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PROGRESS REPORT - HIGHLIGHTS
APRIL 1983

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Remington Arms Company, Inc.

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NEW PRODUCT DEVELOPMENT

(J. S. Martin)

Model 1100 Special Shotgun

(D. S. Findlay, T. P. Powers)

Research has begun pilot line acceptance testing for both the LT-20 and 12 Ga. Specials. Production has encountered problems with cracking of the fore-ends and mismatch between parts of the two piece butt plate. Research personnel are providing assistance as required to solve these problems.

Model 870 Special Field Shotgun

(D. S. Findlay, F. H. Smith)

One (1) sample each of the 12 Ga. and LTWT-20 Specials have been completed for evaluation and have been approved by Marketing. Testing of five (5) 12 Ga. Specials has been completed to 5,000 rounds each with no problems. Five (5) LTWT-20's are currently in test. Drawings for transmittal by May 1st are complete and await Operations Committee approval.

Model Eighty-Seven Pump Shotgun

(D. S. Findlay, K. L. Calkins)

The Model *Eighty-Seven* will be a styling upgrade of the Model 870 pump action shotgun. Specifications include 12 Gauge only, 3" chamber only, and cut checkering.

Five (5) prototype guns were assembled and evaluated by Marketing. Two (2) additional samples to illustrate design options were requested and will be ready for evaluation by mid-May.

Model 111 Autoloading Shotgun

(D. S. Findlay, J. L. Kast)

The Model 111 is tentatively scheduled to replace the Model 1100 in 1987. Objectives include improved strength, lighter weight, and new styling features. One (1) prototype is in endurance test. Four (4) additional samples are to be completed by May 30th for additional Design Verification testing.

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Model 870 Riot Shotgun

(A. A. Hugick, T. G. Bauman)

Three (3) test guns with the new slide block and carrier design have been tested to 750 rounds with no apparent problems. These endurance tests will be extended to 50,000 rounds to confirm acceptability of the design. Tests are being delayed due to priorities placed on other programs. Engineering drawings have been turned over to Process for cost evaluation. Alternative designs are being considered to facilitate disassembly.

Model 7400 Carbine

(R. S. Murphy, A. R. Eddy)

Preliminary design has been completed on a ten (10) shot magazine box for the Model 7400, .223 caliber carbine. Contact with vendors on magazine prototypes is scheduled for the week of April 25th. Function testing continues on the four (4) shot box with no significant problems after approximately 5,000 rounds. Turned barrels will be finished the week of April 25th.

Bolt Action Rifle

(F. E. Martin, T. G. Bauman)

The first sample of the Model 700 *Lightweight* (scheduled for 1985) has been completed and is being reviewed by Research and Marketing. A second sample (featuring a cast off-toe out stock) has been assembled and is available for examination.

Work on the Model 700 BDL replacement (tentatively scheduled for 1987) is continuing. The first prototype is 80% complete.

CURRENT PRODUCT DEVELOPMENT

(J. W. Brooks)

Model 870 Police Shotgun

(T. J. Plunkett)

A prototype has been completed of the 12 Ga. Magnum Police Shotgun with an 18" full choke barrel. Prototype barrels are ready for Design Verification of point of impact. Tests will be completed by May 6.

Model XP-100 in .223 and 7mm-08 Caliber (T. J. Plunkett)

Three (3) XP-100 prototypes in .308 caliber were tested in current production stocks. The stocks failed (cracked). Fiberglass stocks are being considered for use with the 7mm-08 caliber.

Four (4) XP-100 prototypes in .223 caliber will be tested by May 6.

Model 870/1100 12 Ga. Waterfowl Shotgun (P. Nasypany)

Prototypes featuring birch wood with oil finish and parkerized metal finish will be completed in May.

Model 870 Limited Edition (P. Nasypany)

Sample etched receivers have been received and will be delivered to Marketing in April for artwork approval.

