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Ilion, New York
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MEMORANDUM

TO: C. B. Workman *[Signature]*
FROM: A. A. Hugick *[Signature]*

DROP TESTING OF MODEL 600 POWDER METAL SEARS

The enclosed drop test procedure was organized and conducted using the M/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 plate powder metal sears produced to date was included for drop test purposes. Sears numbered 1 thru 5 are old style sears with the large .003⁺ inch radius at the connector surface edge. Sear numbered 6 thru 8 are new sears with .001⁺ inch radius at the connector surface edge.

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

Listed below are M/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 jar-off malfunctions encountered during the waist high M/600 drop testing. These high drop malfunctions are similar to prior test results of May 1964 special "Jar-Off" testing.
4. Tight sear pin holes of the new sears were polished out prior to drop testing.
5. Minor chipping of the sear connector edge of the old sear was noticed when examined with a 20X glass.

RECOMMENDATION

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

AAH:c
Enc.