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Master

REMINGTON ARMS COMPANY, INC.

NEW PRODUCTS RESEARCH

MONTHLY PROGRESS REPORT - OCTOBER 1984

FIREARMS RESEARCH

SHOTGUN PRODUCT DEVELOPMENT

o Model 1100 Functional Improvements

Gas System development has been redirected, away from the friction brake and elastomer sleeve design, and placed on a leaf-spring pop-valve concept. Sensitivity testing revealed that the friction brake was more susceptible to oil than anticipated, and that the elastomer sleeve would not duplicate earlier test results.

Disconnecter angle change layouts are complete. Testing will begin in November. Also to be tested in November are stainless steel magazine tubes, strengthened web carriers, and a thicker extractor.

o New Concept Shotgun

The Research Plan has been issued.

Development work has started on two major design areas: 1) an automatically compensating action system to handle all ammunition loads in one gun; and, 2) an electronic fire control.

A preliminary computer model of the Model 1100 gas system is complete, and is being used to project results of proposed new systems. Additional information for continuous bolt velocity traces and blowback assistance is needed to enhance the results of the computer model.

The monthly status meeting with PDS was held on October 4. A number of devices have been identified as being potential candidates for power supplies, trigger movement sensors, and hammer release and firing pin actuators. PDS's next step is to set up a decision tree to determine which ideas are feasible.

Research Department

October 1984

RIFLE PRODUCT DEVELOPMENTo New Bolt Action Rifle

Introduction of this new rifle, which is a replacement for the Model 700, is currently scheduled for 1988. The drawings package is complete. Components are being fabricated in the Model Shop. Prototype testing will begin in December.

o Model 700 Mountain Rifle

Research assistance to Production is continuing. A transmittal involving Production requested changes to the stock, grip cap, fore-end tip, and receiver plug drawings is complete. N/C work is underway on the stock former.

AMMUNITION RESEARCH"PREMIER" SHOTSHELLo 12 Ga. 3" 1 7/8 oz.

Development of an alternate two piece body is in progress. Body slugs have been extruded and oriented. Heading stems are being fabricated. The primary design will use an extruded plastic basewad. Tooling for an alternative injection molded design has been sent to Bridgeport for fabrication.

Handload development has also begun on the two piece and rotary cam large volume bodies. The Production loader is scheduled to be available for our use 10/22. Plans are to load 12 Ga. 3" 1 7/8 oz. "Premier" with 8662 powder to verify loader uniformity and confirm our designed experiment predictions.

o 12 Ga. 3" 1 5/8 oz., 20 Ga. 3" 1 1/4 and 20 Ga. 2 3/4" 1 1/8 oz.

Load development has begun using USI "microthene" shot buffer, Federal 209 primers and hard shot. Powder and wad columns are to be defined. We expect to have preliminary environmental results by November.

Research Department

October, 1984

"PREMIER" SHOTSHELL - Contd.

o Alternate Powder Development

Hercules expects to have ballistics data on 30%NG and 35% NG (with burning rate inhibitors), thinner flake powders by late October.

o Buffer Changing

A.W.G. Ervine has been assigned responsibility for determining if we can charge low density polyethylene shot buffers. Work will begin as soon as material arrives in Lonoke.

o Pressure Specifications

A test program has been outlined to determine the casualty frequency for ammunition fired in excess headspace guns at various temperatures and pressures. Barrels are being modified.

o Powder Growth at -20F

Test results indicate that the stiffness of the load system and primer brisance contributes to -20F pressure growth. We were not able to mechanically fracture powder grains at 70 or -20F. The next step will be to confirm that powder fracturing is not contributing to -20F pressure growth.

REMINGTON TARGET LOAD

The component wad mold fabricated and run at Automatic Injection Molding has not achieved the desired cycle time of 9 seconds. A simple design and operating change will be attempted at the vendor to determine if the cycle can be reduced. If it is not successful Lonoke has requested that the mold be shipped to them for debugging.

Research Department

October 1984

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GENERAL

RESEARCH CONSOLIDATION

Construction of the Iliion Test facilities is complete. Humidified storage equipment quotations are being obtained. Semi-works equipment and the primer and powder bombs remain to be installed.

WHColeman/J.W.Bower:js

Research Department

October 1984

REMINGTON PERSONNEL

Remington Roll

	<u>Actual</u> <u>10/31/84</u>	<u>Fcst.</u> <u>11/30/84</u>	<u>Fcst.</u> <u>12/31/84</u>
<u>Exempt</u>			
Ammunition Research	8	8	7
Firearms Research	<u>27</u>	<u>27</u>	<u>29</u>
Total Exempt	35	35	36
<u>Non/Exempt</u>			
Ammunition Research	5	4	4
Firearms Research	<u>12</u>	<u>12</u>	<u>12</u>
Total Non/Exempt	17	16	16
<u>Wage Roll</u>			
Ammunition Research	2	2	2
Firearms Research	<u>16</u>	<u>16</u>	<u>16</u>
Total Wage Roll	18	18	18
Total New Products Research	70	69	70

Research Department

October 1984

RESEARCH PERSONNEL AS OF OCTOBER 31, 1984

FIREARMS

Exempt <u>27</u>	Non/Exempt <u>12</u>	Wage Roll <u>16</u>
Balaska, Robert J.	Eskoff, Sophie	Baggetta, Joseph A.
Bauman, Thomas G.	Jones, Raymond A.	Beader, Robert
Bower, James W.	Martin, James S., Jr.	Bedworth, Gary R.
Calkins, Kevin L.	Pickett, W. F.	Butler, Richard G.
Coleman, Wm., H., II	Saunders, Susan P.	Fiorentino, Dominick
Curry, Wm.	Schuster, Joyce M.	Harter, James D.
Findlay, David S.	Smith, Floyd, H.	Howe, Robert W.
Franz, Scott R.	Smithson, Ronald	Jennings, Dale E.
Hand, Charles J.	Stephens, Charles	Kozakowski, Robert J.
Hennings, James H.	Supry, Fred	Paslak, W., F.
Hugick, Adam H.	Urtz, Donald	Sohns, W. A.
Hutton, James C.	Weaver, Harold	Storne, Ramon
Kast, Jack L.		Truax, Irving E., Jr.
Lawrence, Jeffrey A.		Williams, Clifford
Martin, Fred E.		Williams, Donald
Murphy, Randall A.		Williams, Ronald R.
Nightingale, Richard E.		
Plunkett, Thomas J.		
Powers, Thomas P.		
Rankins, Edwin D.		
Rowlands, Kenneth		
Sanzo, Robert J.		
Sassone, Richard L.		
Saunders, Eugene L.		
Smith, Robert		
Snedeker, James R.		
Yetter, Edward W., Jr.		
 Total Firearms Personnel	- 55	

AMMUNITION

Exempt <u>8</u>	Non/Exempt <u>5</u>	Wage Roll <u>2</u>
Cole, W.T.	* Buccitti, Dominick C.	Dunn, Timothy
desJardins, C.F., Jr.	** Champine, Barry M.	Selan, Gerry
* Dwyer, John M.	* Raimundo, John A.	
* Garrett, Thelma B.	Conant, Paul	
McDonald, Alexander D.	Thomas, Dennis	
* Peterkin, V.A.		
** Sroka, Lee R.		
Tomek, Warren L.		
 Total Ammunition Personnel	- 15	

* Bridgeport
 ** Lonoke