LIMITED DISTRIBUTION

1 9 8 2

FIREARMS RESEARCH DIVISION

FIREARMS DESIGN PROGRAMS

Remington Arms Company, Inc.

R E S E A R C H B U D G E T

FIREARMS DESIGN PROGRAMS

	1982 Budget
SHOTGUNS	
Models XSG amd XPG Development Program	$ 250M
To continue to develop and design the new auto-loading and pump shotguns. The project objective is to design model replacement for the Models 1100 and 870 that are lighter in weight, less expensive to produce and are competitively priced.	
Product Improvements Model 1100	$ 165M
Model 870	$ 60M
A continuing Research program to improve design, function, endurance and appearance of current product line. Investigation of design improvements and revisions requested by Marketing and Production are made. Also, customer complaints are reviewed and corrective action implemented.	
Cost Reduction Program	$ 85M
A continuing program to investigate and evaluate designs and materials to reduce the factory cost on current line shotguns.	
Special Edition Model Development Program	$ 90M
This Research project provides for design of special version models of the current shotgun line for limited production. Examples of special models previously designed are Ducks Unlimited, Ohio State Highway Patrol, and Limited Edition Commemorative.	
New Shotgun Concept/Design Investigation	$ 210M
The program provides for development and follow-up work on a new shotgun concept to assure our position of leadership and customer acceptance. Investigation of new designs using parts and system from the XSG/Model 1100 designs will be undertaken. Also the project provides for development of a new gas system that will handle all types of ammunition.	
Total Arms Design - Shotguns	$ 860M

CENTERFIRE RIFLES	1982 Budget
Model 7400-7600 Development Program - Carbine and New Calibers	$ 405M

The program has been expanded to design and develop the M/7400-7600 Carbine models. In addition three new calibers (25-06, 7mm-08, and the .223) will be developed for the standard models. Prototype models will be fabricated and design tested. Also, the program provides for engineering support to resolve production problems.

Product Improvement Program - Bolt Action Rifles — $ 65M

A continuing program to design and incorporate minor model improvements for improved performance, function and appearance.

Bolt Action Carbine Styling Program — $ 80M

This program is continuing to finalize design of the new Carbine scheduled for introduction in 1983. The new model is lighter and is styled to fit within our current centerfire rifle line.

Cost Reduction Program - Centerfire Rifles — $ 75M

This is a continuing program to investigate and evaluate designs to reduce factory cost.

Bolt Action Rifle Development Program — $ 430M

A Research program to develop and design a better line of bolt action rifles. Design objectives include functional improvements, smoothness of action, a new bolt lock system and fire control. Also, cosmetic changes such as new checkering patterns, receiver shapes and stock configurations are to be investigated.

Special Edition Development - Centerfire Rifles — $ 70M

The program provides for design of special models of current rifle line on a limited production basis. Prototype models are to be fabricated and tested.

	1982 Budget
Centerfire Rifle System Research	$ 125M

A Research program for investigation of a new concept of centerfire rifles, such as a family line of bolt action, auto and pump rifles. The proposed new firearms will be designed to feature one basic frame and will provide commonality throughout the system. The program also includes investigation for new concepts in caliber semi-automatics and a new magazine box design with increased capacity.

Total Arms Design - Centerfire	$ 1,250M

RIMFIRE RIFLES

Product Improvement - Rimfire Rifles	$ 25M

A continuing program to design model improvements for appearance, function and performance.

Cost Reduction Program - Rimfire Rifle	$ 10M

A continuing program for incorporating improvements to reduce model cost.

Total Rimfire Rifle Program	$ 35M

ARMS DESIGN - GENERAL

Miscellaneous Design Jobs	$ 40M

The project provides for preliminary investigation of design activities which have potential for major development programs. Included under this project are such programs as Iron Shot Investigation, Investigation and Development of Scope Mount for the Model 700, and Investigation of 10 Ga. Shotgun.

Technical Computer Software Development	$ 180M

This program provides for development of technical software not chargeable to a specific project but covers overall arms design and process research. The project also provides funds to continue

1982 Budget

Technical Computer Software Development Continued

investigation and expansion of our Computer Aided Design and test facilities. A new system together with software and software development has been proposed which will improve effectiveness of the Research computer facilities and reduce design and test costs.

Computer Techniques/Instrumentation for Test Lab $ 85M

A program to develop new analytical techniques for determining firearms and ammunition performance parameters; i.e. bolt velocity, chamber pressure, recoil force, etc.. The project also provides for continuing development of the high and low speed ranges, software development to monitor dry cycle testing, and the update of instrumentation equipment.

Total Arms Design - General $ 305M

FIREARMS PROCESS AND MATERIAL RESEARCH

State of the Art Process Investigation $ 150M

A Research program to identify state of the art processes that can be used to reduce part cost, improve gun reliability and/or appearance. Component redesign may be required. Areas of investigation will include form rolling, substitute materials, fiber reinforced materials and improved metal and wood finishes.

Numerical Control New Techniques Development $ 90M

A program to provide improved techniques for N/C computer program preparation and to investigate new N/C processes to reduce model making costs and improve capability.

Four Slide Application Program $ 30M

Continued program to develop expertise in formed stamping manufacture. A four slide stamping and forming machine has been purchased. Funds are provided to complete machine installation and develop an in-house process for producing formed stamped components.

	1982 Budget
New Concept Design Studies	$ 90M

This program provides for investigations of new technologies which are not yet state of the art. The program attempts to push back the frontiers of technology. Areas of investigation will include laser research, unmanned machining, new techniques for testing and inspection, and the possible use of machine control techniques in firearms design.

Cut Checkering Process Development	$ 75M

A program to develop a lower cost alternative to N/C checkering machines and thus allow Remington to cut checker a broader range of firearms.

Value Analysis Investigation	$ 65M

Research program to assure the cost competitiveness of Remington products. Process Research personnel will initiate the program and coordinate the various process improvement groups in carrying out specific assignments.

Total Firearms - Process and Material Research	$ 500M

OTHER WORK

Projects under this category cover work performed by Research personnel which is not chargeable to Research "Technical Activities" projects but rather charged to Production, Marketing and Other Department Accounts.	$ 835M
Total Other Work	$ 835M

1982
Budget

SUMMARY

Firearms

Improvement to Established Business

Shotguns Programs	$ 860M	
Centerfire Rifle Programs	1250M	
Rimfire Rifle Programs	35M	
Firearms - General	305M	
Process and Material Research	500M	
Total Technical Activities		$ 2950M
Other Work		$ 835M
Total Firearms Research Division Budget		$ 3785M

12-10-81
RLS:T