

APR 11 1948

FIELD IN DEPT. OF AGRICULTURE

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This report is issued to interested parties as to the results of the tests conducted on the various models of the aircraft. The results show that the aircraft is capable of performing all the required functions and is suitable for service.

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As previously reported, information in the report, the source of the information is as follows:

22. 10.

1944 - 1945

25477	2.550
25418	5.3-
25361	1.8
25397 (1.250 - 200 Gms)	1.2 (1.2 rounded)
	1.2 (1.2 rounded)
33428	5.2
24728	3.78
25317	1.94
25412	1.1

The conditions of the lease are as follows:

Ammunition: Lot F18-100, 120 grains, Port Point.
Range: 100 yards: 1. Power Peeps, Fore and Aft, Head, Chest.
Shooter: M. E. Baker and R. C. Cook
2 - 10 shot target for shooter.
Weather - clear, 10 winds

In several of the targets it was noted that some of the "holes" were in the rear of the targets. The accuracy of the guns may be attributed to the following conditions:

1. Length of the transmission line in km or mil. is given in Table 1.

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Gun 25347 was chosen for the initial test run to proceed to 1000 rounds of firing. The first 1000 rounds show a malfunction rate of 6.5%. Fifty-four (54) of the malfunctions were failures to eject. One was a failure to fire. The failure to fire occurred because of burrs on the base of the firing pin being in the firing pin hole, preventing the forward acceleration of the firing pin, resulting in the light impact of the primers. This condition could be corrected by grinding the firing pin tip. In the firing of 1000 rounds it was noted that several fired shells cases had lined, protruded primers and that these protruded primers were blocking on the edge of the ejector in the bolt head, preventing ejection. It is believed that the failure to eject malfunctions were caused directly or indirectly by the following:

1. Incorrect diameter dimensions on the inside section of the recessed bolt head.
- *2. Ejectors - in. length.
3. The overall length of the cartridges are under min. as compared with master diameter, which could allow the primers to set back and protrude beyond the base of the shell head.

The following analysis was done by J. H. Jones:

Dimensions of Ejector:

Min.	Max.
.1196"	.1199"
.1198	.1115
Min .1197	

Gun No.	Caliber	Ejector Load	Ejector Length
25347	Four	6 lbs.	.1110"
25347	Four	5-3/4 lbs.	.1113
25412	Four	6-3/4 lbs.	.1145
24728	Four	6-3/4 lbs.	.114
25412	Four	6-3/4 "	.115
25297	Four	6-3/4 "	.111
25361	Four	6-1/2 "	.111
23998	Four	5-3/4 "	.1385

Recommendations:

It is recommended that before proceeding further with the test, an investigation of US V-REBLES be initiated to determine if there is any functional performance change.

J. H. Jones
Engineering Section
Aircraft Division