

PREVENTIVE MAINTENANCE

# Hook/Shank Inspection



# Knowledge is power

Undetected defects and/or deficiencies in load-bearing or safety-related components can lead to catastrophic failure. Most compliance and preventive maintenance inspections rely on visual observations and measurements. Unfortunately, what you can't see can hurt you. Certain defects and deficiencies cannot be seen with the naked eye; others may occur within components that are not normally disassembled for inspection.

The Hook/Shank Inspection has been designed to uncover issues that may lead to hook or bottom block failure. Trained and qualified Konecranes service personnel disassemble the bottom block and inspect its components. They also utilize non-destructive testing (NDT) that can detect very fine cracks even in difficult to reach areas such as the threads on the inside diameter of holes.

Components in the bottom block are subjected to loads and stresses during each hoisting cycle. While hook failure can occur due to overloading or mechanical abuse of the hook, hooks most often fail due to cumulative fatigue. These failures usually originate as a fatigue crack in the hook shank. The hook shank, which transfers the load to the hook block, is supported within the body of the block by a rotate bearing and other mechanical components and is not visible without disassembly.

Inspection frequency for hook shanks should follow OEM recommendations and/or local regulations. If these are not readily available, Konecranes can recommend inspection intervals based on equipment usage and operating environment.



## FACTORS THAT MAY CONTRIBUTE TO CUMULATIVE FATIGUE

- Heavy process-duty applications
- Changes in application
- Overloads
- Cranes with more than 10 years of service
- The use of below-the-hook lifting devices which may exert bending and/or torsion stresses on the hook shank

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