

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE



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September 6, 1989

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File: Tech. Monthly Reports

FROM: W. H. Coleman, II

ILION R & D AND TECHNICAL
MONTHLY REPORTS
AUGUST 1989

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

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September 6, 1989

TO: W. H. COLEMAN, II

FROM: T. C. DOUGLAS *TCD*NEW PRODUCTS DEVELOPMENT MONTHLY REPORT - AUGUSTCURRENT PRODUCTSREMINGTON 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 has been ordered, with a tentative delivery date of 3Q89.

Remington has worked with Mike Rock on his current barrel process to supply him with the tooling necessary to double his capacity. Mike currently has the ability to rifle two barrels at a time. We have supplied Mike Rock with prototype cutter blanks which will further enhance Mike's production capabilities. We will be sending some of the Remington Custom Shop specification barrel steel to Mike Rock to see if it is feasible to cut-rifle this specification.

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

Our S & K personnel (thru Dave Parker) have requested a change in material description and vendor for the fore-end reinforcement. This reinforcement is the same product we have been using, but the company is under new management. Vendor contacts and process tooling revisions have brought this process under control. Work on a cold process reinforcement will continue as a fill-in job.

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ELVALOY RECOIL PAD - Powers

The pads with the stiffer backer plate (higher hardness) were processed at S & K. They continue to pull away from the stock during sanding, unlike the current pads. The thickness of the backer plate is .170". The specification for the thickness of our current backer plate is .170-.200". We will ask the vendor to produce prototypes with a backer plate thickness of .200". Testing of the next version of prototypes will be required, as well as Product Team approval.

M/11-87 GAS CYLINDER COLLAR - Powers

Redesign of this part, per vendor suggestions, has been completed and is out for prototypes. Parts are due the first 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

Little has been done on the Parker in the past month due to the completion of the Model 90-T prototypes and the introduction of these guns at the Grand. With this obstacle behind us, we can direct our attention to completing the Parker testing. Adding mass and rotation to the ejector hammers should make the ejection reliable.

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NEW PRODUCTS - 1989 CATALOG

SP-10 MAGNUM - Rowlands

Trial and Pilot testing is now complete and guns have been approved for production and are being warehoused.

Analysis of parts from endurance tested guns indicates that some further improvements can still be made to increase endurance life and make field service easier. Modifications will be very minor and the parts will be completely retro-fittable to existing product. When new parts become available a mini-test will be conducted to confirm the improvements.

Bolt velocity testing in the gallery of the first production guns has enabled weak performers that passed the gallery test to be identified. In adverse weather conditions these guns would probably have performed poorly. Typically, the problem has been caused by a bad gas seal at the gas piston and barrel lug interface. Research has recommended that bolt velocity testing in the gallery be continued.

The first draft of the Field Service Manual is complete and is being typed. It should be ready to go to the printers by Aug. 18, with a four week turnaround time anticipated.

MODEL 700 AS BDL (ARYLON STOCK) - SMITH

Remington is once again receiving stocks from Six Enterprise. These stocks are being molded at Trico Plastics in Azusa, Calif. and Six Enterprise is attaching the recoil pads and grip caps before shipping to Remington. We will have to remind the molder not to scrape the parting lines, this creates a darker wider line that stands out more than the parting line did, and to remind Six to be more careful when cleaning off the excess glue.

With the corrections to the mold we no longer need to put spacers, washers, under the floorplate, this results in the front guard screw being too long. Research will add a new screw length to the "SWS" drawing that will allow us to order the correct length screw (1.114 lg. vs. 1.170 lg.).

MARAGING STAINLESS STEEL CHOKE TUBES - Powers

This material has been approved for all 10 gauge steel shot, 12 gauge steel shot, and 12 gauge rifled choke tubes. It eliminates the need for the titanium nitride coating, provides superior corrosion resistance, and is less expensive.

