honing and de-glazing liners
- Pressure testing of injectors and fuel pumps – overhauled and replaced as required.
- Cleaning, rebuilding and pressure test cylinder heads
- Inspection/renewal of main bearings as required
- Lapping liner landing surfaces & reinstallation of liners
- Installation of rebuilt cylinder heads
- Replaced camshaft drive chain on two engines
- Reassembly of main engines with inspected, measured and recalibrated components.
- Commissioning and run in of main engines as per manufacturer's guidelines.

#### PROJECT FACTS: BERGEN KRG-9 OVERHAULS

Vessel Type:	Seismic Survey Vessel
Work Location:	Houston, Texas
Engine Make/Model:	Bergen KRG-9
Engine Output:	1825Kw, at 750RPM
Main Engines:	Three



Seismic Survey Vessel



24Hr operations- Two shifts reduce down time



Honing of cylinder liners onboard



### BERGEN KRG-9 OVERHAUL RESULTS

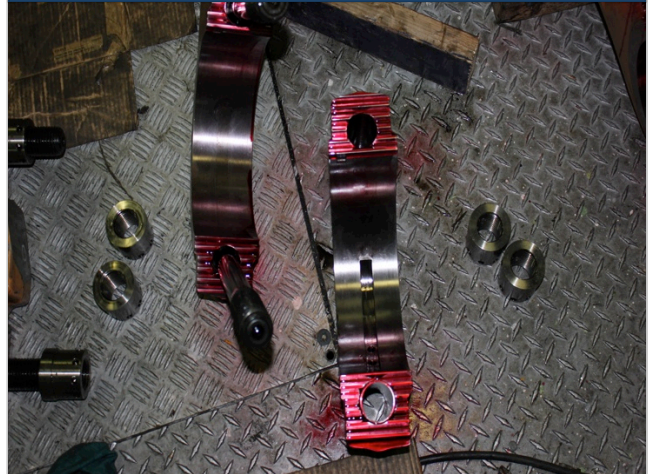
Goltens' diesel teams worked around the clock to overhaul the main engines. Operational tests reflected all operational performance measurements were within tolerances and Goltens delivered the engines to the customer.

The aggressive overhaul schedule was exceeded and allowed for any early departure for the vessel, getting it back on charter three days earlier than expected.

### CUSTOMER COMMENTS:

The customer commented that they were very satisfied with the quality of work, ability to hold the schedule and good communication with the vessel's engineering crew keeping them advised of the findings and status. The vessel superintendent noted that Goltens would be contracted to support their future overhaul work as well.

Calibration checks on big end bearing serrations



Calibration & crack checks on piston skirt



Liners- measured, honed, cleaned & installed



Test Run- Pre-Checks & Inspections