MINUTE #1 - 1954

SUBJECT: MODEL 40X TARGET RIFLE

MODEL 40-X TARGET RIFLE

There was a brief discussion on the possibility of meeting the accuracy specifications proposed by the Sales Department for this rifle. At present the specifications require the firing of five (5) consecutive ten (10) shot groups at 100 yards without exceeding 1.5" center to center on any individual target. In a test of these specifications, the Plant selected ten (10) Model 37 rifles which had shown excellent accuracy and all failed except one to meet the proposed specification outlined above. It was the opinion of the Plant representatives that the Model 40-X would also fail to meet these accuracy requirements. However, G. Evans expressed the opinion that the test should be made with the Model 40-X utilizing match ammunition of known accuracy after which results should be reported. If extended tests indicate that the specifications are too severe, sales representatives will then recommend changes which will enable the Plant to avoid excessive rejections.

SUBJECT: MODEL 40X TARGET RIFLE
ECONOMICS

ECONOMICS OF PROPOSED MODEL 40-X TARGET RIFLE

Proposed economics of subject target rifle requested in Minute #10, Arms Division, dated November 17, 1953 were submitted to Operations Committee members by J. B. Maupin on February 25, 1954. The program indicated that the Operations Committee should consider the possibility of abandoning this rather unprofitable and low volume item.

It was also stated that some discussion should center about the status of production for the present Model 37 rifle.

After a review of the economics referred to above, it was decided that new computation should be made and, therefore, the issuance of these Minutes has been delayed pending receipt of the new economics, copy attached.

The estimated earnings and return on investment for the Model 40-X on a basis of 3,000 per normal year, are shown in comparison with the Model 37 on a normal year basis of 750.

Referring now to the proposed Model 40-X, it will be noted that the operative earnings and net earnings are very small so that the return on total capital required (including development) is only 1.3% and return on total investment needed is only 1.7%. On the other hand, the Model 37 shows losses and, therefore, a minus return on capital and investment.

While the Model 40-X does not show satisfactory returns, Sales representatives have emphasized that this rifle will be a prestige item and that the Board of Directors had previously approved the original project calling for an estimated return on investment of 2.7% with a total investment of $293,000 and estimated net earnings of $7,800.

As the discussion continued, it was evident that considerable difference of opinion prevailed as to the necessity for this new target rifle as J. B. Maupin indicated he felt a prestige item in the small bore line did not justify itself when the economics are taken into consideration. However, Sales representatives countered with the argument that while the return percentages do not meet minimum requirements, yet the collateral advantages of a prestige item are sufficiently great to recommend it.

Since no unanimity of opinion could be obtained, it was suggested that Part III of the project for this rifle should be prepared on the assumption that the Model 37 would go out of production on March 31, 1954, as set forth on the Arms Development Schedule.

It was agreed that the Model 37 was not a prestige item as it did not meet the requirements specified by Sales and, therefore, no harm would be done in dropping it from the line at the end of this month.

ESTIMATED EARNINGS AND RETURN ON INVESTMENT
MODEL 40X AS COMPARED WITH MODEL 37
NORMAL YEAR

	Present Model 37			Proposed Model 40X		
	Each	Amount	% of Sales	Each	Amount	% of Sales
Forecast quantity		750			3,000	
Sales	$ 70.04	$ 52,530	100.0%	$ 59.44	$178,330	100.0%
Mill cost:						
Material	6.14	4,605	8.8	10.15	30,450	17.1
Labor	21.71	16,285	31.0	7.48	22,440	12.6
Burden	62.48	46,860	89.2	26.94	80,830	45.3
Tool amortization	8.16	6,120	11.6	3.75	11,250	6.3
Total	98.49	73,870	140.6	48.32	144,970	81.3
Research	1.75	1,315	2.5	1.49	4,460	2.5
Total mill cost	100.24	75,185	143.1	49.81	149,430	83.8
Factory profit	(30.20)	(22,655)	(43.1)	9.63	28,900	16.2
Freight and delivery, selling and administrative expense	7.01	5,255	10.0	5.94	17,835	10.0
Operative Earnings	$(37.21)	$(27,910)	(53.1)%	$ 3.69	$ 11,065	6.2%
Less: All other expense @ 7%		(1,955)			765	
Net earnings before Federal taxes on income		(25,955)			10,300	
Less: Federal taxes on income @ 50%		(12,980)			5,150	
Net Earnings		$(12,975)			$ 5,150	
Investment						
Appropriation required		$ -			$202,600	
Direct and allocated production and service facilities		158,200			103,900	
Total investment		158,200			306,500	
Working capital		43,000			96,500	
Total capital required		201,200			403,000	
Less: Portion chargeable to operations (including development)		-			94,165	
Total investment required		$201,200			$308,835	
Return on Investment						
Total capital required (including development)		(6.4)%			1.3%	
Total investment required		(6.4)%			1.7%	

NFL:dmg
3/11/54

MINUTE #9 - 1955 - September 8, 1955

FROM PAGE NO.: 8

SUBJECT: MODEL 40X RIM FIRE RIFLES

RIM FIRE RIFLES - MODEL 40X

General trade acceptance has been excellent. Recently it has been marred by reports of trigger creep and stuck safeties. These complaints were also of serious proportions at Camp Perry but the reports on accuracy are very encouraging.

Decision

The Operations Committee Arms Division recommends that the Model 37 now be formally discontinued.

M. R. Warden-R. H. Coleman	P. H. Burdett
H. M. Stoessel	N. F. Larsen
H. K. Faulkner	J. D. Mitchell-2
Dewey Godfrey-Gail Evans-	J. B. Maupin
G. E. Pinckney	S. M. Alvis-2
G. M. Calhoun	A. J. Greene
H. A. Brown	J. K. Hamil

COPY NO._____

OPERATIONS COMMITTEE - ARMS DIVISION

INFORMATIVE BULLETIN NO. 37

September 30, 1955

SUBJECT: RIM FIRE MODEL 4OX and OBSOLESCENCE OF MODEL 37

Reference: Operations Committee - Arms Minute No. 9 - September 8, 1955

Reference is made to the attached letter dated September 23, 1955, from H. A. Brown to Management Staff, on the above subject.

On September 27, 1955, Management approved obsolescence of the Model 37, and disposal of equipment if or when the quantity of spare parts equals or exceeds the established number of years' supply, except that tooling for the Model 37 box magazine will be retained pending release by the Research and Development Department.

Philip H. Burdett
Secretary, Operations Committee

ND

Attachment

CONFIDENTIAL

cc: P. H. Burdett

Bridgeport, Connecticut
September 23, 1955

TO: M. R. WARDEN
R. H. COLEMAN
H. K. FAULKNER
DEWEY GODFREY
H. M. STOESSEL
G. M. CALHOUN

FROM: H. A. BROWN

SUBJECT: Rim Fire Rifle Model 40X and Obsolescence of Model 37

Reference: Operations Committee - Minute #9 - Sept. 8, 1955, page 8.

Approval of obsolescence of the Model 37 Target rifle has been withheld pending introduction and acceptance of the new Model 40X Target rifle designed to replace it. The new rifle has been introduced and accepted by the trade. Reports on accuracy are very encouraging.

The Operations Committee - Arms - therefore recommends obsolescence of the Model 37 and disposal of equipment if or when the quantity of spare parts equals or exceeds the established number of years' supply. (exception - Note 1)*

Your approval is requested.

H. A. Brown
Chairman Operations Committee

hab/heh

*Note 1 - (added 9/29)

Retain tooling for Model 37 box magazine pending release by Research and Development Department.

FORM RD-69

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

CC: B. E. Strader
E. C. Hadley
A. E. Buchanan, Jr.
R. B. Dillman

PERSONAL & CONFIDENTIAL

Bridgeport, Conn.
December 29, 1939

TO: DISTRICT MANAGERS

FROM: H. A. BROWN

SUBJECT: CALIBERS FOR REMINGTON MODEL 30

Various changes in design of our Model 30 Rifle are being favorably considered by the Arms Products Committee. These changes include a better shaped stock (smaller at mid-section, etc.), new styling of the bolt handle, of the bolt stop and of the shape of rear end of the receiver; changes which remove the "Enfield" look. While actively considering improvements to this gun we would like your recommendation of what calibers, if any, should be proposed for this rifle in addition to present .30/06 and .257 Remington-Roberts.

Here is what competition are currently offering in their high power bolt action rifles.

1. Winchester Model 70

.22 Hornet
.220 Swift
.257 Roberts
.250 Savage
.270 Winchester
7 m/m
.30/06
.300 Magnum
.375 Magnum

2. Savage Model 40

.250 Savage
.30/06
.30/30 Winchester
.300 Savage

3. Savage Model 19H

.22 Hornet

4. Savage Model 23D

.22 Hornet

Sales of Remington ammunition in these sizes for an average year based on the last four years' sales are as follows:

*.30/06	1,306,000	per	year.	List	Price	$104.18
.22 Hornet	973,000	"	"	"	"	33.58
.300 Savage	910,000	"	"	"	"	91.46
.250 Savage	622,000	"	"	"	"	81.04
.270 Winchester	114,000	"	"	"	"	104.18
*.257 Roberts	90,500	"	"	"	"	95.52
.300 Magnum	78,000	"	"	"	"	127.34
.220 Swift	58,200	"	"	"	"	81.04
7 m/m	52,000	"	"	"	"	95.52

*These calibers now available in Model 30.

(The above figures are confidential; for your personal information only.)

The Model 30 Rifle can be made to handle any of these cartridges. Tooling cost will probably be greatest to handle the .22 Hornet and least to handle the 7 m/m.

We have heard favorable comment on the .300 Magnum probably due to its popularity at the Camp Perry matches. Do you think this is a "coming" cartridge? Should we adapt our Model 30 Rifle to handle it?

1. What calibers do you recommend in our Model 30?

2. What increase in sales would you estimate for your territory if your recommendation is followed? (give increase per normal year)

H. A. Brown, Manager
Development Division

HAB:gbs

CC: C.X.Green
G.O.Clifford
R.C.Hedley
G.E.Pinckney

Ilion, New York, January 29, 1940.

2/1/40 Notes, Purchase Pressure testing

TO: E. A. Brown

FROM: E. J. Lowe

New Model Number

SUBJECT: MODEL 30 ALTERATIONS

We are shipping to you today the proposed Model 30 "A" grade alterations which were covered by Products Committee minutes of December 19-20, 1939 and my letter to A. E. Buchanan dated November 22nd of which you have a copy.

The sample gun is an "A" grade in exactly the way it is proposed for production with the exception that the front sight protector slots in ramp will be omitted since the protector will be obsoleted in all grades. Briefly, the changes in the Model 30 are as follows:

STOCK

New Stock, similar to the Winchester Model 70. — Yes
The "A" grade Stock will be identical to the sample except with the addition of the grip cap and quick release type swivels, although no definite decision has been made on this point. Yes
It is suggested that in the interest of standardization, the grip cap might be omitted in the "A" grade. Yes

BOLT STOP

The Bolt Stop has been altered in design and is common to all grades. OK

RECEIVER

The Receiver has been cross milled on the rear end and milled lengthwise on the rear bridge to lower the sight line and improve appearance. OK
The Receiver is drilled and tapped for the Lyman #48 Peep Sight, or any other standard sight equipment. This Receiver is common to all grades. OK
Holes must be plugged on open sight model.

BOLT HANDLE

The Bolt Handle has been altered by referging the handle section on the present bolt, threading the stem end and screwing it on a ball type handle. The bolt will be left bright polish. This part is common in all grades. OK

but quick release is an alteration all models if extra expense.

TRIGGER PULL

Trigger pull specifications will be changed to Single Pull, Standard; Double Pull, Optional. OK

MAGAZINE & GUARD BOX ASSEMBLY

The design of the magazine box has been altered to permit reducing the thickness through the bottom section of the stock at the magazine in order to eliminate the complaint of "Fullness" and "Difficulty in carrying the present Rifle".

January 29, 1949

To: R. A. Brown - - #2

Open **REAR SIGHT:**

The Rear Sight has been moved rearwardly 1"; this has been accomplished by running the rear sight base block to a larger diameter and permitting it to be moved rearwardly. The rear sight base block will be supplied as standard on all grades and will have a filler block inserted in the micrometer sight grades. OK

BARREL:

Barrel Lengths:
It is planned to offer the barrel in 22" standard for "A" grade; 24" standard for "S" grade ~~but with 22" optional~~; 20" barrel will be supplied for Carbine. OK
The question of barrel lengths in different grades has not been definitely decided upon; my suggestion would be to follow the lengths outlined above.

Barrel Diameter:
As has been previously discussed, the "S" grade barrel is approximately 1/10" bigger in diameter at a point 7" from the breech. It is our plan to reduce the "S" grade barrel to "A" grade dimensions in order that the bedding on the stock will be common for all grades.
We are at present conducting tests to determine the effect of barrel diameter at this point to center of impact when changing from one load to another with the same sight setting. We should be ready to submit a report on this investigation with recommendation by the end of the week. Report & test - OK
I would like to point out, however, that regardless of the merit that there might be in the larger diameter for "S" grade barrel insofar as change in center of impact is concerned, we have been supplying approximately 30% of all Model 30's in "A" grade which is the smaller diameter and to my knowledge we have had no complaints on a change in center of impact when shifting from one load to another. Apparently the consumer realizes that he should change his sight setting when changing, for example, from 160-grain bullet to 220-grain Express.

FRONT SIGHT:

The Front Sight Ramp shown on the model will now be standard for all grades and will be the same height for all grades. Protector slots will be omitted and the protector will be obsoleted. OK

The difference in grades will now be relatively minor as compared to the present design. The "S" grade will be the same as "A" grade, except quick release swivels in the stock, with or without grip cap, Lyman #48 Receiver Sight, Rear Sight Mounting Block with dovetail filler block which will permit mounting any standard open or folding leaf sight. The barrel length will be 24", with option of 22"

January 29, 1940

Mr. E. A. Brown -- #3

The "SK" grade will be same as "K" grade, with the exception of Redfield Peep Sight in place of Lyman. "SK" grade, which was supplied for Heath's territory, will be obsoleted as the new "A" grade fulfills all of the requirements of the "SK" grade.

The "B" grade, or Carbine, will be the same as "A" grade, except for 20" barrel and no checkering on the stock.

There has not been too much discussion of just what will constitute the various grades and the above is more or less my own conception of what is wanted. The specifications of the rifle in various grades should be established and I hope, as a result of your survey, you may be able to tell us definitely what is desired.

I have been instructed by Croom and Carpenter to attend the Pacific Coast Sales Convention on February 16th and 17th, and this Model 30 sample should be shown and explained by me at that meeting which will be held in San Francisco. Will you please arrange to have the gun shipped to Gilbert Heath in time to be sure it is available for that meeting?

