



The Incident That Sparked Industrial Edge

The plant manager was shocked; the quality assurance engineer was livid. It seems that an employee, who could not read a ruler, drilled 40 holes too deep into 20 very large and very expensive locomotive motors. The damage total was over \$600,000. The employee was given the assignment to drill these 40 holes to a specified depth with a magnetic base drill press. This drill press had a built in ruler scale, and the employee was instructed to stop when the appropriate depth was reached. Those holes, which were supposed to be 1.75" deep, ended up 2.25" – 2.50" deep, and ruined twenty 12,000-pound locomotive motors.

After the incident, a process engineer verified that the employee lacked basic ruler reading skills. When asked to identify several measurements on a ruler, the employee could not determine the correct answers. The procedure was changed to prevent future incidents like this, but the assumption throughout the hiring and task assignment process was: "everyone can read a ruler", WRONG.



The incident was so significant, that the customer's president personally took a trip to visit this vendor, and the incident almost destroyed the supplier-customer contract and relationship. The \$600,000 figure only included the rebuild cost for the 20 motors; it did not include the lost downtime of the locomotive inventory, which, if included, would probably double the original damage cost.

If you have processes that involve measuring, the stakes get higher as the tolerances get smaller. There is a lot less room for error when you are dealing with three and four place decimal measurements. The process mentioned above was actually a very forgiving tolerance at plus or minus an eighth of an inch.



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