

DAILY PROGRESS REPORT

1/27/47

**SUBJECT:** M/721 Fire Control - Double Sear (Test #2)

**Objective:** To determine the functional performance, endurance and safety characteristics of a double sear for M/721 Fire Control.

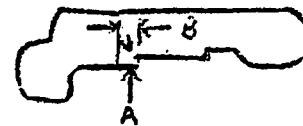
**Conclusions:** This test shows that the double sear used performed satisfactorily during 10,000 dry cycles, under dust conditions.

That the manual safety will withstand 10,000 dry cycle operations without appreciable wear.

TEST OF SEAR AND TRIGGER CONNECTOR WEAR

<u>Method</u>	<u>Measurement</u>
10,000 dry cycle bolt operations with dust conditions.	Sear Shoulder engaged by Trigger Connector.

Wear on Sear

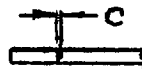


0 Cycles	A = 0	B = .0510
10,000 Cycles	A = .0014	B* = .0519
Change	- .0014	.0009

\*Note: "B" dimension enlarged because Trigger Connector forced metal to leading edge of Sear Shoulder.

TEST OF SAFETY WEAR

Sear Shoulder Engaged by Safety



0 Cycles -  
5,000 dry cycle safety operations without oil

C = 0

C = 0

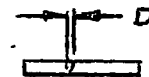
5,000 dry cycle operations with dust conditions

C = .0012

TOTAL

C = .0012

Safety Shoulder Engaging Sear



D = 0

D = .0009

D = .0014

D = .0023

Note: Angular wear due to faster break down of the rougher surface of the sheared edge of the safety.

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Rounds Fired After Dry Cycle Test

60

Remarks:

Gun would not fire in partially locked condition.

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