

Statistical Method of Evaluating Firearms Design

Ilion, New York

July 7, 1970

To: Mr. W.E. Laek

From: Mr. C.B. Workman

Subject: Statistical Method of Evaluating Firearms Design
and
Manufacture

In March 1968, the attached article involving the M/700 rifle appeared in "Consumers' Reports". As you remember, the reaction by our Management was one of extreme displeasure. Accordingly, Mr. Burdett requested that we find a way to evaluate our future designs in order to eliminate similar incidents from further embarrassing our Company.

We pursued a method of statistical evaluation of components and assemblies that would tell us whether or not tolerance combinations and distributions, theoretical and actual, could cause trouble in our product. Meetings were held between Ilion Plant Quality Control, Bridgeport Quality Control and Ilion Research. It was decided that the pursuit of this technique was very expensive (Du Pont verbally quoted \$50,000 just to study the problem) and that the facilities and/or personnel at any one location were not available to produce such a program. For these and other reasons, the programs degenerated into a "keep watch" for someone else to develop what we were looking for.

In May 1970, Lloyd Fox referred Connecticut Scientific Center to me to discuss a tolerance evaluation program they had developed. These discussions revealed that a program of the type for which we had been searching had now been developed and was in use.