K. J. Lowe,
DEVELOPMENT ENGINEER

KJL:EJ

FORM RD-68*

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

cc: C. K. Davis
E. E. Handy
D. F. Carpenter
B. E. Strader
A. E. Buchanan, Jr.
C. M. Green - ILION
C. B. Wells
G. E. Pinckney
G. O. Clifford - ILION
K. J. Lowe - ILION
W. O. Stauffer
P. B. Rutherford
R. E. Evans

Bridgeport, Conn.
January 31, 1940

TO: E. C. HADLEY

FROM: H. A. BROWN

SUBJECT: MODEL 30 RIFLE - ADDITIONAL CALIBERS

The Arms Products Committee requested this Division to survey the possible addition of cartridges other than present .257 Remington-Roberts and .30/06 Springfield to our Model 30 Rifle.

The eight District Managers have been contacted as per sample letter attached. Replies have been received which are summarized on page 2.

We recommend that Ilion be asked to prepare estimates of cost to adapt the Model 30 Rifle to the following calibers in the preference indicated.

1st .270 Win. and/or .275 Rem. (7 m/m)
2nd .300 Magnum
*3rd .22 Hornet (Questionable; approximate estimate only.)
4th .300 Savage (Questionable; approximate estimate only. Conversion of Model 81 rifle to handle this cartridge appears possible.)

*NOTE: - Explore possibility of Model 513 type of design to handle the .22 Hornet in a gun at not over $30. retail.

Spring Roberts - Hirn 300. 300.
30.06 257 - 270

SUMMARY

MODEL 30 RIFLE - ADDITIONAL CALIBERS

District	.22 Hornet	.220 Swift	.250 Savage	.270 Winchester	7 m/m	.300 Savage	.300 Magnum	.375 Magnum
*Heath		X		X	X	X	X	
Strugnell	X			X				
Patterson	X			X		X	X	
Mitchell				X			X	(X)
Pitts	X					X		
*Rothrock	X	X		X			X	
*Godfrey	X		X	X		X	X	
Palmer	X		X	X			X	
TOTAL	6	2	2	7	1	4	6	(1)

NOTE: (X) Mitchell suggests possibility of .375 Mag. on special order only.

* Rothrock says no demand for Model 30; calibers given by him are for Model 141.
Godfrey would like Bull Gun in .30/06 and .300 Mag.
Heath says Dunham, Carrigan and Hayden sell Model 70 Winchester guns as follows:

.30/06	- 50%	.257 Roberts	- 5%
.270 Winchester	- 25%	.22 Hornet	- 5%
.300 Magnum	- 10%	.220 Swift	- 5%

It appears that the addition of the following calibers to the improved Model 30 Rifle be considered in the order of preference indicated.

1st: .270 Winchester

There would be relatively little cost to adapt the gun to this caliber and consequently less time to get into production. In this connection, however, we would inject this thought:

The Model 30 Rifle is now tooled to handle the 7 m/m cartridge, it being discontinued, however, due to lack of sales. We recommend that the 7 m/m cartridge be reconsidered under a new name such as .275 or .276 Remington; that we attempt to step up the ballistics to exceed the ballistics of the .270 Winchester and offer the Model 30 Rifle (at practically no tooling cost) to handle it.

2nd: .300 Magnum

This is a relatively new cartridge and we believe is gaining in popularity due to its performance in the Camp Perry matches.

3rd: .22 Hornet

Our district managers have indicated a definite demand exists for this cartridge and the Model 30 Rifle appears to be the most logical gun for it at present. This rifle, however, seems to us to be too high priced an arm for this cartridge. We should consider the possibility of adapting the Model 513 or Model 613 type of design for cartridges of this character, viz. small caliber, high power ammunition about which so much is now appearing in the trade magazines. The new high power low cost slide action rifle should likewise be considered for use with such cartridges.

4th: .300 Savage

We doubt the desirability of this cartridge for our Model 30. Its popularity is probably due to its being the only high power cartridge, except .348 Winchester, which is available for lever action rifles. It also appears possible to convert our Model 81 Rifle to handle this cartridge. Such a sample Model 81 is available and has been sent to Ilion for consideration.

It is well to note here the game laws in some states as follows:

Arizona:

It is unlawful to use a rifle propelling a bullet weighing less than 87 grains in killing deer or bear.

Wyoming:

Use of a firearm discharging a projectile less than .23" in any hunting prohibited.

Tom Neibert tells us that all sizes of metallic ammunition are sold and stocked; smaller sizes are used for predatory animals.

For big game hunting in Wyoming no army issue .30/06 solid nose can be used. (So says Tom Neibert to H. R. Patterson)

Montana:

Tom Neibert says: "A law similar to Wyoming will be passed in Montana possibly during the next meeting of the Montana Legislature."

Oregon:

It is unlawful---to hunt for elk with guns smaller than .30 caliber except when using cartridges with bullets of not less than 1400 feet pounds energy at 100 yards distance or weighing not less than 150 grains.

Utah:

It shall be unlawful to hunt deer with any kind of a revolver, pistol, or with a .25/20 caliber, .22 Special, or any other .22 caliber rifle except a .22 high power.

Estimated Sales:

The following estimated sales per year are the result of a conversation with G. E. Pinckney.

Orders received for Model 30 in 1939	605
Model 30 guns shipped in 1939	601
Estimated sales of improved Model 30 in present calibers only (.257 & .30/06)	1500

	1939 Actual	Estimated Sales of Improved Gun 2 cals.	4 cals.	6 cals.
.30/06	X	X	1000 - 50%	1000 - 45%
.257 Roberts	X	X	200 - 10%	100 - 4⅓%
Total Present Cals.	605	1500	1200 - 60%	1100 - 49½%
.270 Win. or .275 Rem.	-	-	500 - 25%	500 - 23%
.300 Magnum	-	-	300 - 15%	300 - 14%
.22 Hornet	-	-	-	100 - 4½%
.300 Savage	-	-	-	200 - 9%
Totals	605	1500	2000	2200
Increase over Pres.		900	1400	1600
% Inc. " "		150%	233%	267%
Increase over 2 cals.			500	700
% Increase			33-1/3%	46½%
Increase over 4 cals.				200
% Increase				10%

We recommend:

1. Prompt consideration of stepping up ballistics of our 7 m/m cartridge to equal or exceed .270 Winchester and call it .275 Remington (We expect the 7 m/m Model 30 will handle this cartridge at very small tooling cost.)

2. Adaptation of Improved Model 30 to handle the .300 Magnum.

3. Make approximate estimates of cost to adapt the Model 30 to .300 Savage cartridge.

4. Make approximate estimates of cost to adapt the Model 30 to .22 Hornet cartridge.

5. Explore possibility of a Model 513 or Model 613 type of design for .22 Hornet in a gun to retail at not over $30.

We need a gun for the .22 Hornet and/or similar small caliber high power cartridges. Do not think the Model 30 is the gun for this. Should be a $30. gun.

HAB:gbs

G.O.Clifford G.E.Pinc...
A.L.Lowe P.B.Rutherford
E. C.Hadley R.E.Evans

Ilion, New York, February 1. 1940

TO: H. A. Brown

FROM: K. J. Lowe

SUBJECT: PROPOSED STANDARDIZATION OF BARREL DIAMETERS AND SHAPES ON MODEL 30 "A" & "S" GRADE BARRELS

This refers to my letter of January 29th and to a letter from Evans to Lowe dated January 25th of which a copy was sent to you. A brief review of the proposed change and the reason for the change might be of interest to those who are not entirely familiar with the subject is as follows:

The Model 30 "S" grade barrel is approximately 1/10" larger in diameter than the Model 30 "A" grade barrel at a point 7" from the breech end. Due to this difference, it is necessary to carry two different stocks because of the difference in barrel seat.

In the interest of standardization inventories and equipment costs we have proposed that a new improved stock for the Model 30 be made common to all grades which can be accomplished only by making the barrel diameters of the "A" and "S" grades exactly alike.

There has been some opposition to reducing the barrel diameter on the "S" grade to "A" grade dimensions as it has been stated that the "S" grade barrel has the particular advantage of a relatively small change in center of impact when changing from one bullet weight to another with the same sight setting. It has been believed that this advantage was due to the shape and size of the "S" grade barrel and that this advantage might be lost if it was reduced to the "A" grade size.

Another advantage of the proposed reduction in "S" grade size is a reduction in weight of the "S" grade gun by approximately 1/4 lb. (3-1/2 ozs. to be exact).

We have recently completed a test to determine the comparison in point of impact between the "S" grade and "A" grade barrels, such tests being conducted in the following manner:

A Model 30 "S" grade gun, No. 27383, was taken from the warehouse at random and a series of targets was fired using muzzle and elbow rest at 100 yards with the following loads:

110 grain Hi-Speed Mushroom
150 Grain Hi-Speed Bronze Point
180 grain Palma Match
220 grain Express Mushroom

Upon completion of this test the barrel was removed and ground to "A" grade barrel dimensions, an insert was glued in the front of the stock in order to maintain the same muzzle pull of 9-1/2 lbs., as was in the original rifle; the gun was then tested in the same manner as before and the following table shows the variation in point of impact, using the 110-grain Hi-Speed cartridge as the basic point of impact, or zero:

Ammunition	Before Grinding	After Grinding
110-gr.	0.00"	0.00"
150-gr.	4.27 high	4.49 high
180-gr.	4.30 high	4.32 high
220-gr.	1.07 high	2.01 high

From the above test it will be readily seen that there is no appreciable difference in the maximum variation of impact point as before grind it was 4.30" and after grind, 4.49". We are entirely satisfied that the contemplated change can be made without any practical effect on the point of impact feature which it is felt desirable to maintain, and we are now definitely planning that this change will be made if the Model 30 improvements are desirable and a construction project is authorized.

Regarding the letter from Evans to Lowe dated January 25th, in view of the tests which have been made here, we do not feel that it is necessary that the Technical Division go to any expense to check the results obtained here. We feel that such tests as might be made in Bridgeport would confirm the results obtained by us and, although they might differ slightly because of a more accurate method of measurement, to all practical purposes the final result would be the same.

Please advise if you concur in this or if you believe that Technical Department tests are a further necessity.

K. J. Lowe,
DEVELOPMENT ENGINEER

KJL:LJ

ARMS PRODUCTS COMMITTEE MEETING
FEBRUARY 1, 1940

MODEL 30 ALTERATIONS

Model was shipped to Brown on January 29.

Lowe's letter to Brown dated January 29 was discussed paragraph by paragraph by those present. The conclusions reached, using that letter as a reference are as follows:

STOCK

New stock similar to the Winchester Model 70	Yes
"S" grade stock will be identical with "A" grade stock submitted. No grip cap on either.	
(Quick release type swivels are to be offered as an option on all models at extra price)	

BOLT STOP

Altered in design and common to all grades	Yes

RECEIVER

Cross milled rear end and milled lengthwise on rear bridge to lower the sight line and improve appearance	Yes
Receiver drilled and tapped for Lyman #48 Peep Sight or any other standard sight equipment.(Receiver sight holes must be plugged on open sight models). This receiver is common to all grades	Yes

BOLT HANDLE

Altered by reforging on handle section of the present bolt, threading the stem and screwing it on a ball type handle. Bolt will be left bright polish. This part is common to all grades	Yes

TRIGGER PULL

Single pull standard and double pull optional	Yes

MAGAZINE AND GUARD BOW ASSEMBLY

Magazine box has been altered to permit reducing the thickness through bottom section of the stock at the magazine in order to eliminate the complaint of "Bulkiness" and "Difficulty in carrying the present Rifle". Yes

OPEN REAR SIGHT

This has been moved rearwardly 1" by reaming base to larger diameter. The rear sight base will be supplied as standard on all grades and will have a filler block inserted in the micrometer sight grades. Yes

BARREL

Barrel lengths.-(See tabulation of models shown below)

Barrel Diameter.-Plan to reduce "S" grade barrel to "A" grade dimensions in order that the bedding on the stock will be common for all grades. (Brown reports that Ilion says that tests have proved satisfactory) Yes

FRONT SIGHT

Front sight ramp shown on model will be standard for all grades and will be the same height for all grades. Protector slots will be omitted and the protector obsoleted Yes

(LATER DISCUSSIONS BETWEEN BROWN AND PINCKNEY RAISE THE QUESTION AS TO WHETHER THE MODEL 141 TYPE OF FRONT SIGHT RAMP MIGHT NOT BE BETTER THAN THE ONE SHOWN ON THE MODEL UNDER DISCUSSION. IT IS REQUESTED THAT ILION PICK UP THIS POINT AND ADVISE THOSE INTERESTED IN THEIR OPINIONS).

2/27 KL wants ... [illegible]

BCH:VC

GRADES OF GUNS TO BE SHOWN IN PRICE LIST.

The following table, we think, is self-explanatory. The plan selected has been determined with a view of making it as simple as possible for those who place orders for these arms.

30A	22" barrel	Open sights
30AL	"	Lyman Receiver Sight
30AR	"	Redfield Receiver Sight
30AM	"	Marble Receiver Sight
30S	Same as 30A but with 24" bbl.	Open sights
30SL	" " " " " "	Lyman Receiver Sight
30SR	" " " " " "	Redfield Receiver Sight
30SM	" " " " " "	Marble Receiver Sight
30R	Same as 30A but with 20" bbl.	Open sights
30RL	" " " " " "	Lyman Receiver Sight
30RR	" " " " " "	Redfield Receiver Sight
30RM	" " " " " "	Marble Receiver Sight

LCH:VC

C. C. Hadley

IMPROVED MODEL 30

Comments by Abercrombie & Fitch, N. Y. C.

February 5, 1940

Chris Gieben:

Big improvement over present gun.

Good idea to give new model number.

Grip could be made more comfortable by reducing circumference slightly, cut comb back so as to be 1/8" longer from trigger.

Suggested possibility of cheek piece on stock such cheek piece to be started at comb. Do not start too far back.

Winchester Model 70 Super Grade has cheek piece, black fore-end tip, 7/8" N.R.A. sling strap with quick detachable swivels, fancy checkering, specially selected walnut; with open sights retails @ $85.40 and with peep sight at $97.

Remington may wish to offer our gun with cheek piece stock of regular walnut and checkering, without fore-end tip and with regular carrying strap and a lower price assuming this type of stock with cheek piece can be shaped on the carving machine. Recommend we consider a cheek piece stock and determine the added manufacturing cost over present stock. Such a gun may be sold retail at approximately $69.95 with open sights and $81.95 with peep sights.

Prefers swivel bows to screw eyes and button type strap to strap with hooks. Hooks rattle against stock and tend to mar the finish. Recommend we consider this. Use swivel bows for 7/8" strap. Obtain a carrying strap 1¼" wide, dark in color, not oiled, with ends reduced to 7/8" width and fitted at [redacted] with buckles for securing to swivel bows, the 7/8" ends to be perforated with several holes to obtain length adjustment. There has been some complaint on oiled straps due to their tendency to stain light colored shirts.

