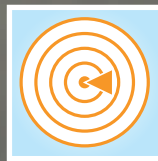
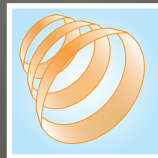


OTS cable-free tool setting probe



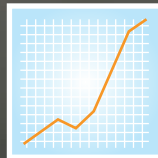
Fast and accurate

on-machine tool setting and
broken tool detection



Reliable

modulated optical transmission



Outstanding

performance for less scrap
and higher profits

OTS – innovative process control

Tackle process variation at source, and reap the rewards

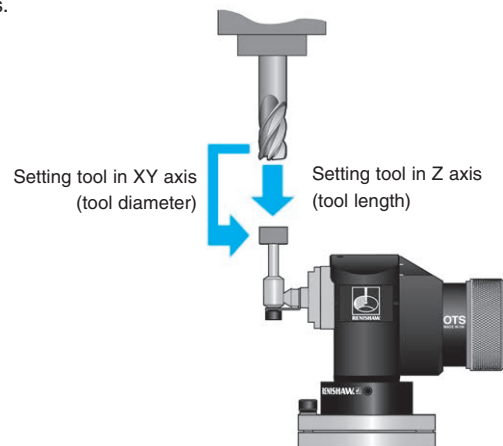
The higher the degree of human involvement in the manufacturing process, the higher the risk for error. Automated in-process measurement using Renishaw probes can help **eliminate the risk**. The Renishaw OTS optical tool setter can facilitate the following measures for enhanced management of your production leading to an **increase in your profits**.



Process setting

Automated on-machine tool setting eliminates manual setting operations.

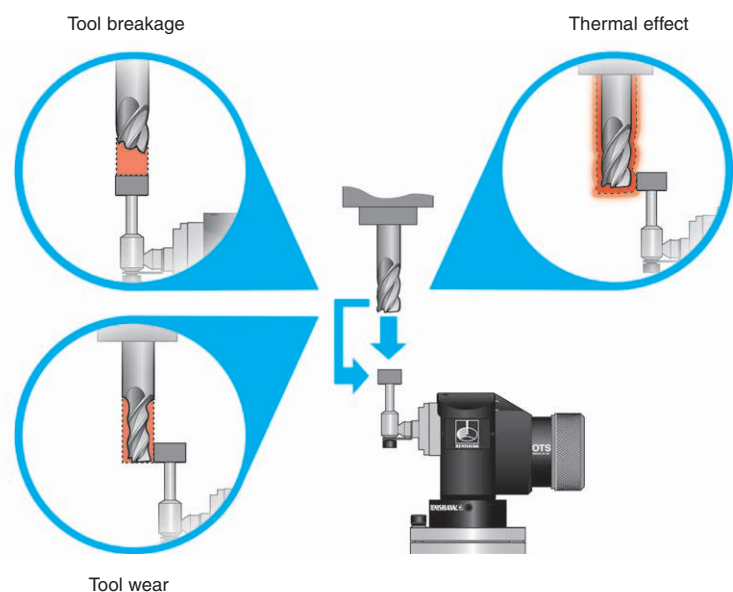
- Establish height offsets and check tool length is within tolerance
- Determine diameter when spinning to establish tool size offsets
- Compensate for dynamic effects on the machine tool
- Eliminate manual setting errors and data entry
- Set up faster, improve quality and reduce scrap



In-process control

Automated tool condition monitoring.

- Improve process capability and traceability
- Compensate for environmental and machine conditions
- Detect broken tools in-process
- Reduce non-productive time and scrap
- Increase productivity and profits

