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December 1, 1988

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File: Tech. Monthly Reports

FROM: W. H. Coleman, II

ILION R & D AND TECHNICAL
MONTHLY REPORTS
NOVEMBER 1988

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

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Ilion, New York
December 1, 1988

TO: W. H. COLEMAN, II

FROM: L. B. BOSQUET/T. C. DOUGLAS *MB* *TD*

NEW PRODUCTS DEVELOPMENT MONTHLY REPORT - NOVEMBER

CURRENT PRODUCTS

EKSTROM-CARLSON CHECKERING MACHINE - Monteau/Hickey

It was reported last month that an NC tape had been sent to Synermation which demonstrated the problem being encountered with the software. As a result of this and several phone conversations, it appears now that both the "INSERT CHECKER" and "EDIT EKSTROM" sub-routines are working.

The SP-10MAG stock and fore-end have been programmed for the Ekstrom and the trial and pilot parts are being run. The Model 11-87 stock has been reprogrammed and moved to this machine (it was being run on the Bostomatic).

The Model 11-87 fore-end pattern is still being worked on to determine why the two side sections have shifted radially about an eighth of an inch away from the main body of the pattern.

The long term goal of the work being done with Air Turbine Technology on cutter motors is to reduce the noise level to the point where hearing protection is not required. Air Turbine has returned a quantity of motors which have been repaired and rebalanced. Six of these will be drawn out and installed in early December. It is felt that both the excessive noise and premature bearing failure could be related to improper balancing of the motors. Results of testing should be available by next month.

To further reduce the decibel level at the operator's position, enclosures will be built around each of the cutting heads as soon as the air counter-balance system has been installed. The counterbalance system will replace two springs which currently support each head.

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In anticipation of the need for additional checkering capacity in the future, information has been supplied to Industrial Engineering for evaluation and preparation of a project. An estimated capital requirement has been put into the 1989 forecast.

It now appears that Allen-Bradley will supply the information necessary to edit the PAL (Programmable Application Logic) so that the A and B drives can be separated. Remington personnel will actually make the changes. We are also investigating the replacement of the Allen-Bradley 7320 controller with a new 8600 controller which is used on the new Ekstrom-Carlson machines. This would essentially make both machines identical for programming, operation and service.

REMINGTON BARREL FOR THE SNIPER WEAPON SYSTEM - Martin

The second mandrel for the Remington SR, 11.25 inch twist GFM produced SWS barrels was run, producing barrels with excellent dimensions. Ammunition has been obtained. Initial testing will be 200 yard accuracy from the machine rest. Three rifles made from the first mandrel and three rifles made from the second mandrel have been tested. The average mean radius of the three barrels from Mandrel #2 was 1.148 inches versus the accuracy specification of 1.3 inches. The first 103 production rifles had an average mean radius of 1.021 inches. One of the rifles from Mandrel #2 will be shot 5000 rounds to check barrel life. A third mandrel has been ordered which has 5 conventional lands and grooves versus the radiused configuration.

BOSTOMATIC CHECKERING MACHINE - Monteau/Hickey/Inserra

One of the systems being looked into for expanding the memory of the Bostomatic checkering machine has the potential to provide faster and more trouble free changeover from pattern to pattern by storing the programs and downloading them on command. A quote for a fileserver has been received in the amount of \$18,025. Installation and training are an additional \$500 per day. A demonstration of the system will be arranged to help in the evaluation of the proposal.

To help increase the float capabilities of the cutter heads and reduce the amount of touch-up required, the nose piece and follower shoes have been redesigned. The experimental nose-piece C-TS-7517 requires alteration to eliminate an interference with the exhaust port. It will be reinstalled and tried as soon as it is ready.

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MULTI-HEAD CHECKERING SOFTWARE - Monteau/Hickey

American Bay Limited is continuing their work on converting the NC checkering software from the GE 4020 format to our Compaq 386 PDs. Work is moving ahead with the "Wrapped Pattern" and "CKEdit" routines. Bob Turner has begun the process of refining and debugging sub-routines. He is also creating the interconnections between sub-routines which will make it less cumbersome and time consuming to program a checkering pattern.

He supplied an early iteration of a "user friendly" format which was found to contain some problems. Two revised disks have since been received and need to be tried.

