

# LIMITED DISTRIBUTION

FIREARMS RESEARCH DIVISION  
PROGRESS REPORT -- HIGHLIGHTS  
MAY 1982

## Distribution List

R. E. Fielitz	<u>J. W. Bower</u>
W. H. Coleman, II	J. W. Brooks
C. B. Workman	R. B. Hurley
T. L. Capeletti	J. S. Martin

*Remington Arms Company, Inc.*

## NEW PRODUCT DEVELOPMENT

### XSG/XPG Shotgun Design

Five of the six Research prototype autoloading XSG shotguns are complete. The sixth model with a new feed system will be delayed two months due to Model Shop priorities. Schedule date for completion is now September, 1982.

The design/minimum investment analysis has been completed. A model gun to depict proposed design modifications is being fabricated for testing and evaluation.

In addition, major styling revisions are now being identified to provide a significant departure from current product appearance.

### Model 7400/7600 Rifles

M/7400 centerfire rifles with altered barrel extensions to improve feeding of the 7mm Express Rem caliber have been tested with satisfactory results. Tests were conducted on all available calibers. Model drawings have been transmitted. This will permit use of the same barrel extension in all calibers. The pump Model 7600 series is now being evaluated.

### Model Four Limited Edition

The front sight ramp has been altered to fit the Williams sight and the ramp finish has been improved. Marketing has indicated they do not want the Model 700 hooded design and will accept the Williams sight providing the fit is executed properly.

Model Four Carbine

Several new models have been prepared for review by Marketing and Research. Initial test results indicate that the aluminum receiver design will function satisfactorily. Additional models featuring changes in wood finish and barrel configuration are being fabricated.

Models in .223 caliber are in test. Problems encountered with magazine box components (follower and spring) may require redesign.

Model 7400 New Calibers

Test results on the 25-06 and 7mm-08 calibers are satisfactory. The 25-250 caliber, requested by Marketing, will require magazine box design work. Models are being made for testing by September, 1982.

Bolt Action Rifle Development

The fourth sample gun from Bob Emmons is scheduled to be completed by mid-June, 1982. Metal changes will include a tang safety, receiver alteration, and barrel alteration.

Three Research prototypes of the proposed New Generation bolt action rifles are being fabricated to illustrate design alternatives. One of the three prototypes will include a Bob Emmons' stock.

Sample scope mounts are being reviewed by Marketing. New scope mounts will be designed when a decision has been made regarding styling and functional objectives.

Model Seven Lightweight

Accuracy testing of 7mm-08 caliber rifles looks promising. New stocks have been received from Fajen with increased pad height to give more barrel support. Tests with a new barreled action in one of the stocks resulted in a combined average of 1.9 inches for three five-shot groups. Further testing will be conducted using more actions. In tests with five Model 700 7mm-08 rifles, accuracy has been unaffected by cutting off the barrel to 18-1/2 inches or by free floating the barrel. These results confirm those obtained to date with the Model Seven Lightweight design.

No-bind follower samples tested in the 7mm-08, 6mm, .243 and .308 were satisfactory, and prints were transmitted to the plant. However, .222 caliber no-bind follower test results were not satisfactory. There are two items to be investigated; the magazine spring and the follower.

CURRENT PRODUCT DEVELOPMENT

Model 870 Riot Gun - Jam Condition

A large sample (100) of Model 870 Riot guns with modified breech bolts and slides will be completed by the end of May. These will include addition of the Model 1100 cut to the bottom of the breech bolt and a slight chamfer to the right rear corner of the slide. Sample testing for the jam condition will be conducted. Pending acceptable test results, model drawing changes will be transmitted to the plant.

Model 870 Limited Edition

Fountain Plating has been requested to supply costs for sample plates on our present artwork. The artwork may have to be changed because the ejector rivet falls within the present etched area and may produce nonuniform etching and an unacceptable defect in the pattern.

Model 870 Competition Trap Shotgun

Models with 28" improved modified choke barrels have been completed and shot for point of impact and pattern. Data will be evaluated in early June.

Ducks Unlimited 1982

Commemorative and Special trial and pilot models have been inspected and accepted.

Ducks Unlimited 1983

Commemorative and Trade Research models have been completed and delivered to Marketing. Specifications for the Special Dinner model are expected by the end of May.

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

Shotguns have been assembled and provided to the Test Lab.

Model 870/1100 Left Hand Deer Barrel

Shotguns have been assembled and provided to the Test Lab.

Model 700 Restyle

A prototype will be completed in June.

- o Long action, no-bind stamped followers have been completed and sent to the Lab for testing.

Model 700 Restyle (cont'd.)

- o Short action, no-bind stamped followers for 6mm size cartridges have been tested. Results were satisfactory; prints were transmitted to the plant.
- o .222 Caliber no-bind stamped follower tests were not satisfactory. The magazine spring and follower size are being investigated.

Model 700 Classic in 300 H & H Caliber

Models will be tested the first part of June.

Model 700 BDL in .223 Caliber

Production barrels will be chambered and rifles completed by the Custom Shop for preliminary testing in June.

PROCESS DEVELOPMENT

Form Rolling

Rol-Flo Engineering has requested \$500 to build tooling to burnish M/870 and M/1100 firing pins. Purchasing has been requested to obtain firing pin blanks that have been turned, but not ground. Purchasing has also been requested to determine the piece price differential if the vendor eliminates the present grind operation.

Cut Checkering

The pilot run of the CO.RE.MA. stock machine has been delayed because of difficulties developing an adequate template for the right side of the grip. The pilot run should start by June 1.

A. R. Baszczuk, Firearms Modernization Group, will stop at CO.RE.MA. during his visit to Italy and review their latest machines for us.

Kurt Manufacturing is prepared to checker our stocks in their plant during the first half of June.

Bostomatic has been authorized to build a fixture and develop the software for a test run of their machine.

Injection Molding of Metal and Ceramic Components

The molding machine and Witec equipment are operational. Witec 2% Ni-Fe, 50% Ni-Fe, and 316 stainless materials have been processed.

Parmatech 2% Ni-Fe has been molded and will be forwarded to either EDL or Parmatech for further processing.

Preliminary testing of electrical connector pins at Bendix-Sidney indicate that injection molded parts are satisfactory. Testing is continuing. Bendix has also requested new quotes, utilizing tooling for the Minijector molding machine, on two other components.

Industrial Engineering has supplied factory costs on approximately 100 firearm components that would be candidates for injection molding. M/700 magazine followers and scope mounts will be worked on first.

Torlon Piston Seal

Amoco has supplied piston seals molded with a diaphragm gating system.

Testing can start by the middle of June, pending Test Lab priorities.

Testing and Inspection

Costs are being established for automating the gallery and final inspection.