CC: S. M. Alvis
H. J. Hackman
M. H. Walker

February 21, 1949

TO: D. S. Foote

FROM: W. E. Leek

SUBJECT: M/721 ACTION SHIFTING IN THE STOCK

Recent tests were performed on the Accuracy Device by using M/721 guns and it was definitely noted that the actions and barrels of the guns were shifting in the Stock. A stylus was placed on the Stock of two guns, 300 magnum caliber, which would make a mark on the rear tang of the Receiver, if any movement in any direction was apparent in the guns and it was noted that the action did shift rearward causing the point of aim to change.

Ten of the 300 magnums which were used in the test were found to have split Stocks before they were fired by the testers and it was found that most of the splits were caused by the Trigger Guard Screws resisting movement of the action in the Stock rearward, instead of the Recoil Plate performing its function. It has also been noted that the gun shifts forward due to its inertia effect and this of course causes the point of aim to change. It is recommended that these conditions be investigated and necessary changes be made to prevent the gun from shifting in the Stock which I believe, if this prevention takes place, will eventually eliminate great percentage of Stock breakages and improve the inherent accuracy of the gun.

Shifting of actions in Stocks is not generally noted in shooting from the shoulder as sighting is made along the Barrel and no movement of the Barrel with respect to the Stock can be detected. The reverse is true when the guns are fired in the Accuracy Device.

I have discussed the situation with M. H. Walker and it was felt that immediate action should be initiated to conduct similar tests to the one mentioned previously to determine what magnitude of the shifting of M/721 actions in the Stocks are and, if possible, to develop practical methods of preventing this shifting. If you agree, please advise me as to the appropriate work order which should be used for this work.

W. E. Leek

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