

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

*Remington*  
CORPORATION

*PETERS*  
CORPORATION

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" \_\_\_\_\_

XC:

(Please circulate  
to your personnel)  
D. J. Anderson  
L. B. Bosquet  
J. J. Burns  
W. H. Clements  
J. Dillard  
T. C. Douglas  
W. L. Ericson ;  
G. E. Fletcher  
R. W. Gilman  
P. Grzebielucha  
G. J. Hill  
J. W. Kelly  
T. J. McCormack  
H. C. Munson  
J. R. Pruitt-Lonoke  
D. I. Roark  
G. E. Schineller  
J. R. Snedeker  
K. D. Green

**\*\*CONFIDENTIAL\*\***

October 12, 1989

TO: J. F. Winske  
E. S. Rensi  
D. K. Albrecht  
J. R. Balio  
D. M. Hofmeister  
P. R. Harper  
R. J. Orf  
C. A. Riley/E. O. Fini  
K. W. Soucy  
File: Tech. Monthly Reports

FROM: W. H. Coleman, II

ILION R & D AND TECHNICAL  
MONTHLY REPORTS  
SEPTEMBER 1989

Constructive suggestions, ideas and criticism are welcomed by all  
report contributors.

**\*\*CONFIDENTIAL\*\***

CONFIDENTIAL

Ilion, New York  
October 12, 1989

TO: W. H. COLEMAN, II

FROM: T. C. DOUGLAS *TD*

NEW PRODUCTS DEVELOPMENT MONTHLY REPORT - SEPTEMBER

CURRENT PRODUCTS

REMINGTON BARREL FOR THE SNIPER WEAPON SYSTEM - Martin

Further testing of this barrel is planned using a 10 gun sample of GFM barrels and 10 Mike Rock barrels as controls. A third mandrel has been received which has 5 conventional lands and grooves versus the radiused configuration. This mandrel will be evaluated during this same test. The next step is to get the steel for the GFM barrels (if necessary), get GFM blanks manufactured, and then get GFM time to run them. Supply of M118 ammunition is also being evaluated. The steel that has been ordered, with a tentative delivery date of 3Q89, is currently on hold due to a strike situation at Crucible. Again this raises the fundamental question as to whether or not we should be using Crucible as our supplier. It is in our best interest to continue the current SWS contract with Crucible material and Mike Rock produced barrels. Any usage of stainless steel barrel material beyond this contract should address using the material of our choice, from the vendor of our choice. We need to determine what the specification should be, who the vendor should be, and test that material instead of the Crucible material.

Mike has cut-rifled five barrels from the custom shop material specification. These are being built into guns for accuracy testing with M118 ammo and endurance testing with Remington ammo. Mike's ability to cut rifle our material could mean that we may have the possibility of only having to order one specification of steel for the custom shop and for the SWS program. We will attempt to make button-rifled custom shop barrels from the SWS specification material also.

CONFIDENTIAL

M/11-87/1100 FORE-END - Powers

Although S&K has done much to get the reinforcement patch process under control, there is still a major problem with moisture content and the associated dimensional stability. The rework cost of the soaking and clamping etc. (which improves stability) is very high. Two suggestions for reducing the moisture/stability problem are: spray the inside of the fore-end to seal it, and reduce the length of the finger groove at the rear of the fore-end. The latter idea will make the rear of the fore-end more rigid and less susceptible to dimensional change as a result of moisture content. It will also make it less prone to cracking during machining. There is a possibility that this increased stiffness (and reduced flexibility) may cause failure in the field as a result of squeezing the fore-end in use. Because of this concern, and to determine what level of improvement the shortened finger groove will provide, the Ilion R&D Test Lab will test prototypes provided by S&K. Our S&K based personnel will conduct their own test of the fore-ends which have finish sprayed on the inside. Ilion will not be involved in this. Work on a "cold process" reinforcement by Ilion R&D will continue.

