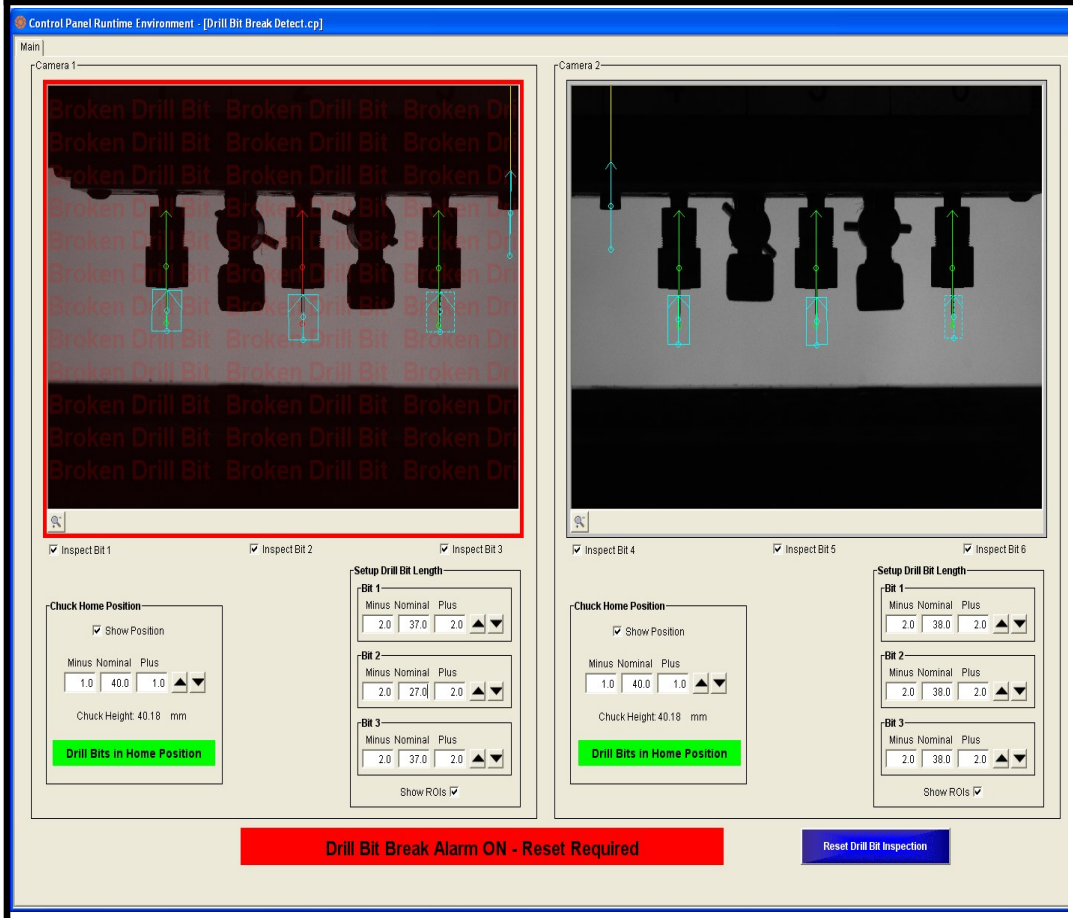
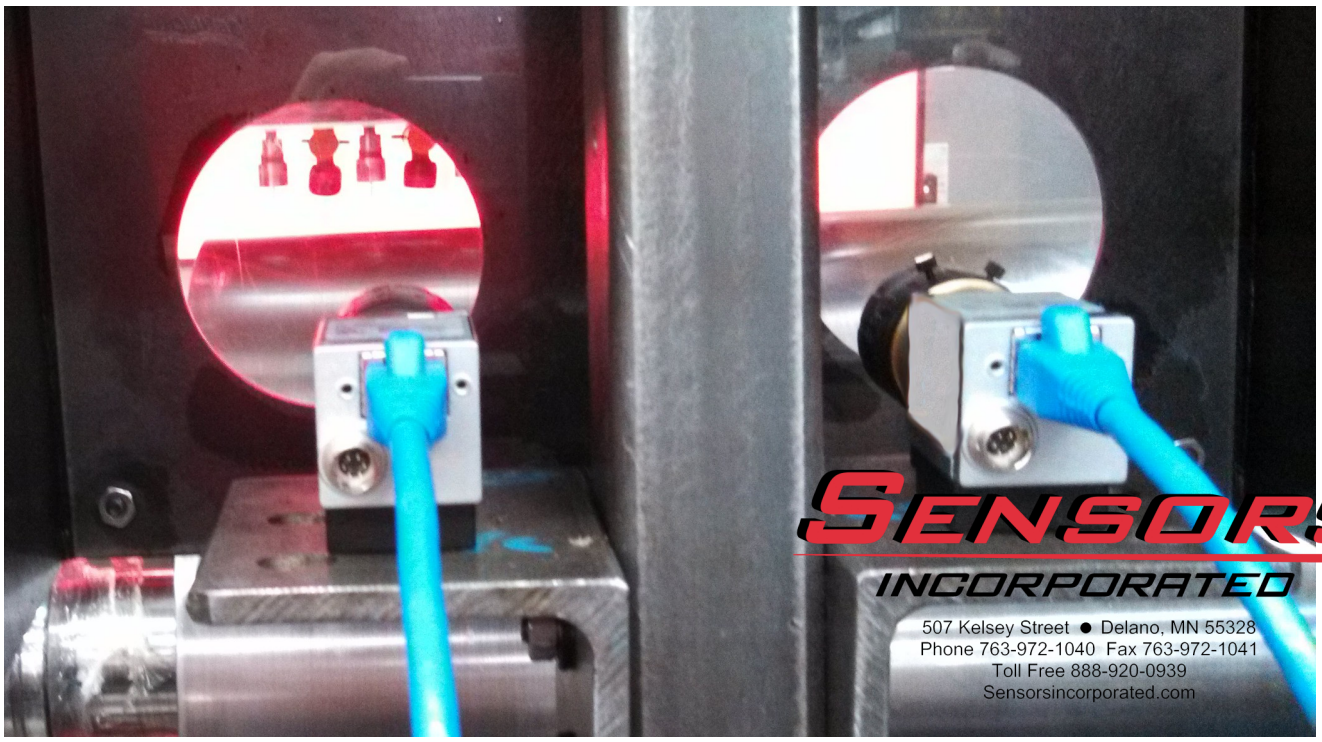
APPLICATION BREAKDOWN:

Broken Drill Bit Detection



A manufacturer was using a jig holding six very fine drill bits to drill tiny holes in a steel pipe. Unfortunately, the small diameter bits are easily broken. Because this was an automated process, broken bits resulted in missing holes. Unfinished parts would need to be pulled out of the system and manually finished, hurting throughput and generating high labor costs.

It would have been a simple vision application to detect the missing holes in the pipe, but it would not have solved the problem. Instead, the Sensors Inc. application engineers recommended the use of two cameras, each one covering three drill bits. After each machine cycle the cameras inspect the drill bits. If one or more are broken, an alarm is sounded. The machine operator can replace the bits without having to pull the pipe from the system