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FIREARMS RESEARCH DIVISION  
PROGRESS REPORT — HIGHLIGHTS  
APRIL 1982

*Remington Arms Company, Inc.*

NEW PRODUCT DEVELOPMENT

XSG/XPG Shotgun Design

Five of the six Research prototype XSG shotgun models are complete. Initial proof and function tests have begun. A review of design and capital investment requirements will be completed in May. Initial results indicate that a considerable reduction in cost should be possible without compromising basic design objectives.

Model 7400/7600 Rifles

M/7400 centerfire rifles are being tested with altered feeding ramps on the barrel extension. Completion is anticipated by the end of April. If test results are acceptable, the modification will be approved to permit use of the same barrel extension in all calibers.

Model 4 Limited Edition

Front sight alteration will have to be considered by Marketing. The front sight approved (Williams) does not fit well and does not provide an acceptable match with barrel finish. The recommended alternate design is the M/700 with the hood. Samples are being prepared.

Model Four Carbine

Several new models have been prepared for review by Marketing and Research. Test results to date with an aluminum receiver design have been satisfactory. The aluminum receiver provides an attractive, light weight design.

Research models in the .223 caliber are complete. Testing to determine bolt velocities is in progress. Magazine boxes have been received and the assembly is being evaluated.

Model 7400 - New Calibers

Test results on the 25-06 and 7mm-08 caliber models have been satisfactory. Testing included the proposed modification to feeding ramps on the barrel extension. Preliminary analysis indicates no problems related to the barrel extension.

Bolt Action Rifle Development

Preliminary design requirements have been established for a new generation bolt action rifle to replace the Model 700. Research prototypes will be fabricated to illustrate features of the preferred design and two contingency designs. Prototypes will include both straight classic and Monte Carlo with cheek piece stock designs.

A third sample stock by Bob Emmons has been completed and delivered to Ilion for review by Research, Marketing, and Production personnel. This model features modifications to the stock to facilitate Production operations. A fourth sample is being prepared to illustrate potential alterations to the barrel, receiver, and safety.

Model Seven Lightweight

Prototype stamped, no-bind follower testing in 7mm-08 caliber has been completed and is satisfactory. Prototype stamped .222 caliber no-bind followers are now in test.

Accuracy of the 7mm-08 caliber has not been resolved. Five rifles initially tested for accuracy had three that would not meet our specifications (2.7 inches center-to-center). The same five rifles have been shot with changes to the

floor plate pad material and free floating the barrel. Accuracy was improved. They were then shot under the same conditions as the original test but with tension added to barrel. Accuracy was improved further.

To verify these results, new stocks, being made by Fajan, will be available the first week of May. These stocks will be used to determine the optimum barrel pad height (barrel tension) and effect of steel floor plate pads.

#### CURRENT PRODUCT DEVELOPMENT

##### Model 870 Limited Edition

Etched samples have been received from Newcut and have been reviewed. This information has been delivered to Marketing for artwork changes. New samples will be ordered when revised artwork is available. This project is now one month behind schedule.

##### Model 870 Competition Trap Shotgun

28" barrels with improved modified choke for 16 yard shooting will be completed next month. They will be tested for pattern and point of impact. Part lists and drawings will be sent to Process Engineering in May for cost estimates.

##### Model 870 Ducks Unlimited 1982

Five receivers with the new rollmark and emblem have been endurance tested and are satisfactory. Trial and Pilot samples will be available in May.

##### Model 1100 Ducks Unlimited 1983

Artwork for the Commemorative and Trade Models have been completed. Prototype models will be completed in May. Specifications for the Special Dinner Model are required from Marketing.

Model 1100/870 Lightweight 20 Ga. - 28" Mod.

Barrels are complete and ready for testing. Parts lists and drawings will be provided to Process Engineering this week to obtain a cost estimate.

Model 1100/870 Left Hand Deer Barrel

Barrels are ready for polish and color. Parts lists and marked drawings will be provided to Process Engineering this week to obtain a cost estimate.

Model 700 No Bind Follower

Prints for prototype long action, stamped, no-bind followers will be reviewed with the vendor by the end of April. Prototype short action, stamped, no-bind followers are ready for testing.

Model 700 BDL, .223 Caliber

Production is scheduled to fabricate barrels by the end of April. When barrels are available, models will be assembled and tested for accuracy.

Model 700 Classic, .300 H&H

Models for Research testing will be completed by May 1.

PROCESS DEVELOPMENT

Form Rolling

A pilot quantity of M/870/1100 trigger plate pins was successfully form-rolled at Rol-Flo Engineering Company's plant. One million pins could be produced in 19 shifts at an estimated annual savings of \$10,000.

Burnishing of M/870/1100 and M/7400/7600 firing pins will be tried next. If successful, it will eliminate grinding firing pins, thereby reducing

the piece price and opening up other vendors. Further development work could concentrate on making the firing pin complete by form-rolling.

Cut Checkering

A M/Four checkering pattern, modified to accommodate the CO.RE.MA. stock machine, has been approved by Research Management for a pilot run. Machine templates are being made, and the 100 piece pilot run should start by May 3.

Unchecked M/Four stocks have been provided to CO.RE.MA. (Italy) to have checkered on their new machine.

A proposal from Kurt Manufacturing Company is expected in early May.

M/979 Seismic Gun

All guns ordered by Mapco have been shipped. No additional orders are expected.

Powder Metal Tool Steels

XSG slide blocks, processed by Valform from D-2 powder, have been measured and are dimensionally acceptable. They have been delivered to the Model Shop for two finishing operations, after which, they will be attached to inertia bars for Test Lab evaluation.

Injection Molding of Metal and Ceramic Components

An Arburg field service engineer was in the plant on April 7 and 8 to supervise startup of the injection molding machine, mold temperature controller, and granulator. All equipment functioned satisfactorily.

A Witec field service engineer arrived April 21 for startup of the processing equipment. The thermal extraction oven was cycled by the process controller on April 21. Startup of the sintering furnaces was completed on April 26.

A scope of work is being prepared to renovate the Alcet building.

Prototype machined scope mounts will be available for review with Marketing by the end of April.