MULTI-HEAD CHECKERING IMPROVEMENTS - Monteau

There is an on-going program aimed at improving the reliability of the equipment, quality and throughput of the process, and the environmental quality of the checkering area. One part of this program has been to reduce the noise level to the point where the area does not require hearing protection. This has been achieved through the design and installation of sound enclosures around each of the hydraulic packages. A final reading has not been taken by the Safety Office but a set of readings taken when the installation was about 75% complete resulted in the area being declared a non-hearing protection area.

The "Z" and "TILT" drive units are being revised to provide more dependable operation and easier maintenance. Components needed to change the "TILT" drive from a chain belt no longer available to a standard timing belt have been received. It has been determined that a special length belt will be required for the "Z" drive and will be ordered. Delivery will be approximately three months after receipt of the order.

TOOL DESIGN - Monteau

All information needed for the preparation of a project to replace the Bruning 870 print machine with a non-ammonia whiteline printer was supplied to Industrial Engineering on September 12. A three month rental with an option to purchase is being proposed. If approved, this will eliminate the use of ammonia and its' potential hazards.

The Hewlett-Packard plotter in the Tool Design area currently handles drawings up to 48" in length. Occasionally it is necessary to handle much longer formats and steps are being taken to provide this ability.

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FMS MODELING - Findlay

Modeling and detailing are complete for the LT-20 receiver for FMS manufacture. Advance drawings of the part were turned over to Bob Orf for review by his group. Upon approval, transmittal of the drawing will take place.

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

Prototype tooling for the redesigned fore-end support intended to replace our current fore-end/barrel support has been corrected, and two advance parts have been received. These parts are acceptable and the remainder of the prototype run has been received; testing to be scheduled. We previously hoped to eliminate the need for a reinforcing patch in the fore-end, but testing has proven that this is not currently feasible.

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NEW PRODUCTS - 1988 CATALOG

PARKER - Murphy

The primary effort in the previous month was again directed towards building prototypes for test. Highlights of last months activity are as follows:

- o The ten prototype barrel assemblies brazed in August have been finish machined and fitted to the frames allowing enough material so that refitting after color case can be done as necessary. Kolar is looking for a vendor in their vicinity to x-ray inspect the barrel assemblies without success. The test assemblies will be inspected by Altec in Maryland as an interim measure. A formal report on the inspection procedure will follow from Fred Schmidt.
- o The first test Parker has been stocked, polished and heat treated. The color case heat treatment caused some distortion in the bottom plate that was not seen in the Shot Show sample gun done last year. To date, the only identifiable difference between the two frames has been in polishing. A second frame is being hand polished today and will be color cased in the morning to try to get a handle on this problem.
- o The stock drilling fixture has been designed by Tim McCormack and Kolar and is being fabricated.
- o Don Mainland is interested in purchasing some older Remington equipment to facilitate the manufacture of production Parkers. I have assembled a list of available equipment and Don is assessing his needs. I expect a visit from Don sometime during our testing of the Parker prototypes to conclude this business. Rather than have Remington ship our equipment to Kolar, this time I envision selling any equipment outright. This is a business decision that needs to be addressed.

At an early Parker meeting here in Ilion, Remington promised to Kolar the use of unused M/3200 equipment. In conversation, Don Mainland has often mentioned our failure to meet this commitment. Since other business needs have claimed the majority of this equipment we need to find another way to fulfill this obligation.

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- o It has been difficult to schedule the work of Kolar, particularly without the ability to significantly influence their efforts. I expect though from discussion with Don that the first assembled gun, ready for test, will be available by Friday, Dec. 9. The balance of the guns should be here before Christmas. To avoid congestion in the Test Lab in January, testing should continue through the week between the holidays.
- o Legal and/or Quality Control input is needed to determine what Kolar and Remington needs are regarding process records, inspection, etc. I will schedule a meeting to resolve this issue.
- o The first draft of the Parker manual has been done and I am still waiting for approval from Jim Hutton and Ken Green.

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NEW PRODUCTS - 1989 CATALOG

SP-10 MAGNUM - Rowlands/Bauman/Lewis/Verdura/Murphy

14 guns were shipped to Texas for the gun writers seminar and, apart from three guns that experienced some malfunctions during field testing, were well received by the participants. They were especially impressed by the number of improvements made to the guns when compared to the Ithaca Mag-10. The gun that experienced the most malfunctions will be returned to Ilion for evaluation and the remaining guns have been distributed to the sales force for display to dealers etc..