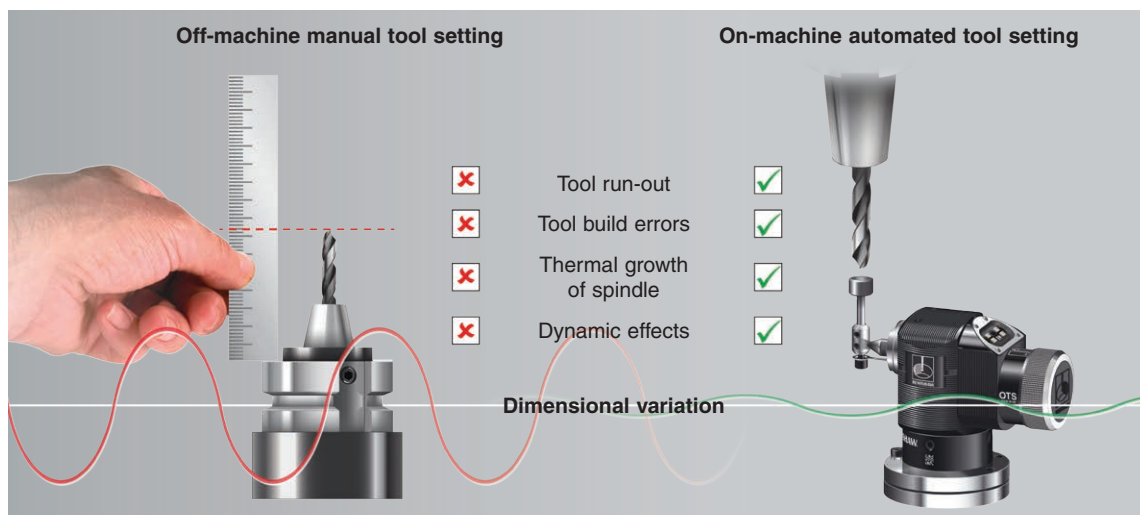


Optical Tool Setter (OTS) – more than just tool setting

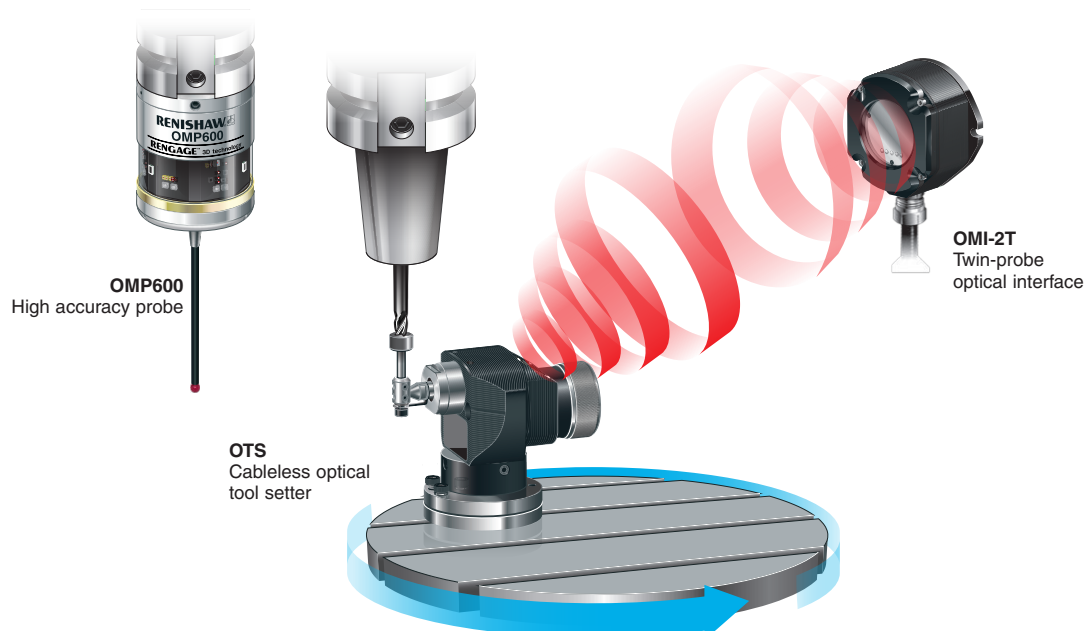
With Renishaw's OTS enabling faster and more accurate tool setting, the additional in-process benefits are significant. During machining processes, dimensional accuracy is dependent upon a number of variables, including: tool size deviation, tool/holder run-out and tool breakage.

Renishaw OTS tool setter can:

- compensate for variation during the machining process
- update the machine's controller automatically to account for actual effects, e.g. tool wear
- automatically stop the process when broken tools are detected
- reduce rework, concessions and scrap



In addition to the obvious performance and commercial benefits of a single OTS installation, even greater productivity enhancements are possible when OTS is integrated with other Renishaw optical products.



OTS and modulated transmission optimised for safe, reliable and efficient performance

The benefits of modulated transmission

Renishaw's modulated optical technology uses coded signals and is optimised to work within areas with multiple light sources.

