Cut maintenance costs and safety risks with turbocharger condition monitoring

Benefits:
- Reduces maintenance costs
- Avoids catastrophic failures
- Improves reliability and predictability
- Reduces health and safety risks
- Meets classification agencies’ guidelines
- Eliminates or defers invasive maintenance and inspection
- Minimizes harbour time and costs

Applications:
- Plain bearing turbochargers
- Rolling bearing turbochargers

SKF condition monitoring solutions for turbochargers can increase predictability and reliability

Turbochargers are among a ship’s most critical pieces of equipment. They help provide the power to propel the vessel and generate power for all other on-board systems. If a turbocharger is unreliable, the results can be costly and dangerous – failed turbochargers have left main engines inoperable and vessels drifting at sea. Yet, without effective condition based maintenance, the only other way to prevent failures is to overhaul turbochargers at regular intervals, whether they need service or not.

SKF puts condition monitoring within reach

SKF makes implementing condition based maintenance practices easy, without the need for extensive training. SKF-installed accelerometers record turbocharger bearing vibration data, which can be collected automatically or by crew members with hand-held tools. The data is then transmitted through the ship’s communications system and analysed on-shore by certified SKF specialists.

Avoid unnecessary visual inspections

Rather than maintaining the turbochargers based on the number of operating hours, SKF monitoring technology helps make sure that repair and change-outs are performed only when the machine deviates from its expected conditions. There is no more time lost in port dismantling turbochargers for visual inspections – and no possibility of re-assembly mistakes.

Monitoring options that meet classifications

SKF offers a range of condition monitoring solutions that comply with major marine classification agency guidelines. Our products and services can serve a single ship or an entire fleet, and may include:
- Portable and robust data collector/analyzer instruments
- Signal conditioning and transmitter systems
- Installation and system set-up services
- Certified analysis of machine condition and reliability data
- Vibration and temperature sensors

For more information about SKF products and solutions for the marine industry, contact your SKF representative.
SKF Condition monitoring solutions for turbochargers

From manual surveillance to automatic protection systems, SKF condition monitoring solutions are configured to meet your needs and comply with major marine classification agency guidelines.

A. Handheld probe with fixed sensors
For this basic surveillance option, SKF installs studs onto the turbocharger’s bearings. Crewmembers can connect an SKF Microlog Analyzer fitted with an accelerometer to each stud to capture data, then download and transmit it through the ship’s communications system for remote analysis by SKF specialists.

B. Fixed transmitter system
For automatic, 24/7 protection, SKF can install fixed accelerometers directly onto the turbocharger’s three bearings that are then connected to SKF machine condition transmitters (MCT), which process the data to provide an output trend value and alarm level functionality. The MCT can be integrated into the ship’s digital control system to serve as a fully automated surveillance and protection system. Periodic machine condition data can also be easily accessed through external MCT connectors using an SKF Microlog Analyzer or SKF Wireless V/T data collector.

C. Fixed wireless system
With permanently installed accelerometers on the turbocharger directly connected to the Wireless V/T system, data collection is automatically carried out on a frequent basis. This configuration minimizes the amount of cable and gives a flexible configuration with minimum training requirements.

D. On-line surveillance
For automatic surveillance and in-depth analysis, SKF can provide highly technical on-line systems with multiple channel, advanced diagnostic and data management capabilities. The on-line system provides the user with comprehensive information about the turbocharger performance and condition.

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