They have had requests for sight protectors from those people who have lost them, indicating that some people use them. These requests were for both Winchester and Remington protectors.

Gieben suggested the following calibers:

.22-3000 Griffin & Howe (This cartridge is the Résley-Lovell type case and 50 gr. Sisk bullet. We obtained a box of these cartridges.)

.257 Remington-Roberts
.270 Winchester

.30/06
.300 or .375 Magnum

General finish of the barrel on the sample gun should be better. It is not as good as on the receiver; should be as good as receiver.

Feature the fact that in our gun no bolt alteration is necessary for low scope mounting.

Wicks says:

Flatten the underside of bolt handle ball slightly and knurl or checker it to facilitate handling.

The following was purchased for our sample display.

1 - box	(50)	.22-3000 C. & H. ctges.	@	$2.00
1 - "	(20)	.256 Newton (Western)	@	1.57
1 - "	(20)	.35 " "	@	1.57
1 - Carrying Strap (button type)			@	1.40
			Total	$6.54

HABrown:gbs
Feb. 6, 1940

ARMS PRODUCTS COMMITTEE MEETING
FEBRUARY 27, 1940

MODEL 30 - MODIFICATION OF DESIGN

K. J. Lowe reported discussion at Pacific Coast Sales meeting. He said the sample which was shown was received with enthusiasm. The conclusion reached at that meeting was that the proposed arm could very well compete with Winchester. (For the record, it is noted that Wells was heard to say at this meeting that the modified Model 30 is "better than Winchester").

It was agreed that the project should be prepared to cover three calibers as follows:

.30-06
.257 Remington-Roberts
.270 Winchester

Sales Department agreed to circulate a forecast on the basis of the three calibers mentioned above.

With the project there will be sent to Bridgeport, the modified arm together with a standard Model 30. One of these will be equipped with quick release swivel, the other with a swivel bow at lower cost. Information should then be submitted as to extra charges necessary and a decision made as to which should be standard equipment, if either should be.

Technical Department had recommended that a new cartridge be designed for this arm. One suggestion was that it should be a caliber 7 M/M bullet but with .30-06 Springfield case.

APC DECISION: that the Technical Department should survey further, the advantages of having a new caliber and something of the qualities desired in a new cartridge. This study should be followed by recommendation.

Presently suggested date as possible for the modified model 30 is October 1 for warehouse stock.

APC agreed that the arm should have a new number and that that number should be 711.

PROGRAM FOR ARMS PRODUCTS COMMITTEE MEETING
FEBRUARY 27, 1940

MODEL 30 - MODIFICATION OF DESIGN

A model was submitted at the December 19 - 20 meeting. Various suggestions were made. APC gave tentative approval of the model submitted with the understanding that the cost would be in the vicinity of the $10,737.00 figure submitted and that there were various details to be worked out.

MODEL 30 - MODIFICATION OF DESIGN (Cont.)

A modified model was submitted to Bridgeport with Lowe's letter to Brown dated January 29.

APC Minutes reported study of this model at Bridgeport February 1.

The model was taken by Brown to Abercrombie & Fitch for comments.

Brown has circularized the sales force in connection with desired calibers. Summary of results were circulated under date of January 31.

The Technical Division, in this connection, recommend:

1. Prompt consideration of speeding up ballistics of a cartridge with a Springfield case and caliber 7 M/M to equal or exceed ballistics of the .270 Winchester - suggested that it be called .275 Remington.
2. Adaptation of Improved Model 30 to handle .300 Magnum.
3. Make approximate estimates of cost to adapt the Model 30 to .300 Savage.
4. Make approximate estimates of cost to adapt the Model 30 to .22 Hornet.
5. Explore possibility of Model 513 or Model 613 type of design for .22 Hornet in a gun to retail at not over $30.00.

Ilion Development Schedule of January 26 suggests tool construction might be completed May 1 and warehouse stock may be available August 1.

CC: E. E. Stracer
C. B. Wells
D. F. Carpenter
L. C. Hadley
C. M. Green
K. J. Lowe, Ilion
E. A. Brown

Bridgeport, Conn.
March 1, 1940

TO: Mr. G. A. Clifford, Ilion

FROM: G. E. Pinckney

SUBJECT: SALES FORECAST OF NEW MODEL 70 IN PRESENT CALIBERS PLUS .270 WINCHESTER CALIBER

Our estimate is that we will be able to sell 2,500 of these the first year and an average of 2,000 per year thereafter.

GEP:RHL

Arms

[redacted] PRODUCTS COMMITTEE MEETING
MARCH 28, 1940

MODEL 711 (IMPROVED MODEL 30)

Ilion announced change in schedule of guns to warehouse from August 1, 1940 to January 1, 1941.

Sample gun was submitted by K. J. Lowe showing:

1. Two new types of swivel as requested by A2C.
2. Altered design of front sight ramp.
3. Corner on rear left side of receiver chamfered.

The sample gun with above changes is to be returned to Brown after cost estimating is completed for A2C approval.

5/28 Additional change being made in magazine bottom. Model to Brown in about days. Possibility of die cast trigger plate.

5/28 ③ changed to Number 720 from 711 & 2/27 [illegible]

① Tech left [illegible]

(9) M/720 (Improved M/30)

Sample model is complete. Product cost estimates are not yet completed due to various changes in construction which will yield a more satisfactory return on investment.

The production project will be ready for discussion at the next A.P.C. meeting.

Warehouse schedule remains as 1/1/41.

PROGRAM
ARMS PRODUCTS COMMITTEE MEETING
JUNE 13, 1940

9.
MODEL 720

(This arm appeared at the February 27 meeting disguised as the Model 711. It is better known as an improved Model 30.

The new number is being adopted in order to conform to the gun model numbering system described in Brown's letter of April 9. This was circulated to all interested parties).

a. It was reported at the ATPC meeting on May 28 that additional changes were being made in this model. It was expected that the revised model would go to Brown in a very few days. It may be available on June 13 for APC study. Cost estimates or project may also be offered.

b. The possibility has been suggested that there might be advantage in a die cast trigger plate for this arm. Research or Ilion may wish to discuss this point.

c. It is noted in the February 27 Minutes that the Technical Department were to survey further, the desirability of a new caliber for this arm. It is understood that their study will result in a recommendation to the APC that a new caliber be worked out or that no further consideration be given at the present time.

FILE COPY

TECHNICAL PLANNING COMMITTEE ILION JULY 24, 1940

CURRENT YEAR - NEW PROJECTS

(5) M/720 (Improved M/30)

A project has been approved for the production of this gun. Deliveries to the warehouse are scheduled for January 1, 1941. A sample gun and new type of magazine plate have been approved by APC and conditionally approved by the Technical Department.

It is felt that the minor difficulties encountered in the tests of the model gun would be easily ironed out by Ilion.

Assignment: Clifford will submit a production sample for Technical Department and APC approval. He will make warehouse deliveries by ~~1/1/41~~. 4-1-41

MINUTE #30-1940

Copy to: C. K. Davis, E. E. Handy, B. E. Strader, C. B. Wells, G. E. Pinckney-2, W. R. Scott, R. H. Coleman, D. W. Flannigan, F. J. Kahrs, D. F. Carpenter, C. M. Green, G. O. Clifford-6, A. E. Buchanan-8, H. A. Brown -2, H. N. Meixner, W. U. Reisinger, F. J. Craig

ARMS PRODUCTS COMMITTEE MINUTE

AUGUST 16, 1940

MODEL 720 (IMPROVED MODEL 30)

This model has been approved by:

D. F. Carpenter
H. A. Brown
A. E. Buchanan
C. M. Green
C. B. Wells
E. C. Hadley

with the conditions contained in Brown's letter to Hadley dated July 31, 1940. Copies of that letter were sent to Clifford and Lowe.

ECH:VC
8-16-40

E. C. Hadley
Secretary

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

A. E. Duchemin, Jr.
C. H. Green
G. O. Clifford
K. J. Lowe

Remington PETERS 8/5

Bridgeport, Conn.
July 31, 1940

TO: E. C. HADLEY

FROM: H. A. BROWN

SUBJECT: MODEL 720 (Improved M/30)

This is to record conditional Technical Department approval of the Model 720 sample model in the .30/06 caliber.

A total of 120 rounds, including Remington and Western ammunition, ranging from the 172 gr. Pointed Taper Heel to the 220 gr. Express Mush, was fired in the sample gun with no ejection or feeding trouble. Hard extractions occurred when using Remington 180 gr. Hi-Speed Mush cartridges. We ask Ilion to investigate and clear up this trouble.

There were a few misfires during the testing and this was called to the attention of K. J. Lowe when he was in Bridgeport. His explanation was that in the many handlings and assemblings at Ilion a regular M/30 main spring (17 lb.) was left in the gun when it was shipped to Bridgeport. The new M/720 type spring (25 lb.) should have been in the gun because the firing pin travel has been shortened and the extra weight is necessary. He has assured us that the heavier spring will overcome all misfire trouble which, as a matter of fact, was not too general, even with the lighter spring. It is being assumed, therefore, that all future guns will have the heavier spring and no further misfire trouble will be encountered.

The gun was checked for accuracy at 100 yards firing ten 10-shot groups in a cradle rest, with the following results:

Ave. E. S.	2.28
% in 4 in.	98.8
% in 3 in.	95.0
% in 2 in.	82.5

The accuracy standard calls for 100% in four inches and 80% in three inches at 100 yards, muzzle and elbow shooting with 220 gr. bullet. Cradle rest results for this cartridge were

as follows:

Ave. E.S.	2.1
% in 4 in.	100
% in 3 in.	100
% in 2 in.	90

In our opinion the gun is capable of shooting well within the standards indicated above and we therefore consider the accuracy to be satisfactory.

Two 10-shot groups were fired at 200 yds. with the 180 gr. Palma Match cartridge, with iron sights, muzzle and elbow rest. The groups averaged under eight inches which in our opinion is satisfactory for this type of shooting.

It is assumed that Ilion will correct the two difficulties, weak firing pin blows and hard extraction, and no further sample need be submitted until a production sample is available.

H. H. Brown Manager
Development Division

Approved by: J. E. Buchanan
Technical Director

HDH:dbb

A.P.C. ILION PROGRAM FOR JUNE 13, 1940

RIFLES, CENTER FIRE
MODEL 720 BOLT ACTION

ITEM #13

Status: Project being circulated for approval.

Next Step: Approval of project.

Schedule: Project Approval - - - - June 15, 1940
Equipment - - - - - - - October 1, 1940
Warehouse - - - - - - - - April 1, 1941

Economics: See project.

Remarks: The model gun will be retained by the Technical Department for test and approval.

Sample showing a proposed change in the Magazine Bottom is submitted for discussion and approval. Project is based on present design.

FILE COPY

CC: ✓ E. C. Hadley
B. F. Strader
C. B. Wells
K. J. Lowe, Ilion

Bridgeport, Conn.
August 30, 1940

TO: Mr. H. A. Brown

FROM: C. E. Pinckney

SUBJECT: MODEL 720 (IMPROVED M/30)

In a memorandum dated August 16 Hadley states that this model has been approved by various people, with the conditions contained in your letter to Hadley dated July 31, 1940.

From that letter I note that the factory is going to use a heavier main spring to overcome misfire trouble. This, of course, is desirable, but the question arises in my mind as to whether this will affect the ease of cocking, and I think that this point should be checked over carefully.

Ease of operation is an important feature in the sale of any gun over the retail counter.

CEP:RHL

FORM R. C. 699-

CC: G.O.Clifford
C.C.Loomis

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Ilion, New York, September 20, 1940

TO: ~~E. C. Hadley~~

FROM: K. J. Lowe

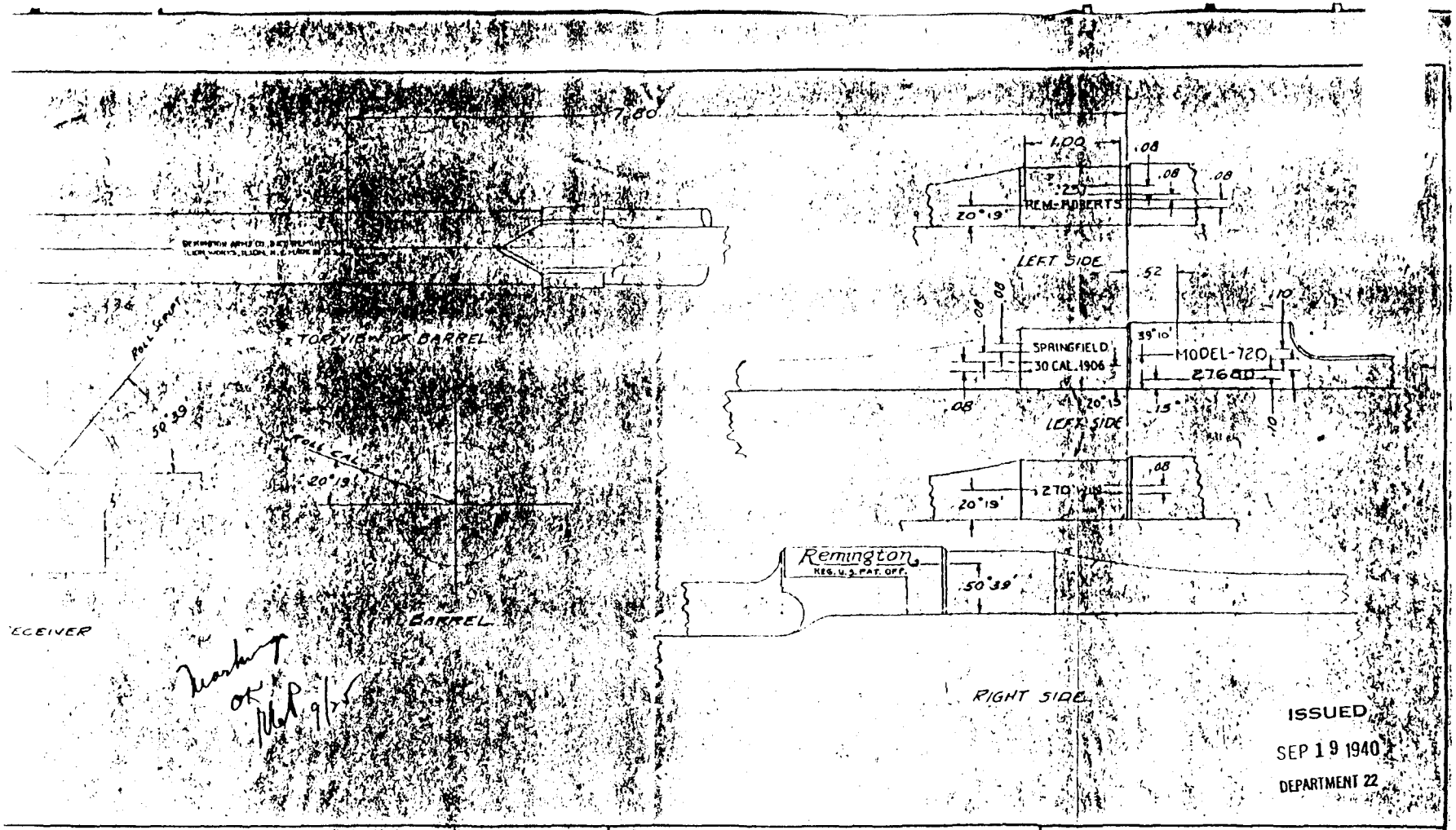
SUBJECT: MODEL 720 RIFLE MARKING

We are proceeding with tools for marking the Model 720 Hi-Power Bolt Action Rifle in accordance with the attached print.

