LIMITED DISTRIBUTION

ILION RESEARCH DIVISION

PROGRESS REPORT — HIGHLIGHTS

NOVEMBER 1982

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Remington Arms Company, Inc.

NEW PRODUCT DEVELOPMENT

Model 870/1100 Special Shotguns

Four (4) samples of the Model 1100 Special, 12 Gauge, Field Grade shotgun have been completed. Model Drawings for this version have been provided to Process Engineering for their evaluation. Parts for 35 guns for the Marketing field personnel have been ordered and are scheduled to be assembled starting in January 1983. One (1) Model 1100, 20 Gauge, Special is scheduled for completion by December 1, 1982 for display at the NSGA Show.

Design Drawings for the two piece butt plate have been released to Process Engineering for part fabrication. A contingency design for the fore-end detent system will be tested by the end of November. Authorization to officially transmit complete Model Drawings requires action by the Operations Committee.

Shotgun Development

A sample of the second generation rocker arm locking system has completed endurance testing to 5,000 Magnum rounds with failure of the locking arm in the engagement area. A revised block is being fabricated and is scheduled to be completed in December.

Six (6) styling samples are complete for evaluation. Based on results of that evaluation, four (4) prototypes are scheduled to be completed in January. One potential delay is in fabrication of the new barrel contour. A styling sample of the new pump gun will also be completed in December.

Parker Shotgun

Three (3) frame and barrel sets are in the Model Shop for assembly. Arrangements are proceeding to complete one (1) VH Grade, 12 Gauge Parker in the 1st Quarter of 1983.

Model 7400/7600 Centerfire Rifles

Priority has been placed on completion of the Model 7400, .223 Caliber for mid-1983 announcement. New follower and magazine spring designs have reduced the malfunction rate to an acceptable level (0.5%). Three (3) design options are being considered. Samples will be ready for review with Marketing by mid-December. Drawings have been released to Process Engineering for economic evaluation. They have also reviewed the optional designs.

Bolt Action Rifle

Work is progressing on schedule towards completion of Research models in the 1st Quarter of 1983. However, Bob Emmons has not received the revised barreled action from Pete Grisel. That rifle, the fourth sample from Emmons, could be delayed until mid-January.

CURRENT PRODUCT DEVELOPMENT

Model Seven Lightweight

The premature opening of the Model Seven Lightweight rifle floor plate cover was eliminated by a change in the latch design. Adding the new latch to Writers' Seminar rifles required some hand fitting. New production trigger guards,

new latches, and new floor plate covers with an overall dimensional change are being assembled. These new parts and changes should overcome the hand fitting problems.

Research samples of the .223 Caliber actions are complete except for stocks. Testing will begin when production stocks are available.

Model 700 ADL in .222 Caliber

Prototype magazine springs have been received and testing will start next week. Complete testing will be finalized in January.

Model 700 BDL Short Action Left Hand

Prototype rifles in .243 and .22-250 are assembled ready to test.

Model 700 Classic in .300 H&H Magnum Caliber

Production sample rifles have performed satisfactorily in trial and pilot testing.

Model 700 BDL in .223 Caliber

Sample rifles are being assembled in production for trial and pilot testing.

Model 870 Police Shotguns

Model 870, 12 Gauge, 18" full choke plain barrels with a new sight base to correct the point of impact have been tested. Initial results confirm that the sight base is correct.

MATERIALS AND PROCESS DEVELOPMENT

Injection Molding Metal and Ceramic Components

Renovations to the Alcet Building blend room are complete and the mixing

equipment has been put in place. Wiring and piping should be complete by mid-December.

A comparison of Witec and Parmatech stainless materials has been made with the conclusion that Parmatech is superior in all significant properties.

Cut Checkering Machine Development

A project is circulating for development of a low cost cut checkering system. This system will comprise a standard CNC machine for pressed wood, specially developed tool compensation for sanded wood, and automated loading and unloading.

A prototype machine, previously built to investigate automatic sanding of stocks and fore-ends, has been set-up in the N/C Department to begin development of tool compensation.

Form Rolling

Sample form-roll burnished firing pins have successfully passed endurance tests. An appropriation request to purchase form-rolling equipment will be circulating the week of November 29.

Testing and Certification of Magnetic Powder Metal Components

A second trial run of pole pieces was made by Production and tested for performance. This run showed usable impact and flight time values. An additional run has been made for verification and is in test.

Cryogenic Processing of Powder Metal Parts

A fourth set of samples have been tested and verify earlier results. The high nickel alloys showed increases in hardness and tensile strength. The elongation was similar to 2108 material.

Corrosion Reduction of Monel and Stainless Steel Powder Metal Parts

Stainless steel samples coated with Sermetal and nickel have endured several weeks in a salt solution with minimal rusting, indicating good corrosion resistance.

Laser Applications

A stainless steel magazine tube has been laser welded to an XSG receiver. To date, the assembly has successfully endured 4,000 magnum (50% 2-3/4", 50% 3") rounds in the Test Lab.