

Ballbar gives significant time savings for lathe manufacturer

Binns & Berry is one of the few remaining family-owned machine tool manufacturing companies in the UK. It manufactures CNC lathes to individual customer specifications as well as providing a refurbishment service for existing machines. The company is renowned for its large, rigid machines, supplied with axis swings of between 0.7m and 1.4m. Currently, over half of the company's business is exported, with major markets including the USA, India, Germany and Hong Kong.

The company had been interested in Renishaw's QC10 ballbar for a considerable amount of time, due to its ability to rapidly test the performance of machine tools. However, because full circle testing had not previously been possible on lathes, the Renishaw diagnostic software could not be used and the QC10 ballbar was of limited use to them. The introduction of the new 360° Lathe Kit finally gave them the opportunity to use the automatic diagnostic capability.

Today, the QC10 ballbar is used as a key tool in Binns & Berry's production process. It identifies specific adjustments that are required during the build of each machine, and is also used as part of the pass-off procedure. Each machine is supplied with a QC10 ballbar plot and a diagnostic printout as part of the machine's build report.

Carl Griffiths, Binns & Berry's Managing Director, estimates that "the QC10 ballbar saves an average of one days production per machine". This is achieved through early identification of problems during assembly – such as servo mismatch, which is commonly encountered. This time saving alone has easily recovered the purchase value of the QC10 ballbar within six months.

Within the build process, the ballbar has also enabled Binns & Berry to analyse its assembly procedures in more detail, and achieve a more consistent product, through re-evaluation of methodologies.

The company has recently started to look at ways of using the QC10 ballbar to help control its own machining processes. As well as being used as a valuable pass-off tool in the machine build process, there are also plans to use the QC10 ballbar as a monitoring tool for the machine tools used in the manufacture of



QC10 ballbar test on a Binns & Berry machine, cutting production time by an average of one day per machine

lathe components. It will provide early warning of change in a machine's capability, and enable the company to plan its maintenance in advance.

The QC10 ballbar is also being used by the company's sales-force as a tool to give an added quality feel to its products. As Carl Griffiths commented, "We are giving our customers more confidence in the machine's performance and quality". Every machine is now delivered with its own individual QC10 ballbar trace, which can be used as a benchmark for future performance.

When carrying out machine refurbishment work, the QC10 ballbar has also proved invaluable. During the recent rebuild of a large turning centre for an aerospace customer, initial circularity tests revealed an unacceptable level of accuracy at 65.7 microns. However, thanks to the ranked listing of all contributory errors provided by the ballbar's diagnostic software, maintenance engineers were able to improve the accuracy to an impressive 28.2 microns.

It is examples such as this that have convinced Binns & Berry that regular use of Renishaw's QC10 ballbar not only improves its internal efficiency and productivity, but also provides its customers with added confidence in a machine's capabilities.