

**710 Dry Cycle**  
**6/16/00**  
**Brian Rages**

**PURPOSE**

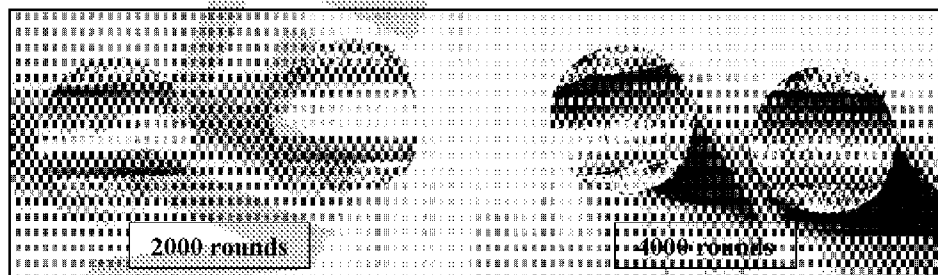
This report covers a dry cycle test of the 710 bolt / firing pin / fire control to 5000 cycles as requested by Test Lab Work Request # TLW 0010AE.

**PROCEDURE**

The procedure outlined in TLW 0010AE was followed. A Model 700 dry cycle fixture was modified to cycle the Model 710. Two guns were selected for testing: a Model 700 bearing serial number E6327227 and a Model 710 test gun marked "A15" and bearing the serial number XC1130. Both guns were not new. The Model 710 had already been fired 301 times. The barrels on each gun were cut to about three inches and the stocks were removed. The actions were each cycled repetitively to 5000 rounds. At each 1000 round level, headspace was checked, trigger engagement was measured using the Microvue equipment, and pictures were taken of four critical wear areas. The guns were cleaned and lubricated at each 1000 round level, and the parts were photographed again.

**RESULTS**

One part failure occurred on the Model 710. When the gun was disassembled after 2000 rounds, the bolt assembly pin was found broken in half. The pin was replaced, and the replaced pin was found broken when the gun was disassembled at 4000 rounds. The pin was again replaced. When the gun was disassembled after 5000 rounds, cracks were developing on the bolt assembly pin. The cracks developed on the top and bottom of the edge of the firing pin clearance hole through the pin. Four cracks could be seen: short, wide cracks on one side of the pin and longer hairline cracks on the other.



**Figure 1. Fracture surfaces of bolt assembly pins.**