You will notice no trade name has been assigned to this model which is in accordance with previous decisions. There was no trade name assigned to the Model 30 although we did mark the word "Express" on the Receiver which has been deleted from the present Model 720. So far as we know we are entirely clear on the type, amount of, and position of the marking, but the attached drawing is being sent to you in order that you may review it with Sales and, if any changes are desirable, we should be notified at once.

K. J. Lowe,
DEVELOPMENT SUPERINTENDENT

KJL:LJ



RECORD OF ALTERATIONS #	ADDITIONAL USES					REMINGTON ARMS COMPANY, INC., ILION, N. Y.			
	MODEL	NAME OF PART	DATE ADOPTED	DATE DISCONT'D	SUP'D. BY DWG. No.	MODEL 720	SCALE Full Size		
						PART RIFLE MARKINGS			
						ORDER NO.		CONSTN. DWG. NO.	
						SUP'D'S. DWG. NO.		DETAILS	
						DES'N'D.	BY	DATE	
						DRAWN	H.J.F	1-19-40	
						CH'K'D.			
						TRACED			DRAWING No. 720-D-6
						APP'VD.	OCL	9/19/40	

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER

H.A.Brown absent - S.M.Alvis to act.

REINFORCEMENT PIN FOR M/721

It was reported on September 4, 1947, by telephone by H. A. Brown of the Ilion Plant that sustained firings of eight Model 721 Rifles selected at random from the Warehouse had indicated that the stocks of some rifles developed a crack in the web of the stock between the trigger slot and magazine slot. He advised that one rifle split at this point after the firing of 5300 rounds. Ten more rifles were then checked from Warehouse stock and seven were found with cracks. Ten additional rifles which had not yet been fired in Gallery Tests were checked and two were found with cracks. The cracks are on the inside and practically invisible unless one is making a particular search for them. Since this is the weakest part of the stock, H. A. Brown recommended that a brass reinforcing pin similar to that used on the Model 30 Rifle be applied to all Model 721 Rifles in the Warehouse. It is understood that every effort is being made to modify the design so that it will not be necessary to utilize this pin except for guns immediately available or until a method has been devised to avoid its use.

Decision:

The individual members of the Products Committee approved the use of a reinforcement pin through the stock of the Model 721 as a temporary expedient with the understanding that the Technical Department and the Ilion Plant will make every effort to devise a means of avoiding the requirement for such a pin. Since such action was taken by the individual members of the Committee, similar action is confirmed by the Committee as a whole.

FILE: M/30
M/721 (papers)
Stocks

MINUTE #10 - 1953

SUBJECT: MODEL 40X TARGET RIFLE
REMINGTON STANDARDS

Remington Standards - Model 40-X Target Rifle

Reference was made to the memoranda outlined in the program under this item. The Arms Research & Development Division desired from the Sales Department the proposed accuracy specifications for which the Model 40-X should be manufactured.

G. Evans stated the Sales Department desired an accuracy specification as follows:- Five (5) consecutive 10-shot groups shall be fired at 100 yards without exceeding 1.5" center to center, on any individual target. The Plant will make tests and report results in their efforts to meet these accuracy specifications.

It was also recommended that several of these target rifles be shipped to G.Evans at Bridgeport for examination and check firings with the possibility that some of them may be tried by top-flight shooters.

MINUTE #1 - 1954

SUBJECT: MODEL 40X TARGET RIFLE

MODEL 40-X TARGET RIFLE

There was a brief discussion on the possibility of meeting the accuracy specifications proposed by the Sales Department for this rifle. At present the specifications require the firing of five (5) consecutive ten (10) shot groups at 100 yards without exceeding 1.5" center to center on any individual target. In a test of these specifications, the Plant selected ten (10) Model 37 rifles which had shown excellent accuracy and all failed except one to meet the proposed specification outlined above. It was the opinion of the Plant representatives that the Model 40-X would also fail to meet these accuracy requirements. However, G. Evans expressed the opinion that the test should be made with the Model 40-X utilizing match ammunition of known accuracy after which results should be reported. If extended tests indicate that the specifications are too severe, sales representatives will then recommend changes which will enable the Plant to avoid excessive rejections.

SUBJECT: MODEL 40X TARGET RIFLE
ECONOMICS

ECONOMICS OF PROPOSED MODEL 40-X TARGET RIFLE

Proposed economics of subject target rifle requested in Minute #10, Arms Division, dated November 17, 1953 were submitted to Operations Committee members by J. B. Maupin on February 25, 1954. The program indicated that the Operations Committee should consider the possibility of abandoning this rather unprofitable and low volume item.

It was also stated that some discussion should center about the status of production for the present Model 37 rifle.

After a review of the economics referred to above, it was decided that new computation should be made and, therefore, the issuance of these Minutes has been delayed pending receipt of the new economics, copy attached.

The estimated earnings and return on investment for the Model 40-X on a basis of 3,000 per normal year, are shown in comparison with the Model 37 on a normal year basis of 750.

Referring now to the proposed Model 40-X, it will be noted that the operative earnings and net earnings are very small so that the return on total capital required (including development) is only 1.3% and return on total investment needed is only 1.7%. On the other hand, the Model 37 shows losses and, therefore, a minus return on capital and investment.

While the Model 40-X does not show satisfactory returns, Sales representatives have emphasized that this rifle will be a prestige item and that the Board of Directors had previously approved the original project calling for an estimated return on investment of 2.7% with a total investment of $293,000 and estimated net earnings of $7,800.

As the discussion continued, it was evident that considerable difference of opinion prevailed as to the necessity for this new target rifle as J. B. Maupin indicated he felt a prestige item in the small bore line did not justify itself when the economics are taken into consideration. However, Sales representatives countered with the argument that while the return percentages do not meet minimum requirements, yet the collateral advantages of a prestige item are sufficiently great to recommend it.

Since no unanimity of opinion could be obtained, it was suggested that Part III of the project for this rifle should be prepared on the assumption that the Model 37 would go out of production on March 31, 1954, as set forth on the Arms Development Schedule.

It was agreed that the Model 37 was not a prestige item as it did not meet the requirements specified by Sales and, therefore, no harm would be done in dropping it from the line at the end of this month.

REMINGTON ARMS COMPANY, INC.

ESTIMATED EARNINGS AND RETURN ON INVESTMENT
MODEL 40X AS COMPARED WITH MODEL 37
NORMAL YEAR

	Present Model 37			Proposed Model 40X		
	Each	Amount	% of Sales	Each	Amount	% of Sales
Forecast quantity		750			3,000	
Sales	$ 70.04	$ 52,530	100.0%	$ 59.44	$178,330	100.0%
Mill cost:						
Material	6.14	4,605	8.8	10.15	30,450	17.1
Labor	21.71	16,285	31.0	7.48	22,440	12.6
Burden	62.48	46,860	89.2	26.94	80,830	45.3
Tool amortization	8.16	6,120	11.6	3.75	11,250	6.3
Total	98.49	73,870	140.6	48.32	144,970	81.3
Research	1.75	1,315	2.5	1.49	4,460	2.5
Total mill cost	100.24	75,185	143.1	49.81	149,430	83.8
Factory profit	(30.20)	(22,655)	(43.1)	9.63	28,900	16.2
Freight and delivery, selling and administrative expense	7.01	5,255	10.0	5.94	17,835	10.0
Operative Earnings	$(37.21)	$(27,910)	(53.1)%	$ 3.69	$ 11,065	6.2%
Less: All other expense @ 7%		(1,955)			765	
Net earnings before Federal taxes on income		(25,955)			10,300	
Less: Federal taxes on income @ 50%		(12,980)			5,150	
Net Earnings		$(12,975)			$ 5,150	
Investment						
Appropriation required		$ -			$202,600	
Direct and allocated production and service facilities		158,200			103,900	
Total investment		158,200			306,500	
Working capital		43,000			96,500	
Total capital required		201,200			403,000	
Less: Portion chargeable to operations (including development)		-			94,165	
Total investment required		$201,200			$308,835	
Return on Investment						
Total capital required (including development)		(6.4)%			1.3%	
Total investment required		(6.4)%			1.7%	

NFL:dmg
3/11/54

cc: W. L. Clay——
H. A. Brown (2)

Bridgeport, Connecticut
March 12, 1954

TO: M. R. WARDEN
R. H. COLEMAN
W. U. REISINGER
H. M. STOESSEL
H. K. FAULKNER
DEWEY GODFREY
G. M. CALHOUN

FROM: H. A. BROWN

SUBJECT: MODEL 40X - 22 Caliber Target Rifle

Reference: Operations Committee - Arms - Minute #3, March 2, 1954, p. 10 and 11.

The Model 40X was designed to replace Model 37 to achieve better performance at lower cost and improve earnings. It is the first of two proposed new target rifles, the second being Model 722 - 222 Remington, and it should be noted here that, if the Model 40X is not tooled for production, the installation cost of the Model 722 Target rifle in caliber 222 Remington would be considerably increased.

The cost evaluation for introduction of Model 40X to replace Model 37 is summarized as follows:

		Present Model 37		Proposed Model 40X
1.	Normal Annual Sales - 750 guns	$52,530	3,000 guns -	$178,330
2.	Operative Earnings	($27,910)		$ 11,065
3.	Operative Earnings as % of Sales	(53.1)%		6.2%
4.	Net Earnings	($12,975)		$ 5,150
5.	Appropriation required	-		$202,600
6.	Total Capital required	$201,200		$403,000
7.	Total Investment required	$201,200		$308,835
8.	Net return on capital	(6.4)%		1.3%
9.	Net return on investment	(6.4)%		1.7%

It was the unanimous opinion of the Committee that the Model 37 does not meet the requirements of a high grade target rifle either in performance or earnings and should be discontinued as of March 31, 1954. Performance of the Model 40X is exceptionally good in experimental tests to date but the appropriation and investment required to produce it are substantial sums and the return extremely low, although a significant improvement in profit position is noted, from a net loss of $12,975 a year to net earnings of $5,150.

The Committee recognized the prestige value in a high grade target rifle but could not agree that introduction was justified in view of the low return and substantial investment required. Therefore, lacking unanimity of Committee opinion, the introduction of the Model 40X 22 caliber Target Rifle is referred to Management for consideration and decision.

In any event, the Committee requests your approval of discontinuance of assembly of Model 37 rifles as of March 31, 1954.

H. A. Brown
Chairman, Operations Committee

hab/heh

cc: M.R.Warden) IN
R.H.Coleman) TURN
W.U.Reisinger
H.K.Faulkner
D.Godfrey
H.M.Stoessel
G.M.Calhoun

H.A.Brown
J.D.Mitchell-2
N.F.Larsen
R.B.Howard
W.L.Clay
J.B.Maupin-3
S.M.Alvis -2

A.J.Greene
G.Evans
G.E.Pinckney
J.J.Callahan
H.J.Hackman
A.J.Brown
D.S.Reynolds
W.H.Foster,Jr.
J.K.Hamil

COPY NO._____

OPERATIONS COMMITTEE - ARMS DIVISION

INFORMATIVE BULLETIN #12

SUBJECT: MODEL 40X TARGET RIFLE AND DISCONTINUANCE OF MODEL 37

References: Operations Committee - Arms - Minute #3 - Dated March 2, 1954 - P. 10-11
Letter from H. A. Brown to Management Staff- March 12, 1954

Please note attached letter from H. A. Brown to Management Staff dated March 12, 1954, in which he stated that the Operations Committee recognized the prestige value in a high grade target rifle but could not agree that introduction was justified in view of the low return and substantial investment required.

Therefore, lacking unanimity of Committee opinion, the introduction of the Model 40X - 22 Caliber Target Rifle was referred to Management for consideration and decision.

Also, he requested Management approval on discontinuance of assembly of Model 37 Rifles as of March 31, 1954. Staff action on March 26, 1954 with respect to the Operations Committee's letter of March 12, is quoted below:

"Remington must have a high grade target rifle.

Discontinuance of Model 37 will not be approved until a satisfactory replacement is available.

Review of the Model 40X development on the basis of selling price comparable with competition, and submit a cost evaluation on this basis. Annual volume of 2,000 rifles at competitive prices was considered attainable, approximately 2/3 lightweight style and 1/3 heavyweight."

W. L. Clay, Secretary
Operations Committee

WLC:MM
4-1-54

CONFIDENTIAL

MINUTE #5 - 1954

SUBJECT: MODEL 40X

MODEL 40-X

Since the project for this rifle calls for light and heavy barrels, Sales representatives desired to have samples of these prepared for examination in Bridgeport. These samples should include the improved stock design with a light weight barrel.

It was stated that the design of stock must be settled shortly in order that the following warehouse schedule may be met:

1955

February	50	August	345
March	115	September	300
April	200	October	315
May	210	November	315
June	330	December	315
July	150		

Total 2,645

Present plans call for producing the first 2,000 rifles on a basis of one-third with heavy barrels and two-thirds with light barrels.

MINUTE #7 - 1954

SUBJECT: MODEL 40X

Model 40-X

Although there have been delays in completing the stock design and procurement of tooling, it is believed that the schedule can be met. Tooling is being received and pilot operations on components should be started during September. The warehouse forecast is as follows:

	July 1, 1954	September 1, 1954
February 1955	50	50
March "	115	115
April "	200	200
May "	210	210
June "	330	330

The above Schedule is based on heavy barrel production only.

Functional Defects - The principal functional defect of creep in head space has been overcome as it was found that the hangers were off gage. If the parts are correctly made and assembled, this trouble will not prevail but it may be necessary to check hangers carefully for a long period. The application of an eccentric bushing and a close check on the squareness of the bottom of the hangers has overcome the increase in head space.

The bolt stem has been corrected as it was found to be rounded which in addition to causing blown heads also contributed to hard feeding and poor ejection. The causes of hard opening seem to have been identified and apparently have been eliminated principally due to the refinements of design and finish of the locking block.

In approximately 2,000 rounds of firing in two (2) rifles now being tested for endurance, there has been no evidence of blown heads or growth of head space.

In regard to the criticism that it required two (2) strokes to load the chamber after loading the magazine, S. M. Alvis stated that actually this arrangement is identical to the Model 121, namely, after action is open when the magazine is loaded, it is then necessary to close the action and again pump the action one stroke in order to load the chamber. If the action is closed when the magazine is loaded then only one stroke to the rear and the additional stroke to close the action is required to load the chamber.

