

Machine Tool Service

BALLBAR ANALYSIS



Because of the tolerance requirements of a very competitive and technologically driven market, it is imperative that your machines are operating within optimum geometrical and positioning specifications. Our ballbar services will assist you with tracking a machine's performance and preparing for planned maintenance instead of reacting to a sudden non-compliance. In a few words, evaluating your machines with precision ballbar measuring equipment will give you and your customers the comfort that the product you produce and the product they receive was manufactured on equipment that is capable of meeting close tolerance results.

Ballbar Testing

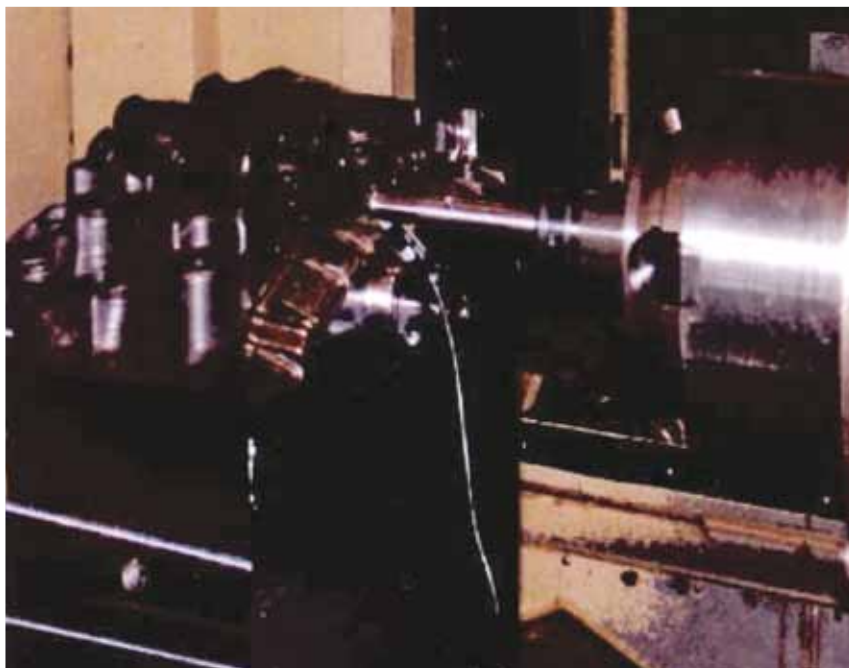
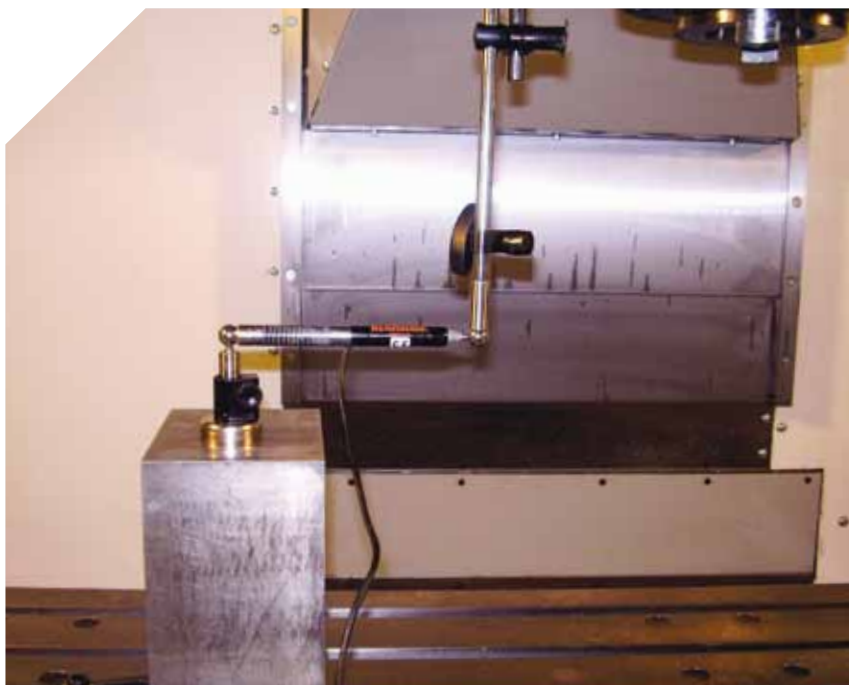
A ballbar is a linear displacement sensor based tool that provides a simple and fast check of a CNC machine tool's positioning accuracy to recognized international standards.

