

V.A. Ostafiev, Patri K. Venuvinod. A New Electromagnetic Contact Sensing Technique For Enhancing Machining Accuracy. – MED-Vol. 6-1, Manufacturing Science and Technology Volume 1 ASME 1997

This paper describes a new electromagnetic contact sensing technique called the "Fine Touch" method which enables the cutting tool itself to be used as a probe during on-machine measurement of parts. The simple sensor design of the probe (the cutting tool) has resulted in a low cost system for workpiece set-up and inspection. Tests have shown that the sensor precision is of the order of 0.01 mm and, hence, could be used in coordinate measuring machines (CMM) as well. The sensor is effective irrespective of variations in cutting tool geometry, cutting insert coating geometry and size, cutting fluids, and workpiece material.

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