

In Rifle #2 the bolt head was lapped to eliminate any "high spots" on the engagement surfaces and then lubricated before assembly. The recoil shoulders in the receiver were also surface hardened. This rifle was then submitted to 50,000 rds. dry cycle of operation under the same preloading of the bolt face as in Rifle #1. Head space growth was then satisfactory, having increased only .003" as compared to .010" for the Rifle #1. Firing pin indent was measured at .002" at start of the test and was uniformly satisfactory at the end of the test. Sear engagement was uniformly satisfactory. However, in this rifle the variation of trigger pull in the fire control was considered to be too great and will bear further investigation. At the start of the test the trigger pull was 3 lbs. 8 oz. and a maximum of 5 lbs. 0 oz. was measured and a minimum of 3 lbs. 6 oz.

Further investigation will be made in order to determine the cause of the variation in trigger pull. It is understood the Plant is proceeding to adopt recommendation for lapping the bolt as described above and to lubricate the head and sleeve at assembly. With addition of the localized hardening for the recoil shoulders and receivers it is believed that the complaints of growth in head space might be eliminated.

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