

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington
SUPERPETERS
SUPER

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

Ilion, New York
March 27, 1963

W. E. LEEK

MODEL XP-100 - TRIGGER BALANCE FUNCTION

This letter is in answer to your request for information on how the trigger balance functions to reduce jar-off.

The trigger balance is an independent member in the fire control mechanism. It is supported entirely by the stock, and is spring loaded to insure constant contact with the trigger link. Its purpose is to reduce jar-off potential when the gun is dropped on the muzzle.

The attached explanation and drawings explain in detail how the mechanism functions.

Testing of the gun was done in two phases. The first phase was to determine jar-off probability as compared with other guns presently in the line. Results of this test are shown on the attached sheet.

The second test phase was to determine the direct effect of the trigger balance in reducing jar-off. One gun with an adjustable sear block spring was used throughout the test. The gun was dropped on the muzzle from various heights on to a piece of 3/4 inch fir plywood, this being supported by concrete. The gun was dropped ten times under each condition. The gun was dropped with and without the trigger balance under all test conditions. When the trigger balance was removed, the sear block spring was adjusted to retain the original trigger pull. Test results are shown in the table below:

| Drop Ht. (Inches) | Trigger Pull (Pounds) | No. of Jar-Offs With Trig. Bal. (Total 10 Drops) | No. of Jar-Offs Without Trig. Bal. (Total 10 Drops) |
|----------------------|--------------------------|--|---|
| 30 | 2 1/2 | 0 | 10 |
| 26 | 2 1/2 | 0 | 8 |
| 26 | 1 1/2 | 2 | 10 |
| 20 | 1 1/2 | 0 | 10 |

These results indicate that the trigger balance was working effectively to reduce jar-off potential when the gun was dropped on the muzzle.

HLC:T

H. L. Chambers, Research Engineer
Firearms Design Section