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FIREARMS RESEARCH DIVISION

PROGRESS REPORT

OCTOBER 1980

HIGHLIGHTS

Remington Arms Company, Inc

NEW PRODUCT DEVELOPMENT

Model 7400/7600 Centerfire Rifles

Warehouse Audits on the Model 7400/7600 project have been completed and the guns approved for shipment. However, field test results indicate that feeding malfunction rates can be reduced by refinements to the magazine box design. A new box design has been completed which features modifications to the spring and follower geometries. Components for the new design have been released for fabrication and testing of prototypes.

Testing will continue on production guns as additional calibers become available.

Model 1100 Limited Edition

Warehouse Audits have been completed and the guns approved for shipment.

Model Four Limited Edition

Two receivers have been etched, plated and returned by Aurum Etching. One of the two has been provided to Marketing for their evaluation.

Model drawings have been provided to Process Engineering for cost estimation.

A complete gun assembly will be available the week of October 27th for visual evaluation.

Model 870 Competition Trap Shotgun

Research is continuing to fabricate long leadtime items for Production to assist them in meeting warehouse dates.

XSG/XPG Shotgun

Test firings are in progress on a prototype XSG with a long, square-wire action spring.

Approximately 1100 magnum rounds have been fired and the spring has exhibited some permanent set. The goal is 5000 magnum rounds with a spring set equal to or better than that for the M/1100.

Design and fabrication of two new locking systems are complete. Test firings will begin following assembly and proof testing of the guns the week of October 27th.

New feed system parts have been fabricated. An XSG receiver will be modified and used as a test vehicle.

XSG/XPG Shotgun (continued)

Work is continuing on a new gas system design for improved gas metering and cut off to control bolt velocities.

A delay in the fabrication of the receiver design (N/C Shop) due to project priorities has delayed design verification from December 1980 until January 1981.

Model 979 Seismic Gun

All guns are complete and have been shipped to MAPCO satisfying the first order of 15 guns and the second order of 25 guns. As per the original order, percussion blocks are being completed and shipped to MAPCO as alternates for the second gun order.

Apparently another blanked primer has been experienced during SSC field testing. An extensive firing test may be required to determine cause and frequency of blanked primers.

Forty field repair kits have been assembled and shipped to MAPCO to provide one kit for each gun shipped to date.

Bolt Action Carbine

A summary of model requirements is being prepared for Marketing approval.

Owners Manuals

Instruction books for Model 700 Standard and Classic Grades have been completed and released to Production. Mechanical illustrations for the Model 700 Left Hand have been completed and released for printing with delivery scheduled for November 15th.

A draft of the Model 870 Competition Trap instruction book is being reviewed for changes, additions or deletions.

CURRENT PRODUCT DEVELOPMENT

Rivetless Extractor

Rivetless extractors are being implemented on centerfire rifles. Anti-rotation projections are required on regular and magnum size guns. Tooling to coin projections on the bolt needs is in use for some calibers and should be completed for the remaining calibers by November 28th.

Integral Ejectors

Drawings of the M/1100 LT-20 barrel with integral ejector have been transmitted to Production.

Model 700 Bolt Lock and Fire Control

A revised design on a bolt lock separate from the trigger safety lever has been completed and a prototype bolt fabricated. Five more bolts are being assembled for testing scheduled to begin the week of October 27th.

A fire control design featuring both a blocked sear and a blocked trigger has been completed and prototypes fabricated. This design is compatible with the above bolt lock design and will be incorporated into the October 27th test program.

Model 788 Safety

Layouts are being made to include a blocked trigger when the safe is at the "ON" position.

Model 1100 Ducks Unlimited

Parts lists have been transmitted to Production. Test firing of guns with the larger size emblem will be completed by the end of October. The final design will be transmitted to Production if those tests are successful.

Model 870 20 Ga. LW Limited

Models have been completed and shown to Marketing. Parts list and drawings have been transmitted to Production.

Model 700 BDL in 7mm-08 Caliber

Parts list and drawings have been transmitted to Production to add this caliber to the line.

Model 1100 Piston and Piston Seals

Electroless nickel plated sample parts have been ordered for testing and will be delivered by the end of October. Preliminary estimates indicate an incremental cost of approximately 5 cents per square inch per mil of plating thickness.

Model 1100 Link Breakage

Spare parts and repair records indicate an unusual number of failures in M/1100 links this past year. Significance and cause of those failures are being investigated.

PROCESS DEVELOPMENT

Auto-Drill Line

Shutting off the major sources of coolant oil leakage is nearly complete and Albion is realigning the Drill fixtures. These were the last surprise obstacles to be encountered and barring others the line should be ready by November 1st.

ASEA Manipulator

Schaevitz LVDT equipment for improved tolerance on polishing receiver panels has been received. Polishing programs for M/7400 and M/7600 receiver panels are being developed, but have been delayed approximately a month by priority work on the Auto-Drill Line. Prove out of the LVDT equipment should be completed by January 1981.

Four Slide Machine

The Four Slide Machine will be complete and ready for tooling by the end of November. Delivery of the complete system is scheduled for March 1981. The wire EDM has been delivered and is currently in operation making prototype gun parts in the Research N/C Area.

Laser Welding

ETL has laser welded some M/1100 slide blocks to action bars, but initial samples did not exhibit sufficient weld strength. Two samples with good weld surface quality have been returned for impact and/or gun fire tests. Additional components will be provided to ETL for further welding studies.

Laser Wood Carving

A sample of a laser engraved stock, for the M/1100 LT-20 D.U. Shotgun, has been received from Lasermation. However, the size of the engraved emblem was incorrect. A new sample has been requested.

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