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RESEARCH TEST AND MEASUREMENT REPORT

REPORT# 883411
W.O.# 018761
FEBRUARY 6, 1989

MODEL 700 EJECTOR RETAINING PIN DESIGN ACCEPTANCE

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ABSTRACT:

Research and Development finds the Design change of the Model 700 Ejector Retaining Pin to be acceptable. The design was changed from a solid pin to a spiral pin to increase reliability and reduce scrap. The evaluation consisted of dry cycle and endurance. The sample consisted of six rifles for endurance and six bolts for dry cycle.

Prepared by: D.R. Thomas
Date Prepared: February 6, 1989

proofread and cleared by:

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New Products Research Lab Director

J.R. Snedeker 7 Feb 89
W.H. Coleman 2/23/89

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MODEL 700 EJECTOR RETAINING PIN DESIGN ACCEPTANCE

TO: J.R. Snedeker
FROM: D.R. Thomas

INTRODUCTION:

On December 13, 1988 the Research Test Lab received a request from F.R. Wrisley to conduct a Design Acceptance Evaluation of the Spiral Ejector Pin. The evaluation consisted of dry cycle and endurance.

SCOPE OF THE TEST:

To determine if the Spiral Ejector Pin would work loose or wear excessively during dry cycle and endurance.

TEST RESULTS:

The sample of the Spiral Ejector Pin was found to be acceptable in all phases of the Design Acceptance Evaluation. The results of each phase of testing were as follows:

DRY CYCLE:

There was no sign of wear or deformation in any of the bolts.

ENDURANCE:

There was no sign of wear or deformation in any of the Spiral Ejector Retaining Pins. There were no malfunctions in 15,000 rounds of endurance shooting.

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REPORT TEXT:

GENERAL:

Six bolts were used for the dry cycle phase of the test:
Three control and three with spiral pins.

The following six rifles were used for the endurance phase of the Design Acceptance Evaluation:

C6326860 C6327200 C6328322 C6328540 C6326866 C6327314

The following two SWS rifles were also used for endurance testing:

C6284074 C6269697

TEST PROCEDURE:

DRY CYCLE:

Each of the six test bolts were placed in a dry cycle machine capable of depressing and releasing the Ejector repeatedly. Two controls and two bolts with a Spiral Ejector Pin were dry cycled 10,000 cycles each. One control and one bolt with a Spiral Ejector Pin was dry cycled 20,000 cycles. All six Ejector Pins were examined after dry cycling and were found to have no wear or deformation.

ENDURANCE:

All six test guns had the Spiral Ejector Pin in them.
500 rounds were shot through each of the six rifles.
500 additional rounds were shot through the four rifles listed below.

C6326860
C6328322
C6328540
C6326866

In addition, two SWS rifles with the Spiral Ejector Pin were endured to 5000 rounds each.

The ammunition used in the endurance was Remington R3006R2 & R3006R4. The endurance test was shot from the jacks in the shooting room located in 52-1-A. Government ammunition was used in the SWS rifles.

There were no malfunctions in the endurance testing.

After the endurance was shot the Spiral Ejector Pins were removed and examined. There was no sign of wear or deformation in any of the test parts.