ELVALOY RECOIL PAD - Powers

These prototype pads have been tested for recoil reduction and processing characteristics. The recoil reduction is better than our current solid pad and equal to our current ventilated pad. From a processing standpoint, these pads sand easier and will absorb all the finish we spray on the express grade stocks without requiring taping before finish or filing afterwards to remove built-up finish. A major processing problem exists with these pads at the flat sanding operation. The pads tend to pull away from the stock during sanding, unlike our current pads. Per our request, the vendor will produce prototypes with a backer plate to maximum thickness. This increased thickness will reduce the pull-away problem. On their own, the vendor will also make some prototypes with a reinforcing plate, instead of the two reinforcing washers, which has been chemically bonded to the backer plate. The vendor will also make prototypes with reinforcing washers which are chemically bonded to the backer plate. These changes should also reduce the pull-away problem. When an acceptable pad from processing and performance standpoints has been achieved, we will have to reevaluate the savings potential.

CONFIDENTIAL

M/11-87 GAS CYLINDER COLLAR - Powers

Redesign of this part, per vendor suggestions, has been completed and is out for prototypes. A second meeting with the vendor has resulted in further redesign. Parts should be available the second week of October. This design features two spring tabs which will hold the collar onto the gas cylinder, biasing it upward, away from the fore-end. This should reduce or eliminate the incidence of the collar coming off when the fore-end is removed.

PARKER - Murphy

A test Parker has been returned to Kolar to resolve an intermittent ejection problem. The ejector hammer cocking link has been found to be the cause and modified links perform well. The new cocking links fall from the gun when the fore-end is removed and a new means of retaining them needs to be designed.

The GFM form bar template for Parker barrels has been machined by Kolar and is being returned to Remington. After inspection, a run of barrels can be started. In the interim, Kolar has started machining monoblocks and turning the barrel blanks that they have.

CONFIDENTIAL

NEW PRODUCTS - 1989 CATALOG

SP-10 MAGNUM - Rowlands

Field Service Manuals have been received from the printer and will be distributed to authorized gunsmiths.

Now that the SP-10 Mag. is in full production and guns are being shipped, this is no longer a Research development project. This item will therefore be dropped from future Monthly Reports.

CONFIDENTIAL

NEW PRODUCTS AND PROCESSES - 1990 AND BEYOND

MODEL 90-T SINGLE BARREL TRAP GUN - Murphy

The current market for medium to high priced single barrel break action shotguns is estimated at 5000 to 6000 units per year.

The American trap market has grown weary of the current crop of trap guns, (which has not changed appreciably in fifteen years); and more importantly, tired of the imports. Those Perazzi's that dominated the market fifteen years ago are being worn out and their owners are beginning to shop for a replacement. As a result, the current demand for an American-made trap gun is at its highest level than at any time in the past ten years. Since single barrel break-action guns represent approximately 65% of the total trap shooting market, the proposed Model 90-T single barrel trap gun has the potential to capture a substantial share of this market segment.

U.S. Competition Arms Co., (formerly Kolar Arms), is expected to produce this gun exclusively for Remington, with Remington owned equipment and fixtures, in Racine, WI. Stocks and fore-ends will be sub-contracted, complete assembly and testing will be done by U.S. Comp., and warehousing and shipment will be done from Racine.

Highlights of the previous month include:

- o Ron Farrington has been appointed Contract Administrator for the Model 90-T with U.S. Competition and is a welcome addition to the program.
- o U.S. Comp. is fabricating five slave barrel assemblies and a slave receiver to prove the locking system. With the increased strength barrel, the remaining components of the locking system need to be evaluated at abusive pressure levels.
- o A parts list draft has been structured and Ron Smithson is amending it as necessary. When the parts list is correct, part numbers will be added and forwarded to U.S. Comp. for inclusion on the model drawings.
- o Keith Sprangers of U.S. Comp. has approximately 65% of the model drawings complete.

CONFIDENTIAL

- o Northern Precision of Lake Geneva, WI has supplied a wax of the receiver for approval. Although several changes need to be made, the receiver casting is a complicated part to cast and the results look promising. Northern has also begun to supply wax castings of the remaining seventeen parts for approval.
- o Prototype top lever springs and mainsprings have been ordered and are expected within the month. The mainsprings are needed to complete the development of locktime and firing pin indent.
- o A 90-T has been received from U.S. Comp. for packaging development. Lou Ferriera has a meeting scheduled for October 19 with our vendor.
- o Ron Aubin has written a barrel process record that will be circulated for approval shortly.