It was also reported that the magazine would not lock into place when it was filled to capacity. S. M. Alvis stated that this difficulty is one which is inherent with the present design, i.e., it is possible to place additional cartridges into the magazine so that the inner magazine tube cannot be fully inserted and locked up unless the action is closed or the action is operated in order to move the column of shells downward so that the tube can be locked in position. This may require further consideration since it may become an annoyance to customers.

After a long review of all the problems involved, it was generally agreed that the calculated risk was not sufficiently great to warrant withholding the model provided a 70% yield can be obtained on receivers in order to keep the cost of production down. As a result, the Committee agreed to recommend an announcement date of November 1, 1954 as set forth on the Arms Development Schedule, dated Septem-

MINUTE #9 - 1954

SUBJECT: MODEL 40X

Model 40-X

Design changes relating to the stock have been settled and every effort is being made so that the announcement date can be met. Please note that the production schedule set forth on attached memorandum relates to rifles with heavy barrels only but the schedule remains the same as set forth in Minute #7 (Arms) dated September 1, 1954.

Sales representatives inquired as to progress being made with the light barrel of this new design. It was stated that a sample was about ready to go to Bridgeport and that the light barrel rifle would have the same stock as the heavy barrel type.

MINUTE #1 - 1955

SUBJECT: MODEL 40X DELUXE TARGET RIFLE

Model 40-X DeLuxe Target Rifle

It had been planned to assemble pilot guns in sufficient time ahead of warehouse requirements to establish the inherent accuracy that could be expected in production guns. Delays have occurred in completing tooling particularly the stock due to late design approval. Although assembly and testing time will probably be shorter than is desirable, it is still indicated that the previous schedule can be met. The warehouse schedule (heavy barrel guns) is as follows:

	11/4/54 Schedule	1/4/55 Schedule
February 1955	50	50
March 1955	115	115
April 1955	200	200
May 1955	210	210
June 1955	330	220

The June schedule is reduced to reflect the Sales requirements of Forecast #1.

At this meeting a sample of Model 40-X with light barrel was presented. Due to comments from the field, it was stated that the bolt sleeve had been made duller to eliminate the reflection of light into the shooter's eyes.

Sales representatives requested that the name "Rangemaster" be maintained for this rifle. However, since there is not sufficient space on the rifle to adequately carry the "Rangemaster's name, it will be used only on the gun carton label.
Sales also requested that cost and possibilities of producing special designs of this model for the International Matches be investigated and reported upon at the next meeting.

MINUTE #2 - 1955

SUBJECT: MODEL 40X

Model 40-X

(a) Status of Production and Testing

Approximately fifty (50) heavy barrel guns were assembled in April. Preliminary testing indicated the quality is satisfactory. The clearing of guns to the warehouse has been delayed in order to establish specifications and provide satisfactory shooting equipment.

(b) Accuracy Specifications

At a meeting held in Bridgeport, April 28, the following recommendation was made: "The acceptance specification for both arms and ammunition, based on 40 consecutive shots from bench rest, should be as follows:

a. A 1" circle placed to envelop the largest number of shots, should contain 90% of the shots. (Remington New Match and Winchester MK-III).

b. A concentric 1-1/2" circle should contain all of the shots.

c. The extreme spread of the group should not exceed 1.5" center to center

It is recognized that ammunition meeting the requirement of 100% in the 1-1/2" circle will always meet the 1.5" extreme spread specifications, but this latter is included for the convenience of those who are accustomed to seeing accuracy results recorded in this manner".

This proposal would change the previous requested specification of five (5) consecutive ten (10) shot groups, at 100 yards, without exceeding 1.5" center to center on any individual target.

It is believed that the forty (40) consecutive shot specification is more stringent than the original proposal. Variables which affect testing are being reduced to a minimum so a pattern of test results can be established which, in turn, will be a basis for setting gun acceptance standards.

MINUTE #2 - 1955

SUBJECT: MODEL 40X

(c) Plans for Introduction

All guns as now assembled are for scope mounting only. Specifications for the special Redfield Sight Bases for metal sights could not be established by design until a quantity of pilot guns had been assembled. Orders were placed for bases on April 28. The vendor was requested to expedite delivery.

Sufficient bases are on hand in Research & Development to take care of installation for fifteen (15) guns for District Managers. Shipment of these guns should be made during the second week in May.

Production has indicated that parts will be available to meet the following warehouse schedule:

	March 1, 1955 Schedule	(Heavy Barrel) May 10, 1955 Schedule
March	50	
April	200	
May	252	350
June	330	375
July		340
August		221
September		182
October		168
November		168
December		168
Total		1972

Tooling for the standard weight gun with lighter barrel should be available by the first part of July. Pilot operations should be completed so that guns can start clearing to warehouse the latter part of August.

It was stated that the probable deliveries for the month of May, tabulated above, would depend on the availability of Match ammunition for gallery testing.

MINUTE #2 - 1955

SUBJECT: MODEL 40X DELUXE TARGET RIFLE

Model 40-X Deluxe Target Rifle

(a) A few pre-pilot guns are being assembled. These will provide experience when production parts are available. Difficulty has been encountered with the stock. This started with approval of design. Normal pilot operation time was reached and when tooling difficulties developed, a schedule revision was necessary. Not all of the delay can be attributed to the stock as processing problems were also encountered on the barrel, receiver and bolt assembly.

While no change should be made to the announcement date, the schedule of guns (heavy barrel) into warehouse has been revised as follows:

	January 4,1955 Old Schedule	March 1,1955 New Schedule
February	50	
March	115	50
April	200	200
May	210	252
June	220	330

(b) Light weight (to be known hereafter as standard barrel model) model drawings to permit processing, tool design and tooling procurement are scheduled for release the first part of March. Tooling will be required for the barrel and stock.

The warehouse schedule for the standard barrel model is shown below:

August	50
September	100
October	100
November	100
December	100
	450

J.D.Mitchell submitted a synopsis of his comments on the Model 40-X rifle test as reported in Dan Carroll's letter of February 24, 1955. The main change recommended for study was in the length of the front swivel base. It was suggested that it be made twice as long and that the front portion be approximately 1" nearer the fore-end tip of the stock. In this connection, a study was made by the plant during the discussion which disclosed that the suggested change in the front swivel base would cost approximately $5,000 and involve a four month delay. A detailed break down was submitted to support the above increase in cost. Most of the increase is due to the necessity of Alcoa furnishing a new die estimated at $3,476. Parts on hand total 2,417 which would have to be scrapped if the change were made.

After considerable discussion it was the general opinion that it was too late to consider this change for immediate future production but Research & Development agreed that the swivel base change was an added sales feature so they plan to study this change through possible alteration of the present swivel base die.

M.R.Warden) In	W.L.Clay	G.E.Pinckney
R.H.Coleman) Turn	E.C.Griffing	J.J.Callahan
H.K.Faulkner	P.H.Burdett	R.B.Bowie
D.Godfrey	J.B.Maupin-3	W.H.Barry
H.M.Stoessel	S.M.Alvis -2	W.H.Foster,Jr.
G.M.Calhoun	J.A.Walker	R.C.Swan
H.A.Brown	A.J.Brown	D.S.Reynolds
J.D.Mitchell-2	A.J.Greene	J.K.Hamil
N.F.Larsen	G.Evans	H.J.Hackman

COPY NO._____

140-X

OPERATIONS COMMITTEE - TRAP & TARGET DIVISION
- AMMUNITION DIVISION
- ARMS DIVISION

INFORMATIVE BULLETIN #12

FEBRUARY 21, 1955

SUBJECT: AMMUNITION, TRAP & TARGET DEVELOPMENT SCHEDULE DATED FEBRUARY 1, 1955, AS AMENDED

Reference: Operations Committee - Ammunition - Minute #2, February 1, 1955

The aforesaid Schedule was approved by Management on February 18, 1955 with the following revisions and comments:

Item 9 -

Completion of development and production of 244 Remington ammunition and the Model 722 rifle in this caliber should be expedited to assure announcement as early as possible.

Items 21 and 22

The 16 and 20 gauge Magnum loads were announced in the Remington and Peters price lists issued on February 9 and 16, respectively. The announcement dated, therefore, should be changed from April 1955 to February 1955.

Items 24 and 25

Completion of automatic traps is urgent and steps should be taken to justify announcement in June rather than September 1955.

The above is published for the information of all concerned.

SUBJECT: MODEL 40-X 22 CALIBER MATCH RIFLES - APPROVAL OF SAMPLES

Sample models of the Model 40-X 22 Caliber Match rifle with "light weight" barrel and with "heavy" barrel were recently circulated to members of the Sales Department and Management Staff. Both of these models were approved by Management on February 18, 1955.

W. L. CLAY, Secretary
Operations Committee

WLC:MM

MINUTE #7 - 1955 July 7, 1955

FROM PAGE NOS.: 8 - 10

SUBJECT: MODEL 40X

MODEL 40-X

1. Status

District Manager sample guns were shipped on June 22. The jobbers' guns were released on July 6. Announcement letters on the gun (and ammunition) were mailed by Sales on July 5. Performance of the guns tested to date has been outstanding.

Tooling for the standard-weight gun is available. Pilot operations should be completed in July, with gun assembly commencing in August. The Plant submitted the following revised warehouse schedule:

	May 10, 1955 Schedule	July 7, 1955 Schedule	
		Heavy Wt.	Std. Wt.
May	350		
June	375	158 actual	
July	340	340	
August	221	171	50
September	182	240	100
October	168	0	210
November	168	0	105
December	168	0	105
Total 1955	1972	909 +	570 = 1479

2. Accuracy Specification

The Ilion Plant reported that all possible precautions were being taken to make each 40-X as fine a rifle as can be produced. Their plans and cost estimates are based on meeting an accuracy specification based on five consecutive 10-shot groups fired from the accuracy device at 100 yards. The maximum permissible group is 1-1/2" extreme spread measured center to center. Guns being currently produced meet this specification quite readily.

The accuracy device which they now have is not sufficiently rigid to hold center of impact during long strings. The adoption of the 40-shot firing program recommended at a meeting in Bridgeport on April 28 is therefore not practical at this time. When an adequate accuracy test device becomes available at Ilion, they will adopt the proposed specification, although it was pointed out that this specification is more restrictive and may lead to occasional rejection of guns. Since the guns are already being produced to the closest possible dimensions, it is believed that salvage will generally be impossible and that guns not meeting the specification will be scrapped. It was warned that should this happen, costs would inevitably be increased since no provision for scrap had been made.

The committee pointed out that an analogous situation exists at Bridgeport where ammunition is being produced at a loss and where provision is made for scrapping ammunition not meeting the rigid specification. However, excellent accuracy is the only reason for the existence of 22 Match ammunition and 22 Match rifles, and it would be better to produce none than to produce products of inferior quality. The Ilion Plant was therefore assured of the

support of the Operations Committee in their program to produce the finest possible rifles and to adopt very rigid specifications and test procedures.

The specification referred to above, which the Ilion Plant expects to adopt ultimately, does not define the method of shooting which will be used. It is, however, based on bench rest shooting, and if another method is used, sufficient testing will be required to assure the equivalency of the adopted specifications to the following:

> The acceptance specification for both arms and ammunition, based on 40 consecutive shots from bench rest, should be as follows:
>
> a. A 1" circle placed to envelop the largest number of shots, should contain 90% of the shots.
>
> b. A concentric 1-1/2" circle should contain all of the shots.
>
> c. The extreme spread of the group should not exceed 1.5" inside edge to inside edge.
>
> It is recognized that ammunition meeting the requirement of 100% in the 1-1/2" circle will always meet the 1.5" extreme spread specification, but this latter is included for the convenience of those who are accustomed to seeing accuracy results recorded in this manner.

MINUTE #9 - 1955 - September 8, 1955

FROM PAGE NO.: 8

SUBJECT: MODEL 40X RIM FIRE RIFLES

RIM FIRE RIFLES - MODEL 40X

General trade acceptance has been excellent. Recently it has been marred by reports of trigger creep and stuck safeties. These complaints were also of serious proportions at Camp Perry but the reports on accuracy are very encouraging.

Decision

The Operations Committee Arms Division recommends that the Model 37 now be formally discontinued.

cc: P. H. Burdett

Bridgeport, Connecticut
September 23, 1955

TO: M. R. WARDEN
R. H. COLEMAN
H. K. FAULKNER
DEWEY GODFREY
H. M. STOESSEL
G. M. CALHOUN

FROM: H. A. BROWN

SUBJECT: Rim Fire Rifle Model 40X and
Obsolescence of Model 37

Reference: Operations Committee - Minute #9 - Sept. 8, 1955, page 8.

Approval of obsolescence of the Model 37 Target rifle has been withheld pending introduction and acceptance of the new Model 40X Target rifle designed to replace it. The new rifle has been introduced and accepted by the trade. Reports on accuracy are very encouraging.

The Operations Committee - Arms - therefore recommends obsolescence of the Model 37 and disposal of equipment if or when the quantity of spare parts equals or exceeds the established number of years' supply. (exception - Note 1)*

Your approval is requested.

H. A. Brown
Chairman Operations Committee

hab/heh

*Note 1 - (added 9/29)

Retain tooling for Model 37 box magazine pending release by Research and Development Department.

Zic 41/40X

M. R. Warden-R. H. Coleman
H. M. Stoessel
H. K. Faulkner
Dewey Godfrey-Gail Evans-
G. E. Pinckney
G. M. Calhoun
H. A. Brown
P. H. Burdett
N. F. Larsen
J. D. Mitchell-2
J. B. Maupin
S. M. Alvis-2
A. J. Greene
J. K. Hamil

COPY NO._____

OPERATIONS COMMITTEE - ARMS DIVISION

INFORMATIVE BULLETIN NO. 37

September 30, 1955

SUBJECT: RIM FIRE MODEL 40X and OBSOLESCENCE OF MODEL 37

Reference: Operations Committee - Arms Minute No. 9 - September 8, 1955

Reference is made to the attached letter dated September 23, 1955, from H. A. Brown to Management Staff, on the above subject.

On September 27, 1955, Management approved obsolescence of the Model 37, and disposal of equipment if or when the quantity of spare parts equals or exceeds the established number of years' supply, except that tooling for the Model 37 box magazine will be retained pending release by the Research and Development Department.

