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Ilion, New York  
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To: J.S. Martin  
From: R.C. Ecker  
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Objective:

To establish a value or dimension of "trigger creep" (trigger movement that is felt by shooter between the end of slack travel, if any, and the release of the firing pin).

Conclusion:

From the graph of rifles and shotguns, it is quite evident that the border between no creep ( ) and slight creep (x) is an .030 line. However, there is a trace of slight creep below the .030. This is caused by burr or sear edge, but by the same token we have a trace of no creep up in .060 movement area. This amount of movement was not noticeable to sense of feel because of the polished surfaces.

From the over and under graph, a group of no creep piled about the .060 line represents a long movement with no feel because of the polished surfaces. A good percentage of the creep is represented below .060 and is caused by rough surfaces.

Test Details:

The study of the trigger movement was made from a group of fire controls with various design mechanisms, both in rifles and shotguns, to try and relate the amount of trigger movement (creep) with sense of feel.

Each fire control was dry fired in a completely assembled gun several times to get the feel for that particular gun. An opinion was passed and recorded by the tester as to whether creep was present or not.

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Test Details (Continued):

The gun was then placed in a set up as shown by Skatch No. 1. The gun was placed endways, barrel up against an angle iron and held with "C" clamps. Measurements were made with height gage of the height of the trigger from the surface plates with the free motion removed. Then the height gage was anchored to the surface plate and turned down until the firing pin released. The reading was taken and subtracted from the first measurement, and the difference was recorded as trigger displacement. Results are shown on the following pages.

Trigger pull was measured with scales for each gun and recorded in pounds. Each fire control was typed as being one of three types.

1. Sear Hammer Type (as in Remington M/760) where the sear notch of the hammer is the farthest away from the hammer pivot point.
2. Hammer Sear (as in Winchester M/54) where the sear notch is close to the pivot point of hammer.
3. Striker - Blocked Sear (as in Remington M/700) where the striker is blocked and has to be released through a mechanism before the gun can fire.

ECE:sp  
Attach.