

# MAN 6L35MC MAIN-ENGINE **CRANKSHAFT REPLACEMENT MINIMIZES DOWNTIME FOR CHEMICAL TANKER**

## **INSPECTION LEADS TO COMPREHENSIVE REPAIR INCLUDING LINE BORING AND** SOURCING REPLACEMENT CRANKSHAFT

Goltens was engaged to inspect the main-engine crankshaft on a 23-year-old, 11,700-dwt chemical/product tanker anticipating that the crankshaft could be salvaged with insitu machining. The tanker had suffered major bearing failures on three of its main journals. Inspection revealed major damage to the running surfaces of the main journals that could not be rectified within the OEM's specifications. Goltens therefore recommended replacement of the crankshaft as well as a full inspection of the bedplate for potential replacement.

### **DRY-DOCK AND SUPPLY CHALLENGES**

The vessel was unable to secure a shipvard berth within a reasonable time frame and turned to Goltens for support. After numerous potential dry-docking options in Southern India and the broader Middle East were abandoned due to capacity issues, Goltens managed to secure a space alongside at a shipyard on the West Coast of India. The repair would have to be done with the vessel in the water.

Complicating matters further was the long lead time from the OEM for the delivery of a new crankshaft and associated spares required for the repair and rebuild. The customer again turned to Goltens for options. Our trading specialists were able to secure a suitable crankshaft of the same make/model of engine from a vessel heading to the breaker's yard. Once secured, the replacement crankshaft was fully inspected in the presence of Class and cleared for use.

## **REPAIRS PROGRESS SMOOTHLY**

Goltens' team mobilized to the yard complete with the required tooling to place lifting pad eyes and remove obstacles to the rigging of the crankshafts and other larger components. The engine was then fully disassembled with

#### PROJECT FACTS: CRANKSHAFT REPLACEMENT Engine Make/Model: Location: Vessel Type:

MAN 6L35MC

Tonnage:

India (West Coast) Chemical Tanker 11,700 DWT



Block removed from bedplate to enable crankshaft removal



Rigging condemned crankshaft from engine room



Laser alignment check of main bearing pockets



major components transported to Goltens' workshop for overhaul. On board, the in-situ specialists used lasers to check the main bearing pockets for damage and determined that, although the engine required line boring, the bedplate could be salvaged.

While the engine components were being overhauled and the replacement crankshaft transported to site, Goltens completed line boring of the engine now fitted with three replacement bearing caps provided by Goltens in preparation for installation of the crankshaft.

#### DOWNTIME KEPT TO AN ABSOLUTE MINIMUM

The technicians installed the crankshaft and rebuilt the engine before completing successful sea trials and handing the repaired engine over to the ship's Chief Engineer. Goltens specialists completed this challenging repair with the vessel afloat, supplying the crankshaft and other key components and arranging for an emergency berthing space.

Once again, Goltens completed a major repair while dramatically reducing vessel downtime for the owner.



Line boring of main engine bearing pockets



Tightening main bearing caps once crankshaft is installed prior to engine rebuild