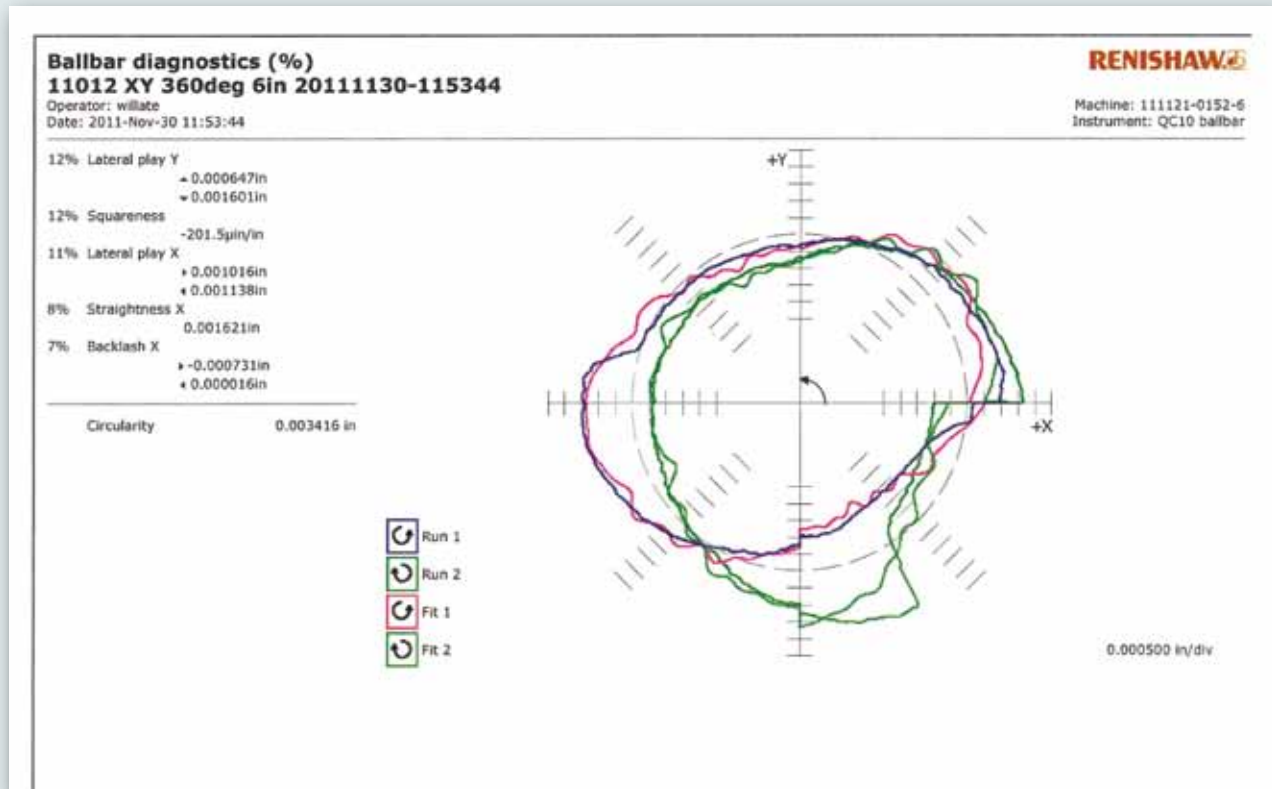
The measured results allow users to benchmark and track the performance of their machines. It also provides results to quickly diagnose problems that require maintenance.

Why use a ballbar?

Producing scrap parts cost TIME, MONEY and possibly even CUSTOMERS!

- > Ballbar testing will assist in managing the reliability of your CNC machine tools effectively.
- > Insures that a machine's capabilities before machining parts can greatly reduce the potential for scrap.
- > Ballbar testing can help prevent/predict machine downtime and as a result, lower manufacturing costs.





FAQs:

Q: How often should a machine be calibrated?

A: The answer, of course, depends on a customer's specific situation. Frequency of calibration depends on machine usage, including hours of operation and the type of work the machine is performing. For example, if a lot of work is done in aluminum this doesn't produce nearly the machining stresses that machining molds or dies from tool steel would. So a machine cutting aluminum would probably require calibration less often.

Typically, companies should consider calibrating their critical machines every six months, depending on the tolerances of their work. However, if a machine is crashed or if it begins to produce parts that are out of tolerance, it should be re-calibrated immediately to eliminate or reduce any damage that may be done to the machine.

Q: What sort of report is provided?

A: A visual report is provided showing the machines positioning and geometrical errors that are captured during the test. These errors appear as small deviations in the radius of the ballbar movement. The results are then plotted on the screen, to reveal how accurate the machine performed during the interpolation test.

If the machine performs accurately and had no significant errors, the plotted data would show a circle that is within tolerance. The presence of any errors will distort this circle as reflected in our sample document. Software automatically analyzes the data and diagnoses specific machine error characteristics. Each error is ranked according to its significance to overall machine accuracy and maintenance can be then performed to correct these errors.

Q: Are my records saved at Konecranes MTS?

A: Yes. In addition to providing our customers with a written report, Konecranes Machine Tool Service retains a copy of your test results in our service records.