WÄRTSILÄ

Wärtsilä Balancing shaft bearing monitoring system

The balancing shaft is a demanding and relatively expensive component of ship engines, and replacing the bearings in the event of damage will often not be sufficient to resolve a problem. In the worst case, the entire shaft as well as the oil sump must be replaced. In addition to the significant direct cost of replacement, vessel downtime and off-hire also result in lost revenue. The Wärtsilä Balancing shaft bearing monitoring system is an easy-to-install solution that helps prevent costly damage to Wärtsilä 4L20, A4L20 or Wärtsilä Vasa 4R32 engines.

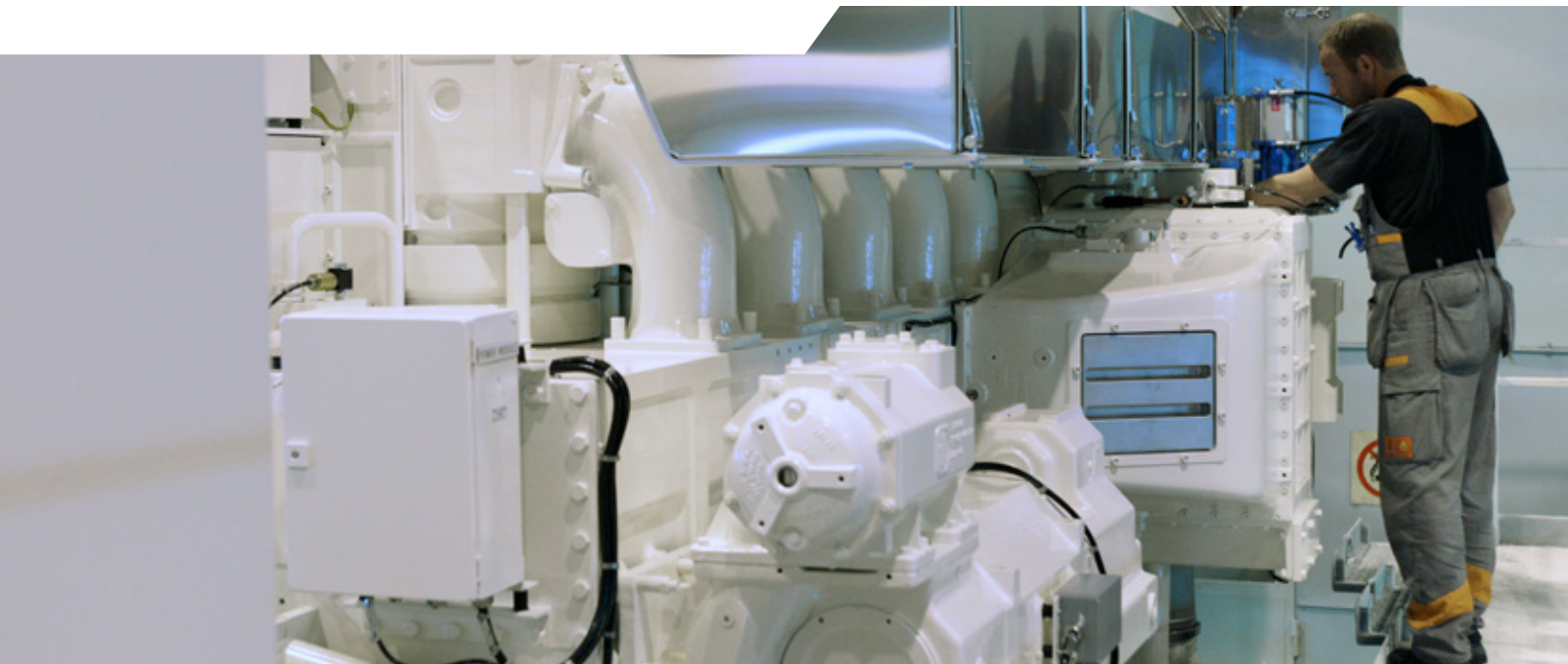
BALANCING SHAFT OPERATION

The balancing shafts counterbalances the second-order free forces on four-cylinder engines. Because the shafts rotate at twice the speed of the engine, the bearings are under heavy load and more sensitive to potential impurities in lubrication oil. Regular maintenance, including scheduled inspection or replacement of the bearings, is needed to ensure reliability.

However, because the balancing shafts are fitted below the crankshaft in the engine oil sump they can be challenging to access, meaning that the installation of replacement bearings and related components is typically difficult and costly. If an engine suffers balancing shaft damage, it is normally out of service for a several months due to the long delivery lead-time of replacement parts and the complexity of the repair work.

KEY BENEFITS

- Increase the reliability of your Wärtsilä 4L20, A4L20 and 4R32 engines
- Increase safety by preventing damage to balancing shafts with continuous monitoring of bearing temperature
- Reduce maintenance costs – no need for intermediate bearing inspection between scheduled replacement intervals



TECHNICAL CONCEPT

The Wärtsilä Balancing shaft bearing temperature monitoring system enables you to continuously measure bearing temperatures in the balancing shaft. The easy-to-install system enables the crew to monitor temperature trends and readings via a local display unit.

The system is connected to the vessel's main automation system, which triggers an alarm when pre-set values are exceeded. Measured temperatures can also be checked from the external monitoring system via Modbus TCP. In multi-engine installations, up to three engines can be connected to a single electrical cabinet with a local display unit.

SCOPE OF SUPPLY

The scope of supply includes:

- Monitoring system
  - Temperature sensors
  - Terminal box
  - Installation and parts assembly
  - Electrical cabinet with local display unit
- Installation
  - Configuration and testing

The solution can also be offered as part of a balancing shaft bearing replacement in collaboration with Wärtsilä Field Services.

The monitoring cabinet is an integral part of the temperature monitoring system.

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