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Illion, New York
 June 13, 1946

MEMORANDUM

TO: C. B. Westman *CBW*
 FROM: A. A. Hagler

DROP TESTING OF MODEL 600 POWDER METAL SEARS

The enclosed drop test procedure was organized and conducted using the R/600 with one piece powder metal sears. Drop testing at ten inches corresponds to the test manual standard and waist high drop testing (45") was included for increasing drop test severity. A sample of chrome plated powder metal sears produced by date was included for drop test purposes. Sears numbered 1 thru 5 are old style sears with the large .0015 inch radius at the connector surface edge. Sears numbered 6 thru 8 are new sears with .0015 inch radius at the connector surface edge.

Five control adjustments were made by production prior to drop testing.

Listed below are R/600 powder metal sear drop test observations:

1. The measured RC hardness of the new PM samples was 45 RC average versus 50 RC average for old samples.
2. No malfunctions were experienced at the normal drop height of 10".
3. Page 2 contains listed jaw-off malfunctions encountered during the waist high R/600 drop testing. These high drop malfunctions are similar to prior test results of May 1946 special "Jaw-Off" testing.
 - a. Tight sear pin holes of the new sears were polished out prior to drop testing.
 - b. Minor chipping of the sear connector edge of the old sear was noticed when examined with a 20X glass.

RECOMMENDATION

Based on R/700 and R/600 chrome plated powder metal sear testing, the new chrome powder metal sears should be considered for use in the R/600.

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