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NEW PRODUCTS AND PROCESSES - 1990 AND BEYOND

MODEL 90-T SINGLE BARREL TRAP GUN - Murphy

There has been considerable amount of effort expended on the Model 90-T recently and the results are significant. Among them:

o Fatigue testing of a heat treated, (Rc 36), barrel chamber section has proven that there is no loss of fatigue strength due to the heat treatment process. Since the hardness desired on production barrels is Rc 28-30, the fatigue test was overly critical. By successfully testing barrels that were harder than we expect, I feel confident that the heat treatment does not have any adverse side effects.

o Strength testing of a heat treated tube with the new barrel contour has met all of our high pressure requirements. I need to build barrels now with monoblocks, locking blocks, etc., and test on a slave receiver to determine the weak link of this new system.

o Improvements have been made to the design of the first prototypes in the following areas:

- top lever
- top lever detent
- monoblock
- firing pin and mainspring
- fore-end latch

o Eleven prototypes were built from scratch in record time. In the final days before completion, work went on virtually around the clock. Having committed to donating a high grade gun to the ATA Hall of Fame to be auctioned at the Grand, it was desirable to benefit from the attendant publicity. We proved that a break action single barrel from Remington is a reality by having shooting samples at the Grand. In addition, we accumulated feedback from our customers that will be used to improve our design.

o The formal project has been written and presented. Economics are being recalculated using a Consol format and the project will be ready to circulate the week of August 28.

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

It has been decided to build Focus Panel sample guns for review early in 1990. We plan to build 5 guns, 3 for the focus panel, and 2 for additional testing proposes. All 5 guns are to be functional and an additional 4 months will be added to the schedule.

Drawings have been given to B. Bosquet for estimates on the two stock styles and the two scope mounting designs. We have asked to have these back by the end of October.

Fabrication of components for the focus panel guns will begin in September with building of these guns to be completed in December. This will add a huge work load to both the Model Shop and N/C area.

The spare receiver/barrel assembly has been altered to the new ejection port geometry and the new magazine guide and magazine latch/ejector have been added to the housing. We hope to take high speed movies and BV's the week of 9-11 using these new components prove out the redesigns.

MODEL 700 CLASSIC .300 SAVAGE (1990) - Martin

Design Acceptance testing was successfully completed with Transmittal accomplished on March 20th.

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. No delivery date from Bishop is available at present.

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. The demonstration for the Marines is still being contemplated, but a date has not been set.

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NEW BOLT ACTION RIFLE - Bauman/Rowlands/Martin

A new Products Presentation and Marketing Meeting was held on 7/18/89 with Field Reps. and Iliion R&D Personnel at Iliion. During this meeting, design specifications and parameters were presented, discussed and modified as follows:

Suggested Name: Model 792

Trigger pull must be crisp, with no overtravel or creep.
Force to pull trigger must not exceed 4 pounds.

Magazine box should be installed in the receiver and then retained by a latched floor plate. This will also allow the opening in the bottom to be covered when the magazine box is removed from the gun.

Scope mount should be comprised of two separate bases instead of a one-piece bridged type.

Utilize nylon or delrin inbedded into the barrel channel at the front of the stock to improve accuracy.

Retain M/700 receiver configuration at the front but restyle at the rear.

Consider restyle of the bolt handle.

A schedule for N'BAR Research Development Costs for periods June '89 thru October '92 or June '89 thru October '91 were completed and a decision was made to utilize the October '91 Cost/Manpower Schedule. R. Murphy has done some preliminary layout work on an improved fire control for N'BAR. R. Murphy's work has terminated on N'BAR. Ken Rowlands will be working on N'BAR as SP-10 Mag. Commitments allow and F. Martin part time as consultant.

Items currently being developed are:

- o Detachable magazine box attached to floor plate in conjunction with Steve LaCrosse of Sure-Cast Industries & Bardane Manufacturing Company who distributes the 'Kwik-Klip' aftermarket magazine box. Bauman
- o Improved Fire Control - Ken has started investigation and familiarization of fire control status to meet specifications and parameters set forth by R&D, Marketing and Legal Departments. Rowlands
- o Improved Bedding/Accuracy - A design is being worked on to improve accuracy, that originated from Wayne Cable of the Custom Shop. Basically, it is relieving part of the thread in the receiver to allow piloting an elongated solid hub section of the barrel for accurate alignment of both parts. A thicker, relieved barrel bracket is also being incorporated. This is currently at the Layout/Detail stage of development. Bauman

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

The design is in the initial layout phase. The three initial calibers are 7mm REM MAG, .300 WIN MAG, and .338 WIN MAG. An "informal poll" by Bud Fini indicates that this is a prudent course of action. A previous meeting with various Remington sales representatives had raised concern about introducing the rifle in magnum calibers.