Philip H. Burdett
Secretary, Operations Committee

ND

Attachment

CONFIDENTIAL

1955
MONTH DAY
Oct. 11
Oct. 18

SUMMARY OF HOLD-UPS

BALLISTICS ENGINEERING UNIT

SHOT SHELL

Hold-up No.	Item	Shell Lot No.	Date Held	Amount Held	Held By	Where Held	Reason for Hold-up	DISPOSITION Date	DISPOSITION Disposal
6026	S20-8		10/6	55,500	AQC	341-3	Crooked and wrong wads		
6028	RX12-4		10/8	42,000	DB	341-3	Poor segmentation	10/13	Dediso-Rediso
6033	RX20-6		10/10	10,500	AQC	341-3	Mixed shot (3 & 6)	10/13	Rel. AH
6036	RX12-4		10/11	9,000	AQC	341-3	Crooked cardboard		
6037	SSR12-Empty shells		10/11	10,000	AQC	339-4M	Marked heads		
6042	RX4103-6		10/13	51,500	AQC	341-3	Gauging reject		
6044	HV4103-Empty shells		10/14	30,000	AQC	340-4M	Split heads		
6048	RX20-6		10/15	6,500	AQC	341-3	Light pdr. wts.		

PARK Nothing.

1955
MONTH DAY
Oct. 11
Oct. 18

SUMMARY OF HOLD-UPS

BALLISTICS ENGINEERING UNIT

CENTER FIRE

Hold-up No.	Item	Date Held	Amount Held	Held By	Where Held	Reason for Hold-up	DISPOSITION Date	DISPOSITION Disposal
5932	30/06 Spfd. 150 MC TG #3	8/30	12,000	DB	AML	Set back primers		To be sclero-scoped 100%
6007	M/450 Stud Driver Ctges.	9/23	36,500	AQC	AML	Split mouths		
6022	8 M/M Mauser 170 SPCL	10/4	15,000	DB	AML	Splits		
6043 A	30/30 Win 150 SPCL	10/14	9,000	AQC	ACI	Eccentric heads		
B	30/30 Win 170 SPCL	10/14	14,000	AQC	ACI	Eccentric heads		
6049	300 Savage - head turn	10/18	15,000	AQC	573	Thin heads		
MILITARY								
5759	45 ACP 230 MC Gov't.	4/25	26,000	DB	AML	Low velocity	*	See note
6030	30 Cal Tracer cores	10/10	180,000	AQC	501	Maximum weight	10/12	Scrap AQC

* Order received - work being packed for shipment.

Arms Minute #10 - 1955
November 1, 1955

Page: 9

File: Model 722
222 Remington
Target Rifle
Center Fire Rifles

MODEL 722 - 222 REMINGTON - TARGET RIFLE

The type of rifle which Research & Development would propose to furnish would include stock, sights, and barrel like the Model 40X, with receiver, bolt, and other components like the present Model 722. Sales reports considerable resistance to the Model 40X because of minor functional difficulties, even though accuracy has been excellent. In view of this, and in consideration of the discriminating nature of the potential customers for a center fire match rifle, they feel that the potential volume for a mass-produced center fire target rifle is small. Before reaching a final decision, however, they requested that Research & Development furnish a sample rifle.

9/24/85
Copied:hv

MINUTE #10 - 1955 November 1, 1955

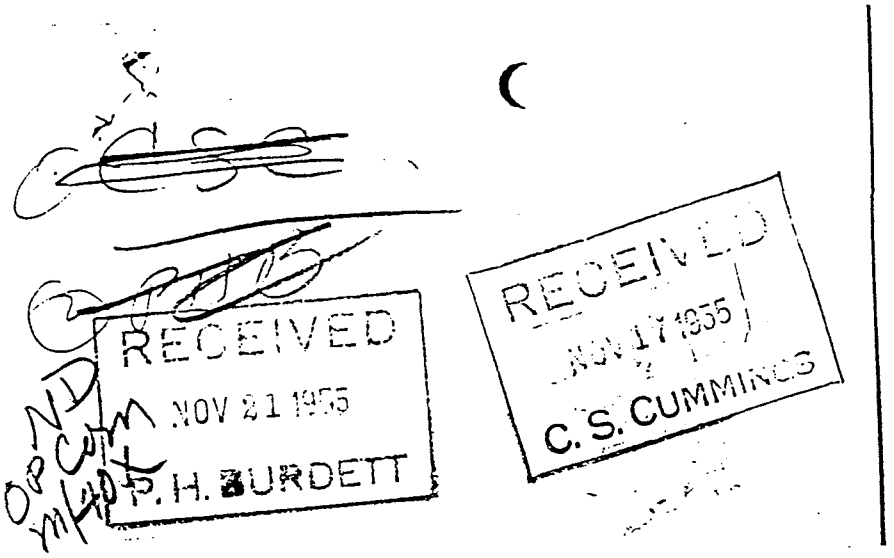
FROM PAGE NOS.: 10 & 11

SUBJECT: MODEL 40X
RIM FIRE RIFLES

MODEL 40X

The Plant reported that they had met their production schedule on the 40X rifle through August, but had since produced at a rate lower than that shown on the schedule of July 7 because orders had not kept pace with the forecast. With orders to date of somewhat less than 600, and with more than 500 guns in the warehouse, there is no problem on meeting requirements for delivery.

This item will be dropped from the Operations Committee program.


RECEIVED
NOV 21 1955
P. H. BURDETT
RECEIVED
NOV 17 1955
C. S. CUMMINGS

MINUTE #3 - 1956 April 30, 1956

FROM PAGE NO.: 13

SUBJECT: MODEL 40X

1. MODEL 40-X

The original intent of the match gun-ammunition program was to provide a combination which would be unsurpassed in performance. Both gun and ammunition designs were tailored to this requirement. However, it was found that the ammunition did not perform satisfactorily in competitive guns, and, in spite of our desire for superior performance in the Remington combination, the ammunition was modified to improve its performance in other guns commonly met in the field. The result of these changes was superior performance with the new ammunition in Winchester and Johnson barrels, but performance in the 40-X rifle suffered.

At the present time, competitive ammunition frequently performs better in the 40-X rifle than does our own, and our ammunition frequently performs better in competitive rifles than it does in the 40-X. J. J. O'Connor has suggested relatively minor changes which could be made in the 40-X rifle which should improve performance with the present version of Remington match ammunition. Ilion Research and Development has estimated that the cost of introducing these changes might be approximately $3,000.

It is the opinion of Sales that, although this is not an item which shows a profit, we must improve performance of our ammunition in our own guns, even though this involves additional expense. The committee concurred, and suggested that Research and Development investigate the proposed changes, and, if they are as beneficial as is expected, prepare a program for their introduction.

MINUTE #4 - 1956 - June 11, 1956

FROM PAGE NOS.: 9 & 10

SUBJECT: MODEL 40X

MODEL 40-X

Research & Development has been considering the quality questions raised by Sales at the last meeting. They presented the following reports:

Trigger It is believed that trigger creep is not excessive, but that the sensation of creep may be increased by the location of the trigger, which permits gripping with the second joint of the trigger finger rather than the first. It may be possible to improve this situation through the use of a Model 725 type trigger. This will be discussed further between Research & Development and Sales.

Trigger Pull Change Since a change in the trigger to increase the length of pull might, as described above, improve another characteristic of the gun, it will be discussed further between Research & Development and Sales.

Binding Of The Safety It is believed that the prresent methods of assembly obviate this difficulty since it has not been encountered in guns of recent production.

Accuracy Ilion representatives again expressed concern over the suggestion that any changes be made to the gun which would affect accuracy. The reasons for the design change in the ammunition to improve its performance in guns of other manufacturers were reviewed, with the reasons for not now changing the ammunition back to the original design.

The Ilion Plant and Research & Development representatives agreed that the suggested change in barrel dimensions could be made. They felt, however, that the development of tooling to produce barrels to revised dimensions in the same high quality they are now achieving would be difficult and expensive. Nevertheless, the committee requested that they consider in greater detail the time and money which would be involved in such a development.

12/19/84 - Copied:hv

ARMS MINUTE 5, 1956 - 7/10/56

PAGES: 10 & 11

SUBJECT: TRIGGER - MODEL 40-X

MODEL 40-X

Research and Development have been investigating some of the quality difficulties reported by Sales. Two rifles were dry-cycled 50,000 rounds each. The first showed no increase in trigger pull, but did show an abnormal increase in head space. The bolt head of the second rifle was lapped to eliminate any high spots on the engagement surfaces, and was well lubricated before testing. It then showed only a nominal increase in head space, but the trigger pull increased materially. The reason for the trigger pull increase has not yet been determined. The Plant is adopting the practice of lapping the bolt head engagement surfaces, and lubricating before assembly. It is believed that this will eliminate increases in head space.

Other factors affecting functioning which are under consideration include the following:

Trigger It has been agreed between Research and Development and Sales that complaints relating to the trigger and trigger location are not sufficiently serious to justify introduction at this time of the more expensive Model 725 type trigger.

Accuracy Ilion Research and Devlopment and Plant are not sure that dimensional changes recommended by Bridgeport Research and Development will lead to the desired improvement in accuracy using Remington 40-X ammunition. They have pointed out that a program designed to evaluate different barrel dimensions and pick optimum dimensions would be very expensive and time-consuming. However, the provision of a number of barrels having the dimensions recommended by Bridgeport Research and Development is not a very difficult task, and, in accordance with the request of the committee, ten barrels will be prepared to these dimensions for evaluation at Ilion and Bridgeport.

11/26/84
Copied:hv

MINUTE #6 - 1956 September 6, 1956

FROM PAGE NO.: 9

SUBJECT: MODEL 40X

MODEL 40-X

Research and Development has sent sample guns with revised bore dimensions to Bridgeport for test, but the results are not yet available.

C O P Y

cc: Dewey Godfrey
Gail Evans
F. E. Morgan
S. M. Alvis
A. A. Riehl

Bridgeport, Conn.
September 20, 1956

TO: J. D. MITCHELL

FROM: DAN CARROLL

SUBJECT: SPECIFICATIONS FOR LONG RANGE - BENCH REST - VARMINT RIFLE

Barrel - 28" or 30" long. .90" muzzle, 1.250" breech. No weight limitation in this category.

Caliber - 222 Rem. - 30-06 - 300 Mag.

Chambering- Must be as close to bench rest standards as is possible in a rifle that should chamber commercial ammunition.

Action - Solid, without a cut-out for a magazine. No rifle in the above category has any need for a magazine. The action and stock assembly will benefit by increased stiffness and the rifle will group better and hold its zero. (Very important for long range matches where no sighting shots are allowed.)

The rear receiver bridge shall be left full width like the Model 40X and the scope block screw holes should be of standard spacing. This should be corrected on our Model 40X to permit interchange of scope blocks.

Stock - Could use Model 40X stock as is or the "Match Rifle" stock with "group tightener."

Trigger Group - The Model 40X trigger and trigger housing could be used as is in the Model 40X stock. The trigger face should be hung 5/16" forward of the present type.

Sights - Front: Redfield International Military or Olympic Alloy or steel models.

Rear: Redfield International or Olympic. Scope blocks should be fitted.

Dan Carroll
Shooting Promotion Section

DC/1

MINUTE #7 - 1956 October 9, 1956

FROM PAGE NO.: 9

SUBJECT: MODEL 40X

MODEL 40-X

The chambering of the barrel submitted to Bridgeport was not sufficiently precise to permit the accurate measurements necessary to determine the effect of small changes in barrel dimensions. The cause for this difficulty has been determined at Ilion, and additional samples will be prepared.

Original 9/13/54

REVISED 6/6/55 4-16-58

REMINGTON STANDARDS - ARMS

MODEL 40X RANGEMASTER		S-2 Std. Bbl.		H-2 Heavy Bbl.		S-1 (With Sights)		H-1 (With Sights)
BARREL								
Length	28" tolerance ±-1/16" measured from face of locked bolt.							
Shape	Round, tapered							
Muzzle	No crown, counter sink							
Finish	Black, medium lustre; Browning, minimum 2 coats.							
Material	High strength, steel alloy							
Rifling	6 grooves, 1 turn in 16" RH							
Bore Diameter	.2177" min.; .2182" max.							
Groove Diameter	.2217" min.; .2222" max.							
Groove Width	.087" min.; .089"max.							
NOTE:	No constriction in bore or groove shall exceed.0002"							
Chamber	22 long rifle only - Special design for match shooting							
Scope Mounts	Target type (see SCOPE MOUNTS)							
Sights	(Redfield Olympic) See SIGHTS (front plug screws (2) provided)							
Weight	light			heavy		light		heavy
Bedding	adjustable (see STOCK)							
BOLT								
Locking Lugs	Locking lugs (2) Front section of Bolt Plug.							
Extractors	Two; horizontally opposed							
Finish	Bolt head--Bright							
	Remainder of bolt assembly-Black							
	Bolt Handle - Slight sweepback							
BOLT STOP RELEASE	Located a head of trigger (on trigger housing assembly)							
BUTT PLATE	Non slip; hard rubber base, white line, thin soft rubber pad, grooved							
GUN LENGTH	46-3/4" overall							

Ilion, New York
April 21, 1958

M.R. Warden - R.H. Coleman
H.A. Brown
[redacted]
H.K. Faulkner
F.E. Morgan
W.H. Foster, Jr.
D.S. Reynolds
T.F. Lynch
C.G. Peterson
D.E. Miller
R.A. Williamson
H.J. Hackman (3)
A.J. Brown (5)
E.A. Sapp
J.J. Phillips
R.E. Wright
O.H. Collett
W.A. Best

MR

REMINGTON STANDARDS-ARMS
M/40-X Revision

Attached is Sheet No. 2, for the above model revised as follows:

BARREL - The dimension tolerance for the length of the barrel has been corrected to read ± - 1/16" rather than 1-1/16".

S. M. Alvis, Manager
Ilion Research Division

By: J. F. Finnegan
J. F. Finnegan
Process Research Section

JFF:nc
Attach

RECEIVED
APR 24 1958
P. H. BURDETT

MODEL 725 TRIGGER

The plant recommends the use of the Trigger authorized for the Models 40-X and 725 be extended for use on Models 721 and 722 guns. An improved Trigger will be furnished and plant in process inventory can be reduced.

OK to change for standardization

VGD:EK
4/30/58

Arms Minute #3 - 1958
May 5, 1958

Pages: 8, 9

File: Models 721, 722
Model 722 - 222 Magnum
Model 725
Model 740

MODEL 725

The Ilion Plant reported that guns in 280 Remington caliber were shipped to writers on May 1 and were then released to the warehouse. Research & Development pilot tests were satisfactory and Ilion Plant submitted the following revised warehouse schedule:

	May 5, 1958 Schedule
April	265 (actual)
May	300

The next schedule caliber is 222 Remington and pilot assembly is scheduled for July, 1958.

One of the few unfavorable comments received from the field on the Model 725 involved the checkering. Work with the vendor has resulted in an improvement so that it is believed that present checkering is satisfactory in relation to the established specification. However, the Ilion Plant has prepared samples with a revised style of checkering which may be more desirable and has requested the Sales Department comments. Eight sample guns are being prepared which should be shipped to District Managers on May 9.

One feature of the Model 725 is a trigger similar to that used on the Model 40X, having a slightly wider shoe than the trigger which has been used on the Models 721 and 722. For purposes of standardization, the Ilion Plant requested authorization from the Operations Committee to make a minor change and use this revised type of trigger on the Models 721 and 722 as well as the Models 40X and 725.