Model 700 Classic in .338 Win. Mag. and 250-3000 Savage Calibers

(P. Nasypany)

A New Product Development Request has been prepared for both calibers. Work on the .338 Win. Mag. caliber will be delayed until the Request is approved because new mandrels are required.

Prototype rifles in 250-3000 Savage have been completed using current 25 caliber barrels. Accuracy with 100 grain bullets was less than 2.0 inches. They will now be tested with 87 grain bullets. Function testing is in progress.

Model Seven Lightweight Rifle (D. E. Bullis)

Two hundred (200) prototype floor plate bases, trigger guard plates, floor plate covers, and trigger guards made from thicker material have been received. Rifles with these revised components are being assembled for test.

Model 870-1100 20 Ga. Mag. 28" Mod. Vent

Trial and Pilot Test of the Model 1100 was satisfactory. The Model 870 Trial and Pilot Test will be completed in May.

MATERIALS AND PROCESS DEVELOPMENT (J. W. Bower)

Injection Molding Metal and Ceramic Components (C. Lall, B. Panagian, K. C. Rowlands, M. Tasovac, M. J. Topolski)

Development of the Model 700 magazine follower is proceeding on schedule. A process for the continuous sintering of a Remington Fe-2% Ni feedstock has been developed. Samples made by this process were carburized and exhibited a good, controlled, case depth. Black oxide treatment of both the as-sintered and as-carburized followers resulted in a good, even, finish.

Parmatech WC-6%Co (Tungsten Carbide - 6% Cobalt) has been blended, molded, debinderized and sintered, using equipment both here and at CR&D. Density and hardness values were good, but transverse rupture strength was very low, possibly the result of equipment problems during sinter. Further tests are in progress.

Cut Checkering Machine Development (R. J. Balaska, A. M. Makowski, B. Panagian)

Research and Production personnel visited CO.RE.MA.'s plant in Brescia, Italy, to review their newest CNC machine. Additional information is being gathered on the CNC control unit. A decision on purchase of this machine will be made by the end of May.

The fixture and capsule for the Bostomatic machine has been designed and is in the Model Shop for build. Renovation of Building 72-1, for installation of the Bostomatic, will be completed by June 15.

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Testing and Inspection(J. A. Lawrence, A. M. Makowski,
B. Panagian)

EPL reviewed the results of their findings on the practicality of 100% inspection of discrete components. Their conclusion is that two (2) flexible inspection systems could be developed to inspect most of the parts purchased or produced by Remington. Annual savings are estimated (high-spot) to be at least \$520M plus savings on purchased parts and product litigation.

EPL has requested additional funding for further study and conceptual systems design. The Firearms Modernization Department has been asked if they wish to take part in the study, as it seems to complement their program.

Form-Rolling

(E. R. Owens)

Purchasing has been requested to begin preliminary negotiations with Rol-Flo Engineering, Inc. for a contract to develop a form rolled shotgun firing pin.

Testing and Certification of Magnetic Powder Metal Components

(C. Lall)

Problems with the magnetic properties of some production samples have been traced to poor sintering as a result of unsuitable furnace conditions. Different furnaces and modifications to the sintering procedure are being attempted to overcome these difficulties.

Wear Resistant Powder Metal Alloys (C. Lall, M. J. Topolski)

A report has been issued on a modified 410 stainless steel alloy (experimental P/M #HD-7017), describing the preferred processing method and preliminary test results. New materials have been purchased for another series of experiments before release to Production.

Coatings

(J. A. Lawrence)

ETL has completed their analysis of two (2) cutters that are particularly troublesome to Production. Their report and recommendations are due by mid-May.

Three (3) Model 700 barreled actions have been Pyro-Dux treated. They are in the Test Lab for accuracy improvement evaluation. Chrome plated shotgun barrels are also in the Test Lab awaiting endurance testing.

Four-Slide Manufacturing

(R. H. Smith)

Tooling quotes have been received for eight (8) firearms components presently manufactured by H&P Die and Stamping. Industrial Engineering should complete economic evaluation by mid-May, after which plant-orders will be requested.