MODEL 700 CLASSIC .25-06 REMINGTON (1990) - Martin

The Classic offering for 1990 has been changed from the .300 Savage to the .25-06 Remington. This will be a 24" barrel with no iron sights. The Classic stock will have the thin pad. Transmittal of the design is complete. Trial and Pilot testing of this caliber should only need to consist of visual inspection and standard gallery testing.

XP-100 PRODUCTION WOOD STOCK - Martin

Barreled actions have been made in the custom shop. The action weight was found to be acceptable for use as a silhouette gun. The stock configuration has been developed to be ambidexterous. The stock master along with a laminated blank has been sent to E. C. Bishop for fabrication of prototype stocks. They will also supply a quote for a maximum of 5000 stocks yearly. Delivery of the first two stocks from Bishop is expected the third week of October.

MODEL 11-87 POLICE - Powers

The guns on loan to the FBI continue to perform well. Two 14" barrels have been sent to them for evaluation, along with the M/11-87 prototype magazine extension brackets. No date has been set for the demonstration for the Marines at Norfolk.

CONFIDENTIAL

NEW .22 AUTOLOADING RIFLE - Smith/Findlay, Sr./Findlay

We have frozen the design and begun work on building five additional guns. Two of the guns will be for advanced testing, the other three guns will be for a Focus Panel review to be held in January 1990. These three guns will be shown to customers, in selected cities through out the U.S., along side competitor's offerings and our M/552. Comparisons will be made in styling, feel, and features of all the guns. As a consequence, all five guns will be fully functional models so that all comparisons will be based equally. The Focus Panel findings will help the design team to finalize and complete the design.

The three Focus Panel guns will vary in looks only, with all three guns being the same internally. The three versions are as follows:

GUN NUMBER 1 ("Sales Group" Version)

- Beavertail birch stock, low gloss finish, walnut stain
- Pan head operating handle
- New receiver contour, without scope rail, made out of plastic
- Standard Remington rear sight
- Blade front sight (design 1)
- Cantilever scope mount

GUN NUMBER 2 (Lowest Cost Version)

- Straight birch stock, low gloss finish, walnut stain
- Knurled operating handle
- New receiver contour, with alum. scope rail, made out of plastic
- Rear peep sight design
- Blade front sight (design 2)

GUN NUMBER 3 (Research Additional Sample)

- Beavertail birch stock, low gloss finish, walnut stain
- Knurled operating handle
- New receiver (low) out of alum. with scope dovetail cuts
- Standard Remington rear sights
- Blade front sight (design 3)

We have sent down work requests to begin building of the Focus Panel guns, about 95% of the components are in the Model Shop or N/C area awaiting fabrication. This has required that overtime begin in the Model Shop, and probably the N/C area, and continue through December.

CONFIDENTIAL

A test block, of Rynite SST35, was made to mount a barrel in and test impact from the bolt closing. We had hoped to run 50,000 dry cycles without failure, to date we have gone 100,000 cycles without failure. Two of the Focus Panel guns will be made with receivers and housings made from Rynite SST35.

NEW BOLT ACTION RIFLE - Bauman/Rowlands/Martin

Work is currently continuing on the N'Bar Program. One specification, not previously listed, has been added to gun specs. and that is for the bolt design to include a cocking indicator. This is to enable shooter to visually determine if the firing pin is cocked or uncocked.

Earl Seppala has started the investigation stage for a detachable magazine box, looking at the competition and aftermarket 'Kwik-Klip'.

Ken Rowlands is progressing on the investigation and idea stage for an improved fire control. Jim Hutton, has offered direction and assistance for fire control development.

Layouts are in progress currently by T. Bauman for an improved bedding/accuracy concept, originating from Wayne Cable of the Custom Shop. Prototypes will be built in 30-06 for evaluation.

Ed Klock is being assigned to aid N'Bar Project with any computer vision work required.

NEW CENTERFIRE AUTOLOADING RIFLE (NCAR) - Powers/Findlay Sr.

The design is still in the initial layout phase, slated for introduction in 7mm REM MAG, .300 WIN MAG & .338 WIN MAG calibers as a result of an informal polling of our sales force. The product specification sheet and development schedule have been issued. There has been little progress on this for the last three months due to our design consultant's involvement with firearms liability consulting. We are going to discuss this situation with our consultant to determine what needs to be done to get this program up to speed.