Four guns have been sent to St. Louis for field testing by Consol management personnel and Tim McCormack.

Lonoke has requested two additional guns for 10 Ga. ammo development testing. These will be supplied as soon as additional trial and pilot run parts are available.

A third choke tube designated "Turkey X-Full/Lead Shot Only" has been developed. It will be made from stainless steel and will provide average pellet densities of 81% at 40 yards when shot with Rem. 2 1/4 oz. lead 4's. A new choke tube wrench has been designed. This design, which incorporates a 3/8" square socket for use with a ratchet wrench, will also be implemented on the 12 gauge wrench.

Development alterations are being removed from drawings so that formal transmittal can begin. The CV drawings will be worked on first. The owners manual is also being worked on.

Final parts have been received from the model shop for the alternate feed system design and it has been assembled. Alterations to the carrier need to be made to eliminate an intermittent trap shell condition. Layout work is currently being done to determine the extent of the modifications required to prevent the shell from the magazine interfering with the extracting shell. Work also needed to be done to redesign the extractor system. This redesign work is complete and new extractors need to be made by the model shop before the gun can go into test.

The first meeting of the Design Review Team was held May 26. An overview of the review process was presented and the team members were shown the SP-10 Mag. cut-away gun and the improvements compared with the Ithaca Mag-10 were discussed. Sub teams were assigned to examine the firearm from a systems approach using a form of failure mode analysis and report back their findings.

All of the investment castings have now been received in sufficient quantities for trial and pilot except for the carrier. Vestshell has shipped 201 pieces and will be shipping the balance (100 pieces) the week of December 5. On December 7 and 8 a team from Remington will be visiting Vestshell. The primary purpose of the trip will be to review all of the specifications on the casting drawings to be sure that there are no misunderstandings relative to what is expected, what can be produced and when delivery of parts is needed. Anything that might delay or jeopardize delivery of parts must be minimized or eliminated.

The SP-10MAG will have three choke tubes; one made of stainless steel and intended for lead shot only, and two made of a heat treated and titanium nitride coated maraging steel. The two maraging tubes have been specifically designed to give nominal pattern densities of 65% and 75% at 40 yards with an ounce and three quarters of steel BB ammunition. In addition, these two tubes will be dual marked to indicate their performance with both steel and lead shot. The markings will be:

- o "STEEL - IMP MOD"
"LEAD - MOD"
- o "STEEL - X FULL"
"LEAD - FULL"

The choke tube wrench has been redesigned to provide a stronger, one-piece design incorporating a recess for use with a three-eighths inch square drive ratchet wrench. MIM tooling is being built and samples are expected in early January.

Work is continuing on the process records and they are being issued as tool numbers become available. There are several processes which are yet to be completed.

The trial and pilot quantity of stocks and fore-ends has been received from S&K and has been processed through NC checker. As was mentioned elsewhere in the report, we now have the capability of programming the Ekstrom Carlson checkering machine and both components were successfully processed over this equipment. The wood is being processed similar to the Model Four in that it will be received from S&K after the final level sanding. It will be checkered and have the final coat of low gloss finish applied here.

The acceptance run-off of the permanent tooling and programming for the gas piston lug and barrel extension was successfully conducted the week before Thanksgiving. The tooling was shipped to Remington on November 27th. It will be installed as soon as it is received and the trial and pilot will be done on both of these parts. Barrels have been started and are ready for the barrel extension and gas piston lug. It is expected that the receiver package will be ready for run-off the week of December 13th. The trial and pilot lot of

receivers is about fifty percent through the FMS operations and should be ready for the K&T when the tooling is available. Machining time is approximately eight and one-half hours per a sixteen receiver pallet or around thirty-two minutes per part.

The trigger plate programming should be completed and processing of trial and pilot components started by December 9th. It has been determined that a radius cut on both sides of the rear of the part cannot be done on the T-10 and will have to be done off-system. Tooling will be designed and an operation added to the process to accomplish this.

TURKEY CHOKE TUBE - Murphy/Powers

Design Acceptance Testing by the Ilion Technical Section of 15 tubes from Kolar Arms is complete. The 3 inch Kolar tube provides the shooter with approximately a 5% increase in pattern percentage versus the standard Full choke tube. The 3 inch choke tube will be made from our current stainless steel material and will be coated black due to the fact that they protrude 1 inch from the muzzle. The design has been transmitted to the plant.