The Committee concurred in this change without obsolescence.

10/7/85
Copied:hv

SUBJECT: MODEL 40X TARGET RIFLE

MODEL 40X TARGET RIFLE

The Research & Development Department requests Committee approval for use of an aluminum alloy trigger guard on rim fire versions of the Model 40X Target Rifle. The current stamped steel guard used on this rifle has occasioned customer complaints regarding "cheap" appearance.

The proposed aluminum alloy trigger guard is available and is currently used on the center fire versions of the Model 40X. No cost increase is indicated in the substitution.

COMMITTEE ACTION: The Operations Committee approves the current aluminum alloy trigger guard now fitted only on center fire versions of the Model 40X rifle, for use on all Model 40X rifles. Approval is based on the improved appearance of the alloy trigger guard over the stamped steel guard now used on rim fire versions of the Model 40X. No cost increase will result from the substitution.

MINUTE #3 - 1962

SUBJECT: MODEL 40X BOLT ACTION TARGET RIFLE

MODEL 40X BOLT ACTION TARGET RIFLE

This item is an improved version of the Model 40X Bolt Action Target Rifle. The Development Schedule of March 6, 1962 lists the warehouse date for this item as January 1, 1963.

The Production Department points out that the current Model 40X rifle stands approved by the U. S. Government for agency procurement. It is recommended that the modifications proposed for this item be carefully reviewed, for their possible effects on present Government approval.

MINUTE #5 - 1962

FROM PAGE NO.: 10

SUBJECT: MODEL 40X RIFLE IMPROVEMENTS

MODEL 40X RIFLE IMPROVEMENTS

The Research and Development Department defined the improvements planned for the Model 40X, which are intended to reduce cost through use of Model 700 parts and to improve competitive features. The changes being considered are:

A. Redesign to permit use of new Model 700 parts

1. New bolt assembly (Model 700 handle)
2. Add receiver counterbore (new bolt stop spring)
3. Lower receiver tang and mill safety clearance (new safety assembly)
4. Reposition trigger housing assembly holes (new safety and safety cam)
5. New stock (longer butt length to maintain pull - reposition grip - revise inletting for die cast trigger guard - new bolt handle and safety)

B. Redesign to improve competitive features and conform to the new ISU rules.

1. Narrow stock fore-end to 6 centimeters (2.365") max. (ISU rules)
2. Add fore-end rail for adjustable hand stop and optional palm rest.
3. Lengthen bedding device screws (field complaints)
4. Incorporate adjustable rubber butt pad similar to Remington Free Rifle
5. Make butt hook optionally available
6. Revise bolt clearance cut to make stocks usable on both center fire and rim fire models
7. Offer optional 2-ounce trigger
8. Add cheekpiece
9. Add scope base to barrel

The major market for this rifle has been the United States Government and the rifle has been on the approved government product list. It is understood that this list is currently being reviewed. There is no reason to suspect that the present design Model 40X will not continue to be approved.

In order to determine the effect of the proposed redesign, the Research and Development Department will supply the Sales Department with prototype samples after the redesign has been completed and approved by the Committee. The Sales Department will determine through channels the effect on government approval status before the redesign is incorporated in production.

MINUTE #13 - 1962

FROM PAGE NO.: 8

SUBJECT: MODEL 40X CENTER FIRE RIFLE

MODEL 40X CENTER FIRE RIFLE

Research requested approval to use the Model 700 trigger and trigger guard on Model 40X center fire rifles produced in Research's Custom Shop. This will reduce manufacturing cost $3 to $4 a rifle, without affecting performance or materially changing appearance. The Committee approved the request for immediate manufacture, stating a prototype sample is not required due to the change being minor.

MINUTE #15 - 1962

FROM PAGE NO.: 7

SUBJECT: MODEL 40X TARGET RIFLE

MODEL 40 X TARGET RIFLE

The prototype improved Model 40X is delayed by model making for the higher priority rolling block single shot rim fire rifle. Research reviewed the two stage improvement to:

- Use M/700 parts
- Use M/700 parts and improve competitive features, primarily involving the stock.

The Committee reviewed the problem of coordinating the change with government approval of the improved design and run out of parts on hand. Production stated component manufacture for either the present or improved design will start about April to prevent run out about October, 1963.

The Committee asked Research to complete prototype models for Committee and Government approval. These will be submitted to the Government before April in hopes they will approve the improved design concurrent with the present design. This will cover the event of receiving a Government contract prior to run out of present parts on hand.

Research plans to supply models by December 15 for Committee and Government approval.

MINUTE #1-1963

FROM PAGE NUMBER 4

MAJOR SUBJECT Model 600 B. A. Rifle (Table attached)

MODEL 600 BOLT ACTION RIFLE

Production Status

The trial and pilot of caliber 308 is behind schedule due to the priority given to the Model 1100 and XP-100. Production still expects they could meet the May 1 warehouse schedule if it is the Committee's decision they do so. The Committee has previously indicated the introduction of caliber 308 will be delayed until caliber 30-30 is also available which may be January, 1964. Production questions committing inventory and machines to warehousing the 308 in May if it will not be sold until January, 1964. In addition, the Model 700 rifle, XP-100 pistol, and a possible 5000 Model 40X-B Government order will place heavy demands on the same production equipment. Deferring the warehouse date for caliber 308 until late 1963 would help level out the Plant's force requirements by the Model 600 production taking up the slack the end of 1963 when the years other centerfire bolt action requirements will have been completed.

The Committee concurred that the Plant should only commit material and inventory to complete the trial and pilot and should not plan to warehouse caliber 308 by May 1.

Design and Test Status

Research will have a prototype model of the three contemplated calibers, .222, .308, and .30-30 within the next 2 weeks. They suggest a meeting to discuss them with Sales at Bridgeport, to which the Sales Department concurred.

The Committee reviewed a current appraisal of the economics for the Model 600 rifle that up-dates the original project for both lower forecast total plant volume and the estimated effect of design differences for caliber 30-30. Comparative data are shown in Table 1. The first column represents the project economics as originally prepared in which it was assumed that the product cost for caliber 30-30 would be essentially the same as the other calibers. The project cost included an estimated $49,000 Operation and Research charges for caliber 30-30.
The second column shows the project adjusted for the lower total plant volume now forecast. The change essentially affects only the full factory cost and operative earnings.

The last three columns indicate the effect of the design differences for caliber 30-30. The higher manufacturing cost materially reduces the operative earnings. This caliber still has an adequate return on total capital required, 30%, since no additional equipment over and above that for the calibers 308 and 222 is needed to produce it.

In summary, the economics indicate an adequate return on investment but an inadequate profit margin. The low profit margin threatens the objective of the rifle to compete directly with the Winchester Model 94, and it may be necessary to increase the price. A $10.00 price increase to $95.00 would raise the margin to about 15% on calibers 308 and 222 and to about 10% on caliber 30-30.

40-X B* MILITARY DESIGN NO SIGHTS

HI-SPOT ESTIMATE FACTORY COST

X/O per Com

M-40-X

	40-X S-2		40-XC S-2
MAT'L - STD	$13.34	23	$13.57
VAR - 3%	.40		.41
LABOR - STD	12.25	57 HR	13.03
VAR - 35%	4.28		4.56
BURDEN - 250%	30.60		32.60
SUB-TOTAL	$60.87		$64.17
FACT'L O.H. - 27%	16.46		17.32
FACT'L ADM. - 1%	.77		.81
TOTAL FACTORY COST	$78.10 **		$82.30
SELLING - RETAIL	139.75		
NET	87.98		

* ASSUME MILITARY DESIGN WITHOUT SIGHTS & CURRENT 40-X ACCURACY REQUIREMENTS.

** 1962 MILITARY COST LEVEL - $76 TO $87

2-8-63
K-H

MINUTE #4 - 1963

FROM PAGE NO.: 6

SUBJECT: MODEL 40XB

MODEL 40-X-B

The design of the Model 40-X-B is complete to use Model 700 parts and to improve its competitive position with the Winchester Model 52 by providing a fore-end rail. The design was prepared for a recent government bid and has been approved by Ordnance.

There are sufficient 40-X-B parts on hand to cover 1963 sales. The production of 40-X-B parts however, should begin soon to meet a January 1964 change-over.

Committee Action

The Committee agrees the Model 40-X-B should be introduced January,1964 to meet Winchester Model 52 competition. They requested information on costs and effect of selling prices on operative earnings be established by the March meeting to submit to General Management for approval.

MINUTE #7 - 1963

FROM PAGE NO.: 6

SUBJECT: MODEL 40XB

MODEL 40X-B

The Committee approved the economics to market the Model 40X-B at a basic retail price of $155. They suggested the price be subject to year-end review to be adjusted for cost and market conditions at that time. A prototype was displayed which will be further reviewed in Bridgeport by the Sales Department prior to final Committee approval.

Production stated there are sufficient supplies of Model 40X parts to meet 1963 sales.

MINUTE #7-1963 TABLE 1.

NEW FIREARMS ITEMS FOR 1964 OR BEFORE

MODEL	GRADE, CALIBER, AND/OR GAUGE	NEW ITEM
700	All Grades .222 & .222 Magnum	24" Barrels, (Fall, 1963)
700	BDL, D & F	.300 Winchester Magnum (Summer, 1963)
1100		
600		.222 Remington (1), .308 Winchester .35 Remington
742		
760		
11-48		
870		
40X-B	Rim Fire and Center Fire	"B" Model

(1) Decision to be made between .222 and .222 Magnum.

(2)

(3)

(4)

(5)

MINUTE #16-1963 (September 10, 1963)

FROM PAGE NUMBER

MAJOR SUBJECT

SUB SUBJECT

Model 600 New model selling for $99.95.

Possible changes to the bolt action rim fire line remain to be established. Sales reviewed the affect of either replacing the Nylon bolt action rifles with wood stocked versions or simultaneously marketing wood stocked models with the Nylon line. The Secretary was instructed to completely summarize in a separate letter the Sales Department proposal and the position of other affected Departments.

The Model 40X-B rim fire rifle to have been introduced in 1964 will be delayed. Sufficient parts for the Model 40X are on hand to meet 1964 requirements and the new model will be deferred until these parts are exhausted. The new 40X-B, however, will be the basis for any future quotes for government orders. A production sample was displayed to and approved by the Committee.

The Model 40X-B center fire rifle will be announced in the 1964 catalogue. Parts for the 40X center fire rifle are exhausted and current shipments of 40X-B's are being made.

Committee Action

The Committee approved and recommends General Management approve the 1964 firearms line as shown in Table 4, subject to further recommendations of the Committee on the bolt action rim fire line.

The Committee also approved and recommends General Management approve the production sample Model 40X-B rim fire rifle for future military quotes and replacement of the Model 40X commercial rifle when present inventories are exhausted.

MINUTE #21 - 1963 November 1963

FROM PAGE NO.: 5

SUBJECT: MODEL 40XB CENTER FIRE RIFLE

MODEL 40X-B CENTER FIRE RIFLE

In the Proposed 1964 Firearms Line, approved on October 17, 1963, subject to further review of selling prices by General Management, Sales has proposed that the retail selling price of the S2 and H2 grades be increased from $187.95 to $205.00. The justification for such an increase is based on Committee action in March, 1963, approving the economics to market the Model 40X-B Rim Fire rifles without sights at $155.00 when introduced. This price is equivalent to an 11% increase over the $139.75 price of the Model 40X. Research and Development is not in agreement with the proposal since they indicate that Remington is confronted with much more competition in Center Fire prestige rifles than in Rim Fire rifles of the same status. In their opinion, any price increase in this line will result in lower sales volume. Current appraisal estimates were presented to the Committee by the Secretary indicating the operative earnings potentials of the rifle at several retail price levels.

The Secretary was instructed to summarize in a separate letter the Sales Department proposal and the economic data involved so that a decision can be reached before the next meeting.

MINUTE #21 - 1963 November 1963

FROM PAGE NO.: 6

SUBJECT: MODEL 40XB RIM FIRE RIFLE
TABLE #1

MODEL 40X-B RIM FIRE RIFLES

In September (Minute #16,1963) it was agreed to delay the introduction of the Model 40X-B rim fire rifle until the M/40X parts on hand, sufficient to meet 1964 requirements, were exhausted. The new Model 40X-B, however, would be the basis for future quotations for government orders during the interim. Parts for the 40X center fire rifle were exhausted at that time and current shipments of Model 40X-B center fire rifle were being made.

Research and Development requested the Committee to reconsider the introduction date of the Model 40X-B rim fire rifle for the following reasons:

1. Two types of Model 40X rifles are being manufactured at Ilion which compounds component planning and scheduling problems particularly in the wood shop where machine changeovers on a number of operations are encountered from producing two types of stocks.

2. Competition (Winchester) has been on the market for more than six months with their new model.

3. The improvements in the B version, in line with government specifications, will encourage government interest, maintain Remington's image for quality improvement and accuracy developments, and promote rim fire match cartridge sales.

Table 3 indicates the unit operative earnings on a full cost basis and the earnings summary on a cash cost basis in making the change. Increased earnings result from the price increases more than offsetting the added model costs for B versions.

Committee Action

The Committee approves and recommends General Management approve the Research and Development recommendation to introduce the M/40X-B Rim Fire rifle effective January 1, 1964, subject to further review of final selling prices by General Management prior to the issurance of the 1964 price list.

Additional Cost to Run Both 40X and 40XB Stocks.

Oper 25	Saw Ends to Length	Change Templates	.10
Oper 30	Band Saw to Template	" "	.10
Oper 45	Drill B.P. + Front Scr Holes	Adj machine	.20
Oper 55	Inlet Top of Strik	Chge Locators + Forms	3.00
" 65	Rout Bolt Clearance	Chge Arbr H/700 Machine	2.00
" 86	Profile outside contour	Change forms	1.50
" 95	H/M Front of Grip	Change Cam	.50
" 96	H/M Splats of Grip	Change Cam	1.50
" 97	Inlet Bottom	Complete Change Over	6.00
" 105	Shape Bottom	Change Cutter	.80
" 171	Drill + C'bore Adj Screw Holes (2)	Change Locator	.50
" 173	Drill Loading Platform Scr. Clear + C'sink Magzine Hole	" " + Adj	.50
" 175	H/M Cartridge Ejection Port	Change Cutter + Adj	.80
" 188	H/M Bottom Back of Grip	Use 700 H/M	2.00
		Total Hrs	19.50
		Variance @ 20%	3.90
		Total Hrs	23.40
		~~Total~~ Cost @ 2.59/H	$60.61
		Ind Bdl @ 33	20.00
		Total Add'l Labor Cost	$80.61

per run.

