

## IN-SITU MACHINING EIGHT CRANKPINS IN 14 DAYS ON CANADIAN FERRY

### 24/7 REPAIR EFFORT RESTORES MIRRLEES KVSS M16 V-TYPE MAIN ENGINE

During a routine maintenance inspection on one of its main engines, a British Columbia ferry operator discovered that the crankpins were in very poor condition. The owner contacted Goltens to perform an inspection on the 38-year-old engine and propose a repair.

Goltens performed a full inspection of the crankshaft and determined that the running surfaces of the crankpin journals were in very poor condition from years of wear. As no casualty had occurred, shaft straightness and hardness were both found to be within acceptable tolerances. Inspection of the main journals also revealed no damage.

Goltens reported the condition of the shaft to the owner and proposed machining the crankshaft in-place to restore it to service. Due to the demanding operational schedule of the vessel, the owner requested Goltens work around the clock to repair the engine.

Goltens sent two teams of in-situ crankshaft machining specialists to Canada to complete the repairs as quickly as possible.

#### IN-PLACE MACHINING CONSISTED OF:

- Performed Magnaflux crack test and hardness tests on all crankpins
- Performed run out and ovality checks on all crankpin journals
- Machined 8 crankpin journals to a finish diameter of 265.18mm and machined new fillet radii on all crankpins
- Super polished all journals to a finish of 0.15-0.18Ra

#### CRANKSHAFT MACHINING RESULTS:

Working around the clock, Goltens completed this job within 14 days onboard.

Additionally, Goltens supplied the undersized bearings to the customer and the vessel's crew took on the job to rebuild the engine and return it to operation.

#### PROJECT FACTS: CRANKPIN MACHINING

Engine Type:	Mirrlees National
Engine Model:	KVSS M16 V-Type
Number of Journals:	8
Original Diameter:	266.70mm
Finished Diameter:	265.18mm



Checking the journal diameter during machining



Performing hardness checks on damaged journal



Adjusting Goltens' Single Point Cutting Tools



Finished journal surface at 0.18Ra