Although this tube has been accepted and production quantities are being received, Purchase Parts Inspection does not have a good way to inspect them. An identical tube, with the exception of a straight taper instead of a parabolic taper, and a vendor production tube, were tested for pattern evaluation. Preliminary results indicate the straight taper tube performs as well as the parabolic tube. Additional samples will be tested for design acceptance to replace the current design.

MODEL 870/1100 LIGHTWEIGHT RESTYLE PROGRAM - Lewis/Verdura

All specifications for these models have been reviewed and agreed on. The complete drawing package has been transmitted. The process records and item masters have been completed. The product structures were started. Further work on this item has been put on hold but will be picked up again in the second quarter of 1989 as the result of a Product Team decision.

At the June Product Team meeting it was decided to keep the specifications for 1989 the same as currently offered. They will remain the same until the fourth quarter of next year. All lightweights produced in the fourth quarter of 1989 will be to the restyle specifications and the guns will be carried in the 1990 catalog.

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SLUG GUN SYSTEM - D.Findlay

The R&D Test and Measurement Laboratory has found the design acceptance evaluation of the 12 Ga. Model 870 and Model 11-87 shotguns utilizing the cantilever scope base design, Tasco scope rings, rifled choke tube, and trap stock system to be acceptable for transmittal. Transmittal has been completed for introduction third quarter 1989.

Testing of the cantilever scope mount system was found to be more accurate with all ammunition types tested (Rem. 1 oz., Win. 1 oz., Fed. 1 oz., BRI sabot) than current models or Hastings type replacement barrels for our guns. This experimental system also completed all endurance and improper handling testing with no difficulty. The results of the high pressure strength testing with the experimental system was comparable to identical testing on the current Model 870 and Model 11-87 12 gauge shotguns.

The accuracy evaluation consisted of shooting three five shot groups with Remington, Federal, BRI, and Winchester slugs through all test and control samples resulting in a total of 60 groups for each ammo type and 15 groups per system. All accuracy results are for 50 yards.

SYSTEM	M/870	M/11-87
CANTILEVER WITH RIFLED TUBE	3.2 IN.	3.5 IN.
CONTROL BARRELS	4.6 IN.	4.8 IN.
HASTINGS BARRELS	6.0 IN.	4.9 IN.

The ammunition used in the testing ranked in the following order (from best group size results to the worst group size:

1. BRI
2. Remington/Winchester
3. Federal

Samples of the gun have been approved by the product team and have been released for catalog photography, which has been done, and for the sales meeting.

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MODEL 700 AS BDL (ARYLON STOCK) - Verdura/Lewis

In 1989 Remington will offer the Model 700 BDL fitted with a stock made of DuPont Arylon. This will mark the first time that Arylon has been used as a viable material for a gun stock. This version of the Model 700 will replace the Rynite and right hand fiberglass stocks currently in the product line. It will be produced in long and short action versions as well as in regular, magnum and varmint barrel configurations in the following calibers:

- | | |
|--------------|---------------|
| o 22-250 REM | o 308 WIN |
| o 243 WIN | o 7mm REM MAG |
| o 270 WIN | o 280 REM |
| o 30-06 SPFD | |

An initial lot of 200 stocks has been received from Lee Six and arrangements have been made to have them moved to the purchased parts area for inspection. In addition to checking the fit of the barreled action, four areas of concern to Marketing will be reviewed to be sure the vendor has made the necessary corrections. They are:

- o the fit of the grip cap and the recoil pad to the stock were not to Remington visual standards
- o the surface appearance varied from one end to the other - caused by improper gating of the mold
- o the front and rear swivel attachments were not being assembled to the stock normal to the outside surface which resulted in the swivels appearing off center and tipped
- o occasionally the mold would open out of sequence which resulted in the rear take-down screw hole being misaligned.

A formal trial and pilot is not required on this item but the Test and Measurement Lab may want to draw a sample from the first production run and verify that it conforms to Model 700 specifications. Initial production is scheduled for February 1989 in the 22-250 REM caliber.

End label information has been entered into the WICS system. Item masters, product structures and process records are needed.

This offering gives us first use of Arylon as a stock material and will replace the Brown Precision and Choate stocks for 1989. The question of long term supply of synthetic stocks has not been resolved nor has a determination been made on whether or not to develop a Mountain Rifle configured synthetic stock.