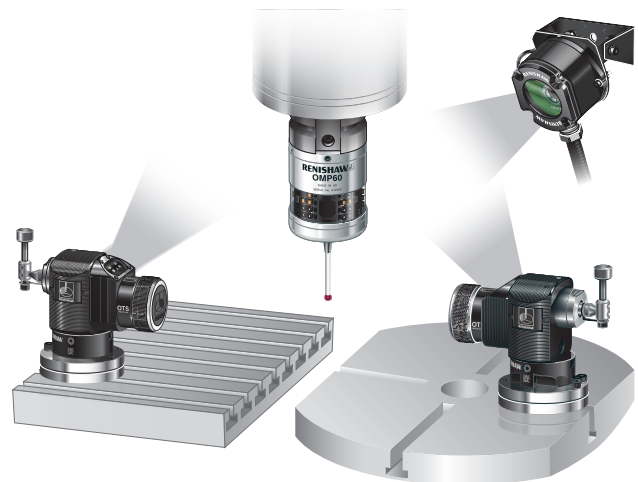
In addition to providing secure optical transmission, the OSI, in conjunction with OMM-2, enables up to three probes to be used; typically one or more OTS tool setters combined with one or more of Renishaw's optical inspection probes.

Multiple OTS tool setters provide an ideal solution for pallet loaded machines.



The advantages are clear to see:

- Resistant to interference from other light sources
- Robust and proven transmission method
- Single interface supports multiple probes
- Can be used with automatic tool changers
- Suitable for retrofit installation



Example of multi-probe system

Ease of use and reliability

Unique to Renishaw, Trigger Logic™ is a simple method enabling the user to quickly adjust probe settings for specific applications.

Constructed from the highest grade materials, Renishaw probes are robust and reliable in the harshest environments including shock, vibration, temperature extremes and even continual liquid immersion.

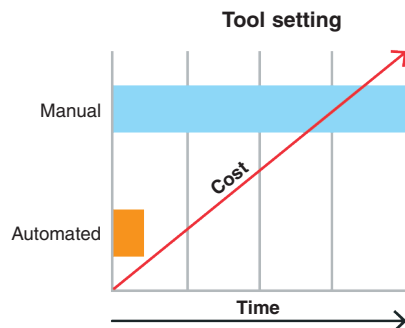


Tool setting pays...

Machine tools that are optimised to cut more metal, more reliably and more accurately will quickly **maximise productivity, profits and your competitive edge.**



Automated tool setting with the Renishaw OTS tool setting probe is up to 10 times faster than manual methods, which means immediate and **significant cost savings.**



Scrap and rework reduce productivity and profits. The Renishaw OTS tool setting probe helps guarantee “right first time” parts which means **reduced waste and increased profits.**

OTS key features

- Proven kinematic design
- Exceptional resistance to light interference with modulated transmission
- Direction adjustable infrared optical module
- Cable-free for unrestricted machine movement and ease of installation

... the Renishaw way

Renishaw, an established world leader in metrology solutions invented the touch-trigger probe in the 1970s.

Decades of customer focus and investment in development, coupled with our own manufacturing experience enables us to provide **innovative** and **exceptional products** that are unmatched for technical excellence and performance.



About Renishaw

Renishaw is an established world leader in engineering technologies, with a strong history of innovation in product development and manufacturing. Since its formation in 1973, the company has supplied leading-edge products that increase process productivity, improve product quality and deliver cost-effective automation solutions.

A worldwide network of subsidiary companies and distributors provides exceptional service and support for its customers.

Products include:

- Additive manufacturing and vacuum casting technologies for design, prototyping, and production applications
- Dental CAD/CAM scanning systems and supply of dental structures
- Encoder systems for high-accuracy linear, angle and rotary position feedback
- Fixturing for CMMs (co-ordinate measuring machines) and gauging systems
- Gauging systems for comparative measurement of machined parts
- High-speed laser measurement and surveying systems for use in extreme environments
- Laser and ballbar systems for performance measurement and calibration of machines
- Medical devices for neurosurgical applications
- Probe systems and software for job set-up, tool setting and inspection on CNC machine tools
- Raman spectroscopy systems for non-destructive material analysis
- Sensor systems and software for measurement on CMMs
- Styli for CMM and machine tool probe applications

For worldwide contact details, visit www.renishaw.com/contact



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