Master

xc: R.E. Fielitz
C.B. Workman
J.W. Bower
W.L. Tomek
R.L. Sassone
J.R. Snedeker
J.C. Hutton
E.O. Fini

REMINGTON ARMS COMPANY, INC.

NEW PRODUCTS RESEARCH

MONTHLY PROGRESS REPORT - NOVEMBER, 1984

FIREARMS RESEARCH

SHOTGUN PRODUCT DEVELOPMENT

- o Model 1100 Functional Improvements

Preliminary testing of a leaf spring-pressure vent gas system is very encouraging. Average terminal bolt velocities ranged from 178 in./sec. with 1-oz. target loads to 295 in./sec. with 3" magnums. This spread of 117 in./sec. is well within our goal of 200 in./sec. Additional testing will begin the week of November 26.

Testing of the opposed piston/seal gas system has achieved results approaching the goal (bolt velocity spread of 206 in./sec. vs. goal of 200 in./sec.). Additional testing with a smaller diameter elastomer sleeve will begin the week of November 26.

- o New Concept Shotgun

Eight action system concepts are actively being looked at, including four by the Du Pont Engineering Department.

PDS has issued a status report on preliminary fire control development efforts.

RIFLE PRODUCT DEVELOPMENT

- o New Bolt Action Rifle

Prototype parts are moving through the Model Shop on schedule. Rifles will be available for the Test Lab on December 1. Special equipment for testing extractors has been built.

- o Model 700 Classic - 350 Rem. Mag.

The transmittal has been assembled and will be processed pending the results of Research testing. Strength, accuracy, and feeding tests should be complete three weeks after receipt of barrels from Production.

Research Department November, 1984

RIFLE PRODUCT DEVELOPMENT

o Parker Shotgun

Modifications are being made to the Briley fire control. A three-phase contract with Briley, to extend over two years, has been proposed. Copies will be sent to Purchasing and Legal, for their review, prior to enactment with Briley.

AMMUNITION RESEARCH

"PREMIER" SHOTSHELL

o 12 Ga. 3" 1 7/8 oz.

Screening experiments are underway on the two piece (SP) and rotary cam (RC) large volume bodies. Several handload configurations have been identified in the RCLV which give acceptable ballistics in short and long term (5 days) environmental testing.

A new Hercules powder is indicating particularly encouraging results when used in either the standard "plant" load configuration (RCLV, SMAG PP and Gulf filler) or in a more "forgiving" configuration (RCLV, RP12PP and USI Microthene filler). A 100 lb. sample has been ordered with delivery expected by mid-December for a trial run on plant loading equipment.

An existing Expro powder is also indicating encouraging results. A 35 lb. sample is in Lonoke.

The Production loader is now available. Plans are to check loader uniformity and begin experimental loading as powders and primed bodies (F209) become available.

o 20 Ga. 3" 1 1/4

Load development has shown promising results using several powders in short and long term environmental testing. These loads used standard wads, the RC body and USI Microthene. Additional tests are being conducted using Gulf filler.

Research Department November, 1984

"PREMIER" SHOTSHELL

- Powder Growth at -20F

Powder fracturing has been observed in both fast and slow powders recovered at ambient and -20F. However, pressure growth was only observed in the stiff load configuration regardless of the powder used. We, therefore, believe powder fracturing has little effect on shotshell ballistics.

REMINGTON TARGET LOAD

An economic analysis of Remington target loads using the Figure 8 wad in 12 Ga. shows a low return on mold investment and increased working capital. Representatives of the Ammunition Business Team are recommending continuation with the project citing the overall best interest of the company would be comprised without RTL. Research and Process Engineering intend to work with Osley and Whitney on the design and development of the first factory RTL wad mold.

Scale up of the component wad from the research single mold to the AIM 24 cavity mold has been unsuccessful to date due to higher than anticipated cycle time to obtain acceptable product quality. Research and Process Engineering will meet this week to determine what action is to be taken.

"PREMIER" CENTERFIRE

Thin mouth .30 caliber jacket draw punches were shipped to EDL. Nose cut dies for .30 caliber bullets are being fabricated in the model shop. The jacket annealed to three different temperatures and nose cut dies are expected to be ready in early January.

A plant run was conducted using three candidate solutions to chemically polish centerfire brass cases. Chemical cost, waste treatment, metal removal and the case finish appear acceptable and in line with initial goals. ETL is preparing a test summary to be issued in early December.

WHColeman:js

Research Department November, 1984

REMINGTON PERSONNEL

Remington Roll

	Actual 11/30/84	Nov. Fcst. 12/31/84	Previous Fcst. 12/31/84
Exempt			
Ammunition Research	8	8	7
Firearms Research	26	26	29
Total Exempt	34	34	36
Non/Exempt			
Ammunition Research	4	4	4
Firearms Research	11	11	12
Total Non/Exempt	15	15	16
Wage Roll			
Ammunition Research	2	2	2
Firearms Research	17	16	16
Total Wage Roll	19	18	18
Total New Products Research	68	67	70

Research Department November, 1984

RESEARCH PERSONNEL AS OF NOVEMBER 30th, 1984

FIREARMS

Exempt 26	Non Exempt 11	Wage Roll 17
Balaska, Robert J.	Eskoff, Sophie	Baggetta, Joseph
Bauman, Thomas G.	Jones, Raymond	Beader, Robert
Bower, James W.	Martin, James S., Jr.	Bedworth, Gary R.
Calkins, Kevin L.	Pickett, Wm. F.	Butler, Richard G.
Coleman, W., H., II	Saunders, Susan P.	Fiorentino, Dominick
Curry, Wm.	Schuster, Joyce M	Harter, James D.
Findlay, David S.	Smithson, Ronald	Howe, Robert W.
Franz, Scott R.	Stephens, Charles	Jennings, Dale E.
Hand, Charles J.	Supry, Fred	Kozakowski, Robert J.
Hennings, James H.	Urtz, Donald	Paone, Dante J.
Hugick, Adam H.	Weaver, Harold	Paslak, Wm. A.
Hutton, James C.		Sohns, Wm. A.
Lawrence, Jeffrey A.		Storne, Ramon
Martin, Fred E.		Truax, Irving E., J.
Murphy, Randall A.		Williams, Clifford
Nightingale, Richard E.		Williams, Donald
Plunkett, Thomas J.		Williams, Ronald R.
Powers, Thomas P.		
Rankins, Edwin		
Rowlands, Kenneth C.		
Sanzo, Robert J.		
Sassone, Richard L.		
Saunders, Eugene L.		
Smith, Floyd H.		
Snedeker, James R.		
Yetter, Edward W., Jr.		

Total Firearms Personnel - 54

AMMUNITION

Exempt 8	Non/Exempt 4	Wage Roll 2
Cole, Wm., T.	* Buccitti, Dominick C.	Dunn, Timothy
desJardins, C.F., Jr.	** Champine, Barry M.	Selan, Jerry
** Dwyer, John M.	Conant, Paul	
* Garrett, Thelma B.	Thomas, Dennis	
McDonald, Alexander D.		
* Peterkin, V.A.		
** Sroka, L.R.		
Tomek, Warren L.		

Total Ammunition Personnel - 14

* Bridgeport
** Lonoke