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MODEL 700 CLASSIC .300 WEATHERBY MAGNUM - Lewis/Verdura

The 1989 offering in the Model 700 Classic series will be the 300 Weatherby Magnum. This will be a synergistic offering from both Firearms and Ammunition.

Chamber tooling was designed using advance prints, ordered from JGS and has been received. Chamber gaging was placed on order with Sheffield Gage (LRI-54192) in May or June and has not been received as of this writing. In mid-November Purchasing was requested to contact the vendor relative to this order and to date has not received an update. Additional follow-up is required.

Total volume for this offering has been estimated at 6000 units to be produced in June. The trial and pilot run will consist of 650 guns to be scheduled early in the first quarter to comply with a Marketing request that 300-500 guns be available for the Alaskan bear season in March.

Transmittal of model drawings and the parts list took place on September 21 on DCR 12304. Item masters, product structures and process records have been written and are in place. End label information has been entered into the WICS system under RAMAC 5903.

MODEL 870 FUNCTIONAL IMPROVEMENTS - Lewis/Verdura

Twenty-five of the new Delrin ejector bases have been sent to Aberdeen Proving Ground for liquid compatability testing. This test must be passed on any future military contract for shotguns. A report has been received on the results of the tests and is being evaluated to determine a path forward.

Process records and structures are complete and are on the system except for police versions which use the new ejector system. Police structures will not be activated until successful completion of trial and pilot.

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MODEL 1100 RETROFIT BARREL/STEEL SHOT - Franz/Powers/Verdura

The Test & Measurement Lab report has been approved and distributed. The design has been transmitted.

M/1100 12 ga. Steel Shot Barrel Specifications

Gauge: 12

Barrel Rollmark: 2 3/4 inch Magnum and 3 inch Magnum
Shells - Steel Shot

Orifice: one .088 in.

One Choke Tube:

- Name: Remington Long Range Steel
- 80% patterns at 40 yds. (w/2 3/4" Magnum 2's)
- constriction: same as current full tube
- material: VascoMax 250 Maraging Steel
- titanium nitride finish

Barrel Lengths: 26 and 30 in.

Barrel Finish: Standard polish Black Oxide finish.

The barrel hang tag has been reviewed by Marketing and the Litigation Support groups.

The marking equipment vendor has developed an optimum marking process for uncoated tubes. The mark is actually etched about .002 inches deep into the tube. The coating vendor has coated these tubes and they have been accepted by the Product Team. This process will also be used on the 10 gauge steel shot choke tubes.

The transmittal of model drawings is complete. Item masters and product structures have been completed and the process records are being worked on.

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NEW PRODUCTS AND PROCESSES - 1990 AND BEYOND

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

This program will complement the present family of .22 autoloaders, M/552, N-66, and N-77. The new autoloader will be designed around an existing barrel and magazine box to allow the remainder of the parts to be sourced with minimal machining and finishing operations required. The wood stock version of this gun must be price competitive with the Ruger 10-22.

Given the past and current problems experienced with the M/541 magazine box (feeding problems), it was decided that a metal, rather than a synthetic, magazine should be used in this rifle. Design work is being done in this area (Ed Klock and myself) and possible solutions are being investigated, MIM process and/or stamped mag. box. A new magazine box for this rifle might also be add-used to the current models 541 and 581. We bought and received four Marlin .22 rifles for evaluation of their magazine box design, three of the rifles are in the Test Lab awaiting testing. Also included in the test is the Ram-Line 25 round mag. that fits into the Marlin rifles. Possible use of the Marlin style magazine would mean redesign of the housing and latching system as well as the last shot hold open.

The proto-type work on the housing will be done in the N/C area by Bob Kozakowski and the receiver proto-type will be done in the Model Shop by Irv Traux. Both parts will be made out of aluminum with expected completion dates of mid-February 1989.

Tom Plunkett and Dave Findlay are finishing up work on the stock and the N/C group should receive the surfaced part by the end of December for their cutter path generation and proto-type work.

An updated schedule has been worked out and is being drawn up by Bill Pickett on the C.V., we are still looking to have our first proto-type gun in the first quarter of 1989.

A parts list will be made and completed prints will be given to Brad Bosquet as soon as he is ready to handle them.

