



# A Problem Solver Application Bulletin

## Verifying Pierce Operations

The **Signature Technologies SA-2000 “SAM”** module, and **Signature Technologies “SamView™”** Software package can be used to non-contact evaluation of specific features on manufactured parts.

The illustrated method can perform the same type of test every stroke of the machine so the work pieces can be verified to have specific features present.

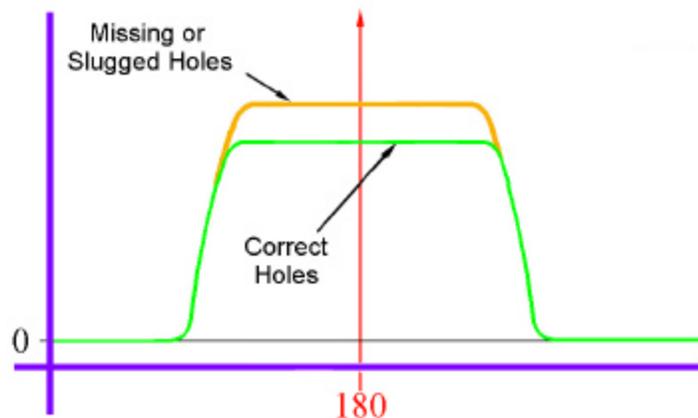
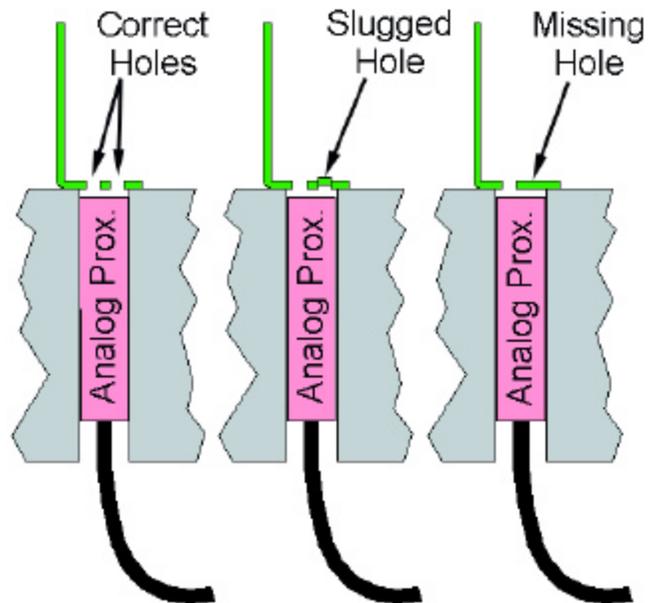
The system works by applying the work piece precisely positioned relative to the analog proximity displacement sensor each stroke of the machine. Since the displacement is always the same, the proximity then looks for AMOUNT of material in its sensing field, and if MORE material is present, then the indication is that a hole is missing, or its slug hasn't cleared.

Magnetic sensors have also a reaction to material variations, and magnetic history, so this method will not produce a precision measurement of the hole(s), but will easily indicate presence, absence, or gross deformity issues.

The measurement cannot be calibrated, and must be used as a comparative measurement.

Multiple sensors can be used in cases where there are several different features to measure, or where multiple measurements are required to insure proper formation of a single feature. The **SAM™** module can handle inputs in groups of 8 up to 56 total points.

**Signature Technologies** can supply a wide variety of solutions to various manufacturing process problems dealing with measurement, verification of properties, tool condition, and machine health. We can also “close the loop” by performing process adjustments in response to specific variations in force, location, or shape of the work piece, as well as more simple controls which can track and reject specific parts which don't meet specific quality criteria.



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