REC. R.A.A.H.
NOV 6 1944

November 3, 1944

TO: [redacted]

FROM: [redacted]

SUBJECT: FINAL REPORT ON R-722 TEST

In accordance with your request, a summary of the cycle of the R-722 .308 Bolt test follows:

Test #1-14 These 14 bolts included 2 chamber [illegible] headspace, [illegible], and safety [illegible] checks. The [illegible] proof loads. The safety functions [illegible] half of the [illegible] the firing [illegible] the bolt [illegible] and 2 rounds [illegible]

Test #15-29 These bolts included [illegible] firing and accuracy tests. Also [illegible] trigger pull [illegible] 10 rounds with [illegible] cycle bolt with [illegible] of 4 rounds & [illegible] all bolts. The average extreme spread of 5-10 shot groups [illegible] The max. group was 3 3/8" and the min. group was [illegible] during the accuracy test that the bolt closed hard on the [illegible] caused over the head of the cartridge.

Test #30-50 These tests included firing of 400 rounds, accuracy tests, trigger pull, bolt lift, and headspace checks, plus 200 cycles with dummies and 3000 cycles on the endurance machine. One cartridge of the 400 rounds failed to feed and 6 failed to eject due to slow opening of the bolt. At the beginning of the accuracy test the extractor was found to be cracked at the center of the lip. This apparently does not affect its function. The average extreme spread for this second accuracy test was 2¼" with a max. group of 3" and a min. group of 1 1/8".

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On Test #2 the average trigger pull jumped to [illegible] pounds [illegible] ounces. This is uncomplained unless a lack of lubrication [illegible]. The hammer was satisfactory. The bolt lift averaged 7 pounds. The firing pin protrusion was .053". The firing pin hammer [illegible]. The safety functioned satisfactorily. An attempt was made to [illegible] safety work easier without success. In the first [illegible] it was discovered that the follower was worn from [illegible] of the bolt. The bolt was corrected. [illegible] There were 11 failures to feed the first [illegible] the 1000 cycles with dummies. During the [illegible] trigger pull was 4 pounds 10 ounces [illegible] The max. variation for any individual test [illegible] 1 ounce. The max. variation for any individual test was 1 [illegible] In the period of measurement will [illegible] average slightly over 7 pounds [illegible] average slightly under [illegible] subject of measurement was easily [illegible]

[illegible]

[illegible]

M. L. Walker
Design Group
Arms Section
Technical Division

MLW:[illegible]

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