

APR 15, 1948

77 - 100 - 17. 19. 1968
1968-1969

55-11-57

Age	Weight
25277	2.650
25418	5.3-
25361	7.8
25397 (1 hour ago Gals)	7.2 (11 rounds)
"	4.8 (10.5 rounds)
33798	5.2
24728	3.70
25327	2.94
25412	3.1

Ammunition: Lot F18-10, 150 grains, Port Point.
 Target: 100 yards: 1. Power Peeps, Fore and Aftport, Head, Chest.
 Shooters: M. E. Baker and E. A. Leach
 2 - 10 shot targets per shooter.
 Weather - clear, 70 winds

1. The length of the transition from the initial to the final state is 1000 units.

2. The length of the transition from the initial to the final state is 1000 units.

3. The length of the transition from the initial to the final state is 1000 units.

4. The length of the transition from the initial to the final state is 1000 units.

5. The length of the transition from the initial to the final state is 1000 units.

6. The length of the transition from the initial to the final state is 1000 units.

7. The length of the transition from the initial to the final state is 1000 units.

8. The length of the transition from the initial to the final state is 1000 units.

9. The length of the transition from the initial to the final state is 1000 units.

10. The length of the transition from the initial to the final state is 1000 units.

The following physical dimensions of the test gun were: Weight 10.14 lbs., muzzle velocity 1,000 ft./sec., muzzle energy 1,000 ft.-lb., muzzle energy 1,000 ft.-lb. The vertical dimensions as indicated contribute to the poor quality of the test results.

NO	NUMBER	1071	1072	1073	1074	1075	1076	1077	1078	1079
1	1071	1071	1072	1073	1074	1075	1076	1077	1078	1079
2	1080	1080	1081	1082	1083	1084	1085	1086	1087	1088
3	1089	1089	1090	1091	1092	1093	1094	1095	1096	1097
4	1098	1098	1099	1100	1101	1102	1103	1104	1105	1106
5	1107	1107	1108	1109	1110	1111	1112	1113	1114	1115
6	1116	1116	1117	1118	1119	1120	1121	1122	1123	1124
7	1125	1125	1126	1127	1128	1129	1130	1131	1132	1133
8	1134	1134	1135	1136	1137	1138	1139	1140	1141	1142
9	1143	1143	1144	1145	1146	1147	1148	1149	1150	1151
10	1152	1152	1153	1154	1155	1156	1157	1158	1159	1160
11	1161	1161	1162	1163	1164	1165	1166	1167	1168	1169
12	1170	1170	1171	1172	1173	1174	1175	1176	1177	1178
13	1179	1179	1180	1181	1182	1183	1184	1185	1186	1187
14	1188	1188	1189	1190	1191	1192	1193	1194	1195	1196
15	1197	1197	1198	1199	1200	1201	1202	1203	1204	1205
16	1206	1206	1207	1208	1209	1210	1211	1212	1213	1214
17	1215	1215	1216	1217	1218	1219	1220	1221	1222	1223
18	1224	1224	1225	1226	1227	1228	1229	1230	1231	1232
19	1233	1233	1234	1235	1236	1237	1238	1239	1240	1241
20	1242	1242	1243	1244	1245	1246	1247	1248	1249	1250
21	1251	1251	1252	1253	1254	1255	1256	1257	1258	1259
22	1260	1260	1261	1262	1263	1264	1265	1266	1267	1268
23	1269	1269	1270	1271	1272	1273	1274	1275	1276	1277
24	1278	1278	1279	1280	1281	1282	1283	1284	1285	1286
25	1287	1287	1288	1289	1290	1291	1292	1293	1294	1295
26	1296	1296	1297	1298	1299	1300	1301	1302	1303	1304
27	1305	1305	1306	1307	1308	1309	1310	1311	1312	1313
28	1314	1314	1315	1316	1317	1318	1319	1320	1321	1322
29	1323	1323	1324	1325	1326	1327	1328	1329	1330	1331
30	1332	1332	1333	1334	1335	1336	1337	1338	1339	1340
31	1341	1341	1342	1343	1344	1345	1346	1347	1348	1349
32	1350	1350	1351	1352	1353	1354	1355	1356	1357	1358
33	1359	1359	1360	1361	1362	1363	1364	1365	1366	1367
34	1368	1368	1369	1370	1371	1372	1373	1374	1375	1376
35	1377	1377	1378	1379	1380	1381	1382	1383	1384	1385
36	1386	1386	1387	1388	1389	1390	1391	1392	1393	1394
37	1395	1395	1396	1397	1398	1399	1400	1401	1402	1403
38	1404	1404	1405	1406	1407	1408	1409	1410	1411	1412
39	1413	1413	1414	1415	1416	1417	1418	1419	1420	1421
40	1422	1422	1423	1424	1425	1426	1427	1428	1429	1430
41	1431	1431	1432	1433	1434	1435	1436	1437	1438	1439
42	1440	1440	1441	1442	1443	1444	1445	1446	1447	1448
43	1449	1449	1450	1451	1452	1453	1454	1455	1456	1457
44	1458	1458	1459	1460	1461	1462	1463	1464	1465	1466
45	1467	1467	1468	1469	1470	1471	1472	1473	1474	1475
46	1476	1476	1477	1478	1479	1480	1481	1482	1483	1484
47	1485	1485	1486	1487	1488	1489	1490	1491	1492	1493
48	1494	1494	1495	1496	1497	1498	1499	1500	1501	1502
49	1503	1503	1504	1505	1506	1507	1508	1509	1510	1511
50	1512	1512	1513	1514	1515	1516	1517	1518	1519	1520

Final Report

all of the runs taken produced 4 errors to reject, most of these occurring when rejection was not correct prior to the end of the game however, some more than others in their performance during the first 100 rounds is as follows:

Run	Room	Percent	Category	new	operation	Time	Remarks
11	11	1.7%					11/11/11-11/11/11
12	12	1.7%					11/11/11-11/11/11
13	13	1.7%					11/11/11-11/11/11
14	14	1.7%					11/11/11-11/11/11
15	15	1.7%					11/11/11-11/11/11
16	16	1.7%					11/11/11-11/11/11
17	17	1.7%					11/11/11-11/11/11
18	18	1.7%					11/11/11-11/11/11
19	19	1.7%					11/11/11-11/11/11
20	20	1.7%					11/11/11-11/11/11

Gun 25347 was chosen for the initial test and to proceed to 1000 rounds of firing. The first 1000 rounds show a malfunction rate of 5.5%. Fifty-four (54) of the malfunctions were failures to eject. One was a failure to fire. The failure to fire occurred due to a fault on the base of the firing pin being in the firing pin hole, preventing the correct acceleration of the firing pin, resulting in the light impact of the primers. This condition could be corrected by changing the overall length. In the firing of 1000 rounds it was noted that there were shell cases that lined, protruded primers and that the protruded primers were blocking on the edge of the ejector in the bolt head, preventing ejection. It is believed that the following 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. Clark:

Dimensions of Ejector:

	Min.	Max.
Overall Length	.1125"	.1150"
Min. Diameter	.1080	.1115
Max. Diameter	.1157	

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	6-1/4 "	.111
23978	Four	5-3/4 "	.1385

Recommendations:

It is recommended that before proceeding further with the test, an investigation of the variables mentioned to poor quality of the functional performance be made.

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