

cc: G.M. Calhoun
M.H. Walker
L. Fox

Ilion, New York
April 19, 1968

W. E. LEEK

MODEL-700-BDL QUALITY - COMPUTER AIDED DESIGN

Here is the memorandum from P.H. Burdett we discussed and in which we are being asked to consider what improvement if any might be accomplished through use of the computer as regards to established tolerances in detecting interferences beyond accepted levels, etc.. This has grown out of the recent incident of a trigger interference which was published in "Consumer Reports" magazine.

From Mr. Burdett's memo one might conclude that there is need for further information from Management regarding expected levels of quality from our standards of sampling, and how all of this including the economics of established tolerances relates to cost of manufacture. Messrs. Fox and Pressnell might go further in this area, and in the meantime we have answer regarding the specific computer applications. For example, I believe we reported earlier that with this system in combination with M/C model making it would be possible to build sample guns from design that would more nearly represent expected range of dimensional variations for the purpose of more reliable test results. However, we may not be thinking specifically of computer application for establishing tolerances or making interference checks. I believe that you plan to discuss this with Ed Yetter.

Perhaps the questions which have subsequently arisen may have come about by fact that Ilion reported four things to do to further safeguard specific trigger interference item in the M/700.

First, the design was described as being changed to increase clearance between trigger and trigger guard. This clearance may have been set up originally to give a desired appearance which is now being compromised.

Second, it was reported that the tool end gages for the stock inletting were being changed to reduce probability of a tolerance buildup among the receiver, magazine and floor plate cuts and the guard screw holes.

Third, it was planned to transfer the M/700 stock inletting to another machine which would provide better dimensional control.

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10 of 2

W.E. Lock

-1-

April 19, 1962

Finally, it was reported that all of the M/700 rifles were being gaged to assure clearance between trigger and trigger guard at inspection.

I have the impression that this latest request to analyze our tolerance checks for interferences should be aimed at the first item above as relates to the trigger clearance limited by the model drawings.

Please be prepared to discuss further with Dr. Calhoun during his visit this coming week.

W. M. Alvis
W. M. Alvis
Rifle Research Division

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2 of 2