

Case study

Diesel Engines: Reliable Power Meets Smart Inspection

Diesel engines are the backbone of many industrial applications, valued for their durability, fuel efficiency, and high torque output at low speeds. These engines power compressors, generators, heavy-duty trucks, railway locomotives, and marine vessels across sectors such as construction, transportation, agriculture, marine, power generation, mining, and industrial manufacturing.

Smarter Inspections with Video Borescopes

To maintain peak performance and avoid costly downtime, video borescopes are essential tools for both OEMs and operators. They enable non-destructive inspection of test and rebuilt engines, supporting proactive maintenance and asset optimization.

One Tool Does it All

Everest Mentor Flex video borescopes are engineered to tackle a wide range of inspection challenges:

- **Cylinder Inspection:** Evaluate cross-hatching and detect scoring. Larger-diameter probes provide brighter images for large, dark cylinders, while interchangeable optical tips offer the magnification needed to capture fine details.
- **Valve Assessment:** Inspect for erosion and cracks in valve seats. With precise 180° articulation, the probe can be maneuvered to look “back” at the valve for a comprehensive view.
- **Casting and Cylinder Head:** Detect cracks between cylinders and inspect seals and passageways. Advanced image transformations like DarkBoost™ and High Dynamic Range (HDR) automatically enhance contrast while brightening darker scenes, revealing critical details in low-light areas.



Inside the cylinder head with DarkBoost™ activated.



Scoring visible on the inside of the cylinder using Mentor Flex

Why Choose Everest Mentor Flex?

The Everest Mentor Flex delivers best-in-class image quality, robust articulation, and smart features that streamline inspections and improve accuracy:

- **Intuitive Interface & Menu Directed Inspection (MDI):** Speeds up workflow with digital tools for auto image tagging and report generation.
- **Wireless Connectivity:** Seamless video streaming and data transfer to iOS and Android devices.
- **Real3D™ Stereo Measurement:** Accurately assess defects using a fully surfaced 3D point cloud for precise measurement.
- **DarkBoost™ Technology:** Intelligently brightens dark areas without overexposing or degrading image contrast.
- **High Dynamic Range (HDR):** Combines image exposures of bright and dark areas to optimize image quality and increase probability of detection. See the Difference



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