

File #84

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FIREARMS RESEARCH DIVISION
PROGRESS REPORT - HIGHLIGHTS
FEBRUARY 1982

Remington Arms Company, Inc.

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NEW PRODUCT DEVELOPMENT

XSG/XPG Shotgun Design

Six new model guns which feature various combinations of receiver, feed system, locking system, carrier/carrier latch, action spring, and gas system designs are scheduled for completion by May 1, 1982. These models will be used to illustrate potential features for new generation shotguns.

Status of specific development items is as follows:

- Aluminum Receivers - Samples will be completed by March 15
- Rocker Arm Locking System - Prototype scheduled for testing in April
- Rear Locking System - Prototype scheduled for testing in March
- Carrier Release - Sample of new design in test; results favorable after 4,500 rounds.

M/7400/7600 Rifles

Nine rifles in 7mm Exp. Rem. caliber have been field functioned with the altered barrel extension. Malfunction rate was less than 1%. Production was given the release to produce the 7mm Exp. Rem. utilizing this change.

Screw machine firing pins have been endurance tested to 6,240 rounds in one gun and 4,300 rounds in the second gun. No breakage or excessive wear observed.

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M/4 Limited Edition

Production is still requiring Research assistance in some areas. A decision has been made by Marketing to use the same recoil pad used on the M/1100 Limited Edition.

Williams Gun Sight Co. no longer makes the Ivory bead front sight as originally shown. They have replaced it with a slightly different style which has been approved by Marketing.

M/4 - 6 Carbines

Samples have been provided to Marketing for evaluation.

Bolt Action Rifles

Five M/700 fire controls with blocked sears and blocked triggers are in the Test Lab for evaluation. Sample fire controls are complete without a connector to eliminate a part, insure a more positive lift, and maintain proper clearance. They are available for examination.

Two M/7 new generation bolt action rifles are now complete.

Bob Emmons Styling - Bolt Action Rifle

Two sample stocks were hand delivered to Ilion by Bob Emmons and reviewed by Research, Marketing, and Production personnel. Based on modifications to facilitate Production operations, Emmons will prepare a third sample which will feature alterations to the stock, action, and barrel contour. That sample is scheduled for completion by April 1, 1982.

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Bolt Action Carbine *Brooks*

Prototype, stamped 308 Cal. no-bind followers will be tested in March.

An aluminum former is still expected by March 1. Under our contingency plan a second generation master stock has been received and will be ready for the tool room February 24.

CURRENT PRODUCT DEVELOPMENTModel 870 Limited Edition

Etched plates and altered artwork were reviewed with the etching vendor, Newcut. New sample plates are due next month.

Model 870 Competition Trap Shotgun

Endurance testing of two guns with bolt-receiver clearance within the .035" limit established for Production has reached 34,500 and 32,000 rounds with no apparent cracking in the receivers. Those tests will continue in an effort to define receiver endurance life.

1982 Ducks Unlimited Shotguns

Drawings and parts lists for Commemorative and Special Dinner Models and Trade Model have been transmitted to Production.

Model 700 Classic Long Action in 257 Roberts

Guns for this limited run of M/700 Classics will have a standard SAAMI chamber.

Options being investigated to solve the feeding problem of this short cartridge in the long action consist of various redesigned magazine boxes, followers, and springs. Teflon coated boxes are also being considered.

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Warning Rollmark for Rifles and Shotguns

Drawings are being transmitted to the Plant to add the following information to all models: "WARNING - Read Instruction Book for Safe Operation - Free from Remington Arms Company, Inc., Ilion, N.Y., U.S.A."

Model 700 No Bind Follower

A larger sample of no bind followers will be completed in March for additional testing of all M/700 calibers.

PROCESS DEVELOPMENTForm-Rolling

Rol-Flo Engineering, Inc. has completed the form rolling dies for the M/1100 trigger plate pins. Material has been located, and blanks will be made in the N/C Shop. A pilot run, at Rol-Flo, is expected in April. *estimated, add economics*

Cut Checkering

Modifications to the M/Four stock checkering pattern are being made to accommodate the limitations of the CO.RE.MA. machine.

Several companies have been contacted about laser checkering. To date, all responses have been negative. The major concern is the brittleness of the points (diamond peaks) after burning with a laser.

Torlon Piston Seal

A Torlon piston seal, stainless piston, and an action bar sleeve modified to include a front shroud (to prevent excessive piston seal expansion) were endurance tested to 1,187 rounds, at which time the piston seal failed.

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Amoco, manufacturers of Torlon, feels that stronger seals can be molded by using a disc or diaphragm gating system. Amoco will mold 200 seals at a cost of \$2.50 each and no prototype tooling charge. While their quote of \$.26 each for production quantities is higher than the vendor previously quoted, a substantial \$30,000 cost savings would still be realized.

CNC Vertical Machining Center

Delivery of the Matsuura machining center is now expected in March.

M/979 Seismic Guns

The balance of two guns required to fulfill Mapco's order will be shipped in March.

Injection Molding of Metal and Ceramic Components

The Witec equipment is in storage in Bldg. 75. Installation will begin approximately March 1, pending completion of the renovations of Bldg. 76-2. Witec equipment start up is expected by April 1.

The molding machine has been shipped, with delivery expected by the end of February.

Visits were made to the Powder Metal reps in Chicago and Detroit to discuss the injection molding venture.