

LIMITED DISTRIBUTION

RESEARCH DEPARTMENT

HIGHLIGHTS REPORT

MAY, 1980

Distribution

J.P. McAndrews	J.E. Preiser
E.F. Barrett	L.J. Scott
E. Hooton, Jr.	J.R. Ayers
J.G. Williams	P.S. Hebert
E.B. Beattie	C.B. Workman
R.A. Partnory	

circulate to Staff

REMINGTON ARMS CO.
RECEIVED

JUN 6 1980

ILION RESEARCH DIVISION

JPGlas:jl
6-4-80

FIREARMS

PRODUCT DEVELOPMENT

21mm Seismic Program

Three additional bottom retracting breech blocks have been fabricated and are in test. Testing will consist of live firing one block to 20,000 rounds and dry cycling two blocks 30,000 cycles each.

Patent drawings and inventions reports have been forwarded to Legal Department for patent applications.

The shipment of 75,000 rounds to MAPCO will be made by mid-June, as scheduled. During the period July through September, shipments of up to 50,000 rounds are planned, subject to MAPCO's needs.

Model 700 Bolt Lock

Five guns which incorporate the new design are being prepared for testing and evaluation. Drawings are being forwarded to Process Engineering for cost estimating.

Bolt Action Carbine

Functional testing of all calibers has been completed with satisfactory results. Models tested included components of the newest floor plate latch design.

The twenty-five rifles in 7mm-08 caliber for a Marketing field test will be ready for proof testing the week of June 2, 1980.

Model 7400 Autoloading and Model 7600 Slide Action Center Fire Rifle

Five Model 7400 Caliber 30-06 rifles have been fitted with the heavy wall magazine box and are now in test.

Testing of the Model 7600 machine pilot guns in all calibers has been started with completion expected the week of June 2, 1980.

PROCESS DEVELOPMENT

Four-Slide Machine

The four-slide machine has been ordered and is scheduled to be ready for tooling in August 1980.

Research Department

- 1 -

May 1980

Rivetless Extractors

Five extractors have been tested and showed a significant improvement over the previously tested extractors.

Drawings of the rivetless extractor have been transmitted for use in all calibers of bolt action center fire rifles.

Auto Drill Line

The line is in place. The basic system wiring has been reconnected. The chip system has been tied in and shutdown loops are being run. Some millwright work remains to be done. The plumbers are tentatively scheduled to start work the week of May 27, 1980.

HIGH ENERGY BEAM APPLICATIONS

Laser Welding

The first sample of laser welded Model 1100 action bar and slide block assembly failed the function test. Strength of the brittle, porous and incomplete weld was inadequate.

The next set of samples is due by June 15th for functional testing.

AMMUNITION

SHOTSHELL

New Unibody Shotshell Process

Two 50,000 piece experimental runs of .410 bore bodies were completed on the semiworks rotary cam system, one in 3 inch and one in 2-1/2 inch lengths. Overall product quality and uniformity were good in both runs. Currently, product development effort is concentrating on 8 gauge tooling.

Asbestos Elimination - Plastic Basewad

The Bridgeport Plant trial and pilot run, including product acceptance testing, for the 16 gauge plastic basewad shell was successfully completed and production start-up is in progress.

Research Department

- 2 -

May 1980

7mm BR Remington

A recommended handload and case drawing to be included with literature in the XP-100 package was developed. This information, along with a fully dimensioned cartridge drawing will be supplied to Lonoke Research for the product (case) development program.

7mm-08, 140 Gr. PSP Bullet

Sample secant ogive bullets were reviewed with Marketing earlier this month. Agreement was reached to continue with efforts on the secant ogive and to initiate work on a new tangent ogive design with a slenderer profile than originally developed.

44 Rem Mag 180 Gr. SJHP

The initial production run is in progress. Samples taken from bullet assembly tested satisfactorily for accuracy.

PRIMERS

Primer Improvement

Research completed testing of the #117 primer (1024 mixture, paper covered flash hole) in SP12N Mag loads with acceptable results. A target version of this primer, where the cup is nickel plated and the pellet weight is reduced to approximately .9 grains, has successfully met the drop test sensitivity requirements. A primer charging plate will not be modified to assure proper pellet weight for evaluation in the new RTL load.

Integral Anvil Battery Cup

Fabrication of the press and die are on schedule with acceptance testing and training to begin in mid-June. Expenditures and commitments are 85% of project estimate. Product development continues with emphasis on ballistics and flash hole closures.

TLX Priming Mixtures

Recent experimental samples of TLX rim fire priming mix have contained nitrocellulose to take up excess moisture and in turn, improve charging characteristics. Misfires have occurred during tests with automatic pistols using 8% and higher percentage N/C mixtures. With the N/C content reduced to 2%, 2500 rounds were fired without a failure. A second mixture containing 4% N/C, but with an increased explosive mixing time also did not produce a misfire in 2500 rounds. Both mixtures, showing positive results, will be retested.

Research Department

- 3 -

May 1980