The Test Lab is doing bolt velocities, cycle times, and Pressure/Time curves on N/66's and N/77's. This data will be put in Scott Franz's newly developed "blow-back" computer simulation program to validate the program. Once validated, the computer simulation will be used to refine the operating parameters of the new rifle design.

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NEW CONCEPT SHOTGUN - Powers

Recoil reduction efforts have centered on recoil pad materials and possibly using some type of "hydraulic" damping unit in the stock. Testing of new recoil pad material samples from Rubber Industries (the prototype vendor for the DuPont Elvaloy mat'l) and Rogers Corp. has been completed. Shoulder forces are higher than anticipated. A more thorough test will be done on the R-I prototype pads when they arrive (by Dec. 2). Recoil pad materials and testing data have an immediate application for plant purposes also.

First generation prototype design is now progressing and CAD/CAM work has begun at EDL. The action system is still intended to be gas-assisted inertia, with gas pressure being used to assist in compressing the operating spring. A patent search concerning this type of action operation was conducted by Jim Newsom (EDL). Apparently we are free to use this concept and it may be considered as patentable. Scott Franz has been requested to modify the NCS simulation to allow for another action operating concept. This concept will also use inertia with gas-assist to operate the action. The gas-assist will NOT be used to further compress the spring, but to assist in propelling the action directly. Due to Scott's commitment to the SPC program this modification is not expected until some time next year. Further recoil force testing (not related to the pad materials testing) which will include qualitative evaluation of the NCS, 11-87, 1100, 870 and competitive models will be scheduled for December. For the barrel design we are considering both the GFM and Pilger manufacturing processes.

Testing results of the modified KFC prototype indicate our simulation has accurately predicted bolt velocities. Terminal bolt velocities with target and short magnum loads are nearly identical at approximately 125 in/sec. This same testing has revealed problems with magazine tube deformation which will have to be evaluated in the NCS design.

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NEW BOLT ACTION RIFLE - Bauman/Murphy/Martin

Fred Martin will be working on the implementation of the SPC program. Tom Bauman will now be the Team Leader working with Randy Murphy. Fred will act as a resource to the program if possible. A meeting was held on October 31 with the old NBAR team, the new NBAR team and the Litigation group to get the new players up to speed as well as redefine the NBAR program goals. The insight of the legal representatives present was useful as we outlined the following program goals:

- o Detachable Magazine Box
- o Improved Firecontrol
 - No Connector
 - Two Trigger Pull Springs (low spring rate)
 - "Sealed Firecontrol"
 - Balanced Trigger
 - Trigger and Sear Block
 - Not Retrofittable to M/700
- o Bolt Lock w/override
- o Integral Scope Mounts
- o New Extractor
- o New "Custom Shop" Barrel Contour
 - Mountain Rifle Crown
- o Improved Bedding System
- o M/700 receiver, cosmetically altered
- o New Wood Stock

Testing of a patented new technology rifle barrel in a joint program between Remington and D.C.Brennan Firearms, Inc. has been completed. The Brennan technology claims a 25% increase in accuracy with reduced recoil. However, test results show no significant improvement over our current design (at the 95% confidence level). The final report is complete, and D.C. Brennan was notified as well as sent a copy of the report. D.C. Brennan requested that Remington return their property, which has been done.

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ELECTRO-CHEMICAL RIFLING - Lewis

An updated quote has been received from Cation Corporation. Estimated testing costs are needed from the Test and Measurement Lab in order to prepare an updated economic evaluation. This is necessary before a Part II to the project can be submitted.

NEW AUTOLOADING RIFLE (NAR) - Powers/Findlay Sr.

This program is recently getting underway. The objective is to design a product which will replace the M/7400, but NOT the M/7600. This program's goals will be similar to those of the new .22 rimfire rifle:

- o Designed for high functional reliability
- o Designed for mfg/assy
- o New and/or improved safety features
- o Lower mfg cost

As with the .22 rimfire program, the majority of the actual design work will be done under contract by Dave Findlay, Sr. Remington personnel assigned to the program are: Tom Powers - Design and CAD/CAM, and Tom Plunkett - CAD/CAM.

Suggested initial caliber offerings are .223 and .308. The design will be based upon the M16/AR15 magazine. The gun will operate on the Ljungman gas system principal, similar to the Colt AR15 and the Egyptian Rashid.