Call $80

C.M.M.
10/17/63

INTRODUCTION M/40X-B TO REPLACE M/40X IN 1964
SELLING PRICES AND OPERATIVE EARNINGS BASED ON FULL BOOK COSTS

Present Line	40X-S2	40XS-1	40XH-2	40XH-1
Retail Selling Price	$139.75	$170.35	$139.75	$170.35
Net Selling Price	$ 87.90	$107.00	$ 87.90	$107.00
Annual Volume	80	110	200	110
Cost of Goods	$ 87.40	$111.16	$ 87.14	$110.87
Operative Earnings	$ .50	($ 4.16)	$ .76	($ 3.87)
% of Net Selling	.6%	(3.9%)	.9%	(3.6%)

Proposed Line	40X-BS2	40X-BS-1	40X-BH-2	40X-BH-1
Retail Selling Price*	$155.00	$185.60	$155.00	$185.60
Net Selling Price	$ 97.50	$116.56	$ 97.50	$116.56
Annual Volume	80	110	200	110
Cost of Goods	$ 92.71	$116.47	$ 92.45	$116.18
Operative Earnings	$ 4.79	$ .09	$ 5.05	$ .38
% of Net Selling	4.9%	.01%	5.2%	.03%

SALES AND EARNINGS BASED ON CASH COST

	40X	40X-B	Difference
Annual Volume 1964	500	500	0
Net Sales	$ 48200	$ $ 52900	$ 4700
Cost of Sales	$ 31000	$ 32500	$ 1500
Operative Earnings	$ 17200	$ 20400	$ 3200
Net Earnings			$ 1400
Investment			
Working Capital			$ 1200
Total Capital Required			$ 1200
% Return on Total Capital Required			117%
Operations Charges			
Obsolete Parts and Conversion Costs			$ 1300
Payout Period			
Operations Charges			5 Mo.

* Secretary's estimate on S-1, H-2 and H-1 Grades.

MODEL 40X-B CENTER FIRE RIFLE-VARIOUS LEVELS OF SELLING PRICES AND OPERATIVE EARNINGS BASED ON FULL BOOK AND CASH COST BASIS

	Present Position	Alternative Positions A	B	C	D	E	F
Estimated Annual Volume	350	350	300	300	250	325	325
Retail Selling Price	$187.95	$192.95	$197.95	$202.95	$205.00	$205.00	$208.60
Net Selling Price	$125.00	$128.31	$131.64	$134.96	$136.33	$136.33	$138.70
Full Cost Data							
Unit Factory Cost	$103.00	$103.00	$110.00	$110.00	$115.57	$106.50	$106.50
Unit Selling, Admin, and Research Cost	16.88	17.32	17.77	18.22	18.40	18.40	18.72
Unit Cost of Goods	$119.88	$120.32	$127.77	$128.22	$133.97	$124.90	$125.22
Unit Operative Earnings	$ 5.12	$ 7.99	$ 3.87	$ 6.74	$ 2.36	$ 11.43	$ 13.48
% of Net Selling	4.1%	6.2%	2.9%	5.0%	1.7%	8.4%	9.7%
Cash Cost Data							
Unit Factory Cost	$ 77.20	$ 77.32	$ 82.26	$ 82.40	$ 86.87	$ 80.07	$ 80.16
Unit Selling, Admin. and Research Cost	16.88	16.88	16.88	16.88	16.88	16.88	16.88
Unit Cost of Goods	$ 94.08	$ 94.20	$ 99.14	$ 99.28	$103.75	$ 96.95	$ 97.04
Unit Operative Earnings	$ 30.92	$ 34.11	$ 32.50	$ 35.68	$ 32.58	$ 39.38	$ 41.66
Total Operative Earnings	$10,800	$11,900	$ 9,800	$10,700	$ 8,100	$12,800	$13,500
Total Net Earnings	$ 4,600	$ 5,100	$ 4,200	$ 4,600	$ 3,500	$ 5,500	$ 5,800

187.85 192.85 192.85 205.00 205.00

(103) 103 110 ~~115~~ 125.130 115.57

6.8% Inc 12.2%

310 350 300 260 325

Industry 1983 volume for custom bags 86.4% Volume chg 74.3% Volume chg 92.8% Volume chg

Fruit Cost - is not within Hatco Management. Expense connected with marketing goal. 13.8% Volume; 6.4% Inc. ~~25.7~~% Vol. X

13.6X = 164.5

X = 12.0

7.2% Vol.

205 / 136.33 / 118 / 1.026 / 6 / 25 — 68165 / 40899 / 13633 / 1840955

103 / 112.5 / 215 / 206 / 1.03 / 11.5875

103 106.50 X 110

3.4% 6.4% Inc

350 325 300

92.8% 86.4 Volume Bag

7.2% : X = 13.6% : 6.4%

13.6X = 46

X = 3.4

7.83 x 1200 / 2050 / 250

Corp

9400 Total Payroll

3200 Research

387 Plant

1442 Match Sales & Supply

1884 Hunt & Insurance Ads

7323

205 / 187.55 / 17.05

A.T.T.

M/40 x 6 Centerfire Rifle Market Price Spread

	Present	Ruger 10-in Rifle	Ruger Rifle	Proposed
			SRP	
				@1% @1
Retail Price	$187.95	$197.95	$203.20	$205.00
Net Selling	$125.00	$131.60	$135.00	$136.40
Total Costs	127.17	11882 127.76	128.25	128.40 139
Operating Earnings	($2.17)	512 $3.84	$6.75	$8.00 1.
% of Net Selling	(1.7%)	2.9%	5.0%	5.9%
Factory Cost	$110.00	$110.00	$110.00	$110.00
				750
				130.00

187.95
125.00
119.87
5.13

103.00
16.87
119.87

197.95
116
18.42
124.42

4.1%

	187.95	192.85 ✓	197.95 ✓	202.95	205.00 ✓	205.00
125.00	125.00	128.00	135.00	135.00	136.40	136.40
	7820	87.53	6226	67.40	86.83	80.07
	4780	50.68	4934	5260	4953	5633
7222	350	350	500	300	250	395
.295	16750	17250	14800	15750	24400	18300
84.07	350	350	350	350	350	350

187.85
15.00
202.85

112.2
103
3366
11220
11556.6

138.70
.125
69350
41610
13870
18124.50

1963

40 YCF 62 187.95 } 205
H2 187.95

1964

52 205.00 250
H2 205.00

187.95 187.95
11 20.67
48795 208.62
18795
20,745

237
.04
948

INTRODUCTION M/40X-B TO REPLACE M/40X IN 1964
SELLING PRICES AND OPERATIVE EARNINGS BASED ON FULL BOOK COSTS

Present Line	40X-S2	40XS-1	40XH-2	40XH-1
Retail Selling Price	$139.75	$170.35	$139.75	$170.35
Net Selling Price	$ 87.90	$107.00	$ 87.90	$107.00
Annual Volume	80	110	200	110
Cost of Goods	$ 87.40	$111.16	$ 87.14	$110.87
Operative Earnings	$ .50	($ 4.16)	$ .76	($ 3.87)
% of Net Selling	.6%	(3.9%)	.9%	(3.6%)

Proposed Line	40X-BS2	40X-BS-1	40X-BH-2	40X-BH-1
Retail Selling Price	$155.00	$185.60	$155.00	$185.60
Net Selling Price	$ 97.50	$116.56	$ 97.50	$116.56
Annual Volume	80	110	200	110
Cost of Goods	$ 92.71	$116.47	$ 92.45	$116.18
Operative Earnings	$ 4.79	$ .09	$ 5.05	$ .38
% of Net Selling	4.9%	.01%	5.2%	.03%

SALES AND EARNINGS BASED ON CASH COST

	40X	40X-B	Difference
Annual Volume 1964	500	500	0
Net Sales	$ 48200	$ 52900	$ 4700
Cost of Sales	$ 31000	$ 32500	$ 1500
Operative Earnings	$ 17200	$ 20400	$ 3200
Net Earnings			$ 1400
Investment			
Working Capital			$ 1200
Total Capital Required			$ 1200
% Return on Total Capital Required			117%
Operations Charges			
Obsolete Parts and Conversion Costs			$ 1300
Payout Period			
Operations Charges			5 Mo.

Introductory M/40xB to Replace M/40 on 1964.
Showing Present and Operating Earnings based on Full Cost basis

Present Price	40X-S2	40X-S-1	40XH-2	40XH-1
Book Selling Price	#139.75	#170.35	#139.75	#170.35
Net Selling Price	#87.90	#107.00	#87.90	#107.00
Annual Volume	80	110	200	110
Cost of Goods	#87.40	#111.16	#87.14	#110.87
Operating Earnings	#.50	(#4.16)	#.76	(#3.87)
% of Net Selling	.6%	(3.9%)	.9%	(3.6%)

Increase Price	40X-BS2	40XB S-1	40XB H-2	40X-B H-1
Book Selling Price	#155.00	#185.60	#155.00	#185.60
Net Selling Price	#97.50	#116.56	#97.50	#116.56
Annual Volume	80	110	200	110
Cost of Goods	#92.71	#116.47	#92.45	#116.18
Operating Earnings	#4.79	#.09	#5.05	#.38
% of Net Selling	4.9%	.01%	5.2%	.03%

Estimated Earnings Based on Grim Cost

	40X	40XB	Difference
Annual Volume 1964	500	500	0
Net Sales	#48200	#52900	#4700
Cost of Sales	#31000	#32500	#1500
Operative Earnings	#17200	#20400	#3200
Net Earnings			#1400

[illegible]

Working Capital	$1200
Total Capital Required	$1200
% Return on Total Capital Required	117%

Operations [illegible]

[illegible]	$1200

[illegible]

[illegible]	5 mo.

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER

P2531580

	1955	1956	57	58	59	60	61	62
K1	280	198	171	100	126	88 [23]	83 [26]	84 [19]
K2	204	224	87	145	145	140 [27]	102 [24]	208 [47]
S1	73	78	50	2	52	66 [18]	69 [21]	131 [31]
S2	77	168	57	90	105	82 [22]	62 [19]	33 [7]
	734	668	365	337	428	376	322	460

4056

Proposed Rate Base.

Test Year	92.66	74.44	57.16	74.23
2011 Forecasted	79.55	100.22	79.29	100.44
O+A+Rec.	13.16	15.74	13.16	15.74
Proposed	92.71	116.47	92.45	116.18

Working Capital

30478 x 79% = 24800 32458 x 79% = 25700

24800

1200 ✓

	S-2 W/O Lights	S-1 With Lights	H-2 W/O Lights	H-1 With Lights
Land	121.75	120.85	121.75	120.75
Net Building	87.90	107.00	87.90	107.00
Cash Cost of Sales	54.80	71.35	54.60	71.14
Fuel Processing Cost	75.53	96.71	75.27	96.42
SG&A & Royalties	11.77	14.45	11.77	14.45
Total Cash Cost	87.40	111.16	87.14	110.87
Land	121.75	120.85	121.75	120.75
Net Building	87.90	107.00	87.90	107.00
Cash Cost of Sales	57.46	74.44	57.46	74.23
Fuel Processing Cost	79.55	100.72	79.27	100.44
SG&A & Royalties	11.77	14.45	11.77	14.45
Total Cash Cost	91.42	115.16	91.16	114.89

R.A. Mac

M/40 X-B (MILITARY DESIGN) - HI-SPOT ESTIMATED FACTORY COSTS

		PRESENT 40X-SY	PROPOSED M/40X-B RIMFIRE: STD BARREL S-Y (WITHOUT SIGHTS)	STD BARREL S-I (WITH SIGHTS)	HEAVY BARREL 11-Y (WITHOUT SIGHTS)	HEAVY BARREL 11-I (WITH SIGHTS)	PROPOSED 40X B CENTER FIRE: STD BBL S-Y (NO SIGHTS)	HEAVY BBL 11-Y (NO SIGHTS)
RETAIL PRICE		#134.75	#129.75	#170.35	#129.75	#170.35		
NET SELLING		87.90						
STD MATERIAL		13.53	13.76	79.79	13.67	79.70		
VARIANCE	Y.O	.71	.78	.59	.71	.58		
STD LABOR		14.94	13.04	13.30	14.94	13.74		
VARIANCE		4.78	1.56	4.66	1.55	4.64		
BURDEN	246.0	24.92	31.90	34.59	31.83	34.51		
SUB-TOTAL		#60.31	#63.54	80.43	#63.31	80.70		
PLANT OVERHEAD	240	14.47	15.24	19.30	15.19	19.35		
INVENTORY ADJ.	1.3	.75	.79	1.00	.79	.99		
FACTORY COST		#75.53 ✓	#79.56	#100.73	#79.24	#100.44	#131 —	#131 —
FACTORY PROFIT		14.37	+ 402 bmb.					
% PROFIT		14.1%						
SELLING AND ADMIN.	9.5	8.35 ✓						
RESEARCH	4.0	3.52 ✓						
TOTAL COST		#87.40 ✓						
OPER. EARNINGS		.50						
% EARNINGS		.6%						

R.K. Mac
11-16-63

MINUTE #21 - 1963 November 1963

FROM PAGE NO.: 5

SUBJECT: MODEL 40XB CENTER FIRE RIFLE

MODEL 40X-B CENTER FIRE RIFLE

In the Proposed 1964 Firearms Line, approved on October 17, 1963, subject to further review of selling prices by General Management, Sales has proposed that the retail selling price of the S2 and H2 grades be increased from $187.95 to $205.00. The justification for such an increase is based on Committee action in March, 1963, approving the economics to market the Model 40X-B Rim Fire rifles without sights at $155.00 when introduced. This price is equivalent to an 11% increase over the $139.75 price of the Model 40X. Research and Development is not in agreement with the proposal since they indicate that Remington is confronted with much more competition in Center Fire prestige rifles than in Rim Fire rifles of the same status. In their opinion, any price increase in this line will result in lower sales volume. Current appraisal estimates were presented to the Committee by the Secretary indicating the operative earnings potentials of the rifle at several retail price levels.

The Secretary was instructed to summarize in a separate letter the Sales Department proposal and the economic data involved so that a decision can be reached before the next meeting.

MINUTE #21 - 1963 November 1963

FROM PAGE NO.: 6

SUBJECT: MODEL 40XB RIM FIRE RIFLE
TABLE #1

MODEL 40X-B RIM FIRE RIFLES

In September (Minute #16,1963) it was agreed to delay the introduction of the Model 40X-B rim fire rifle until the M/40X parts on hand, sufficient to meet 1964 requirements, were exhausted. The new Model 40X-B, however, would be the basis for future quotations for government orders during the interim. Parts for the 40X center fire rifle were exhausted at that time and current shipments of Model 40X-B center fire rifle were being made.

Research and Development requested the Committee to reconsider the introduction date of the Model 40X-B rim fire rifle for the following reasons:

1. Two types of Model 40X rifles are being manufactured at Ilion which compounds component planning and scheduling problems particularly in the wood shop where machine changeovers on a number of operations are encountered from producing two types of stocks.

2. Competition (Winchester) has been on the market for more than six months with their new model.

3. The improvements in the B version, in line with government specifications, will encourage government interest, maintain Remington's image for quality improvement