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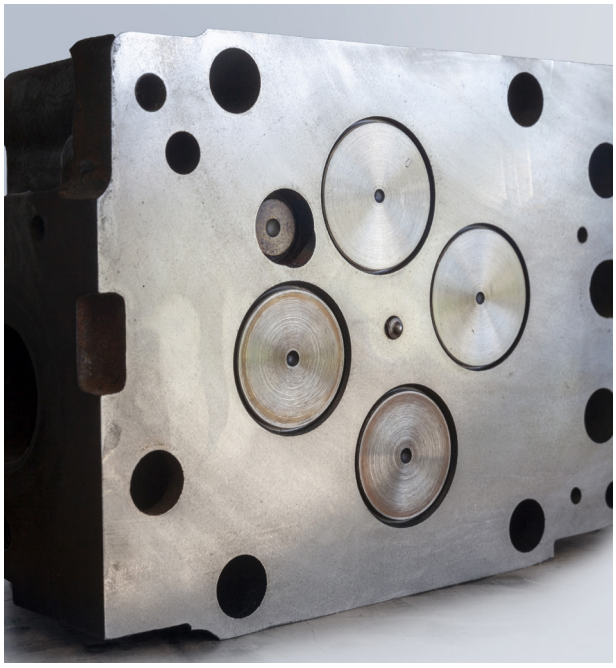
How SPRINT™ machine tool scanning technology can extend the service life of remanufactured engine components

On-machine scanning

Despite the global shift towards hybrid and all-electric vehicle manufacture, buses, trains, and vehicles in the marine, mining and construction sectors, remain highly reliant on internal combustion engines (ICE).

These vehicles have a life expectancy far greater than that of a typical domestic car, but their engines and associated components are subject to significant levels of wear and corrosion.

To obtain the expected service life, and to minimise costs, these engines are commonly remanufactured rather than replaced.



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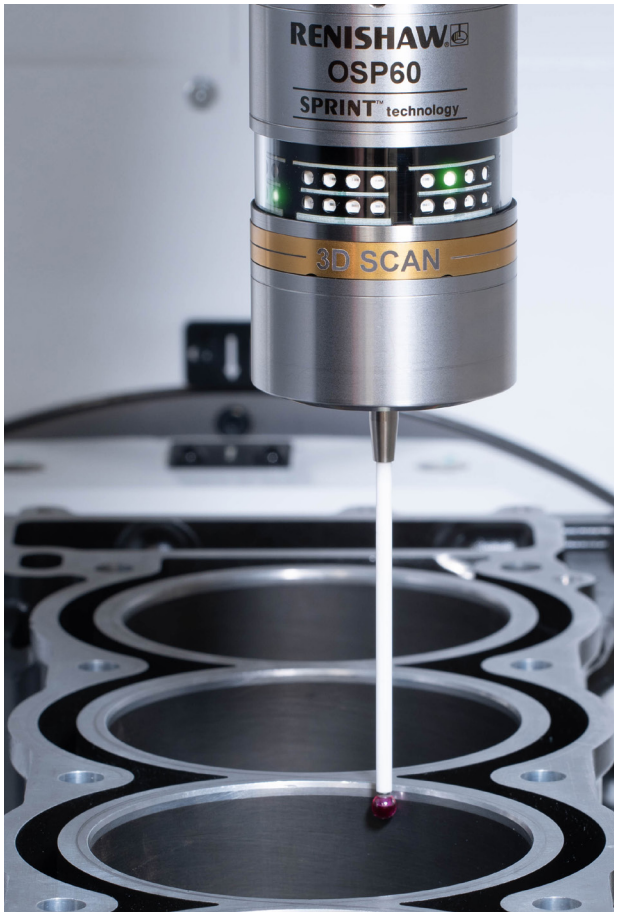
How can investment in on-machine scanning technology help you?

Engine remanufacturing (‘reman’) often includes refurbishment of the cylinder head and, occasionally, engine blocks. This process involves locating the lowest point of corrosion – often using touch-trigger probing – and a skimming operation to remove corroded material, leaving clean, unblemished metal.

However, touch-trigger probing can only provide limited data about the surface, and there is no guarantee it will identify the lowest point of corrosion.

On-machine scanning with SPRINT™ technology provides a high-speed, high-accuracy alternative to touch-trigger probing. Currently in use by a world-leading manufacturer of diesel engines for cylinder head remanufacture, it has been proven to capture more detailed part surface information than an equivalent touch-trigger process. A larger surface area can be inspected without impacting cycle time, increasing the chances of finding the lowest point of corrosion.

As a result, less material is removed during each skimming cycle, so each cylinder head can undergo more remanufacturing cycles than before, which is significantly extending their service life.



Information in this document is based on an existing installation of a Renishaw OSP60 probe with SPRINT technology.

The Renishaw OSP60 probe with SPRINT™ technology provides:

- An on-machine solution for reduced reliance on offline inspection processes
- High-speed, data-dense metrology information
- Highly accurate results, reducing scrap and rework
- Increased machine capacity and profitability
- Application flexibility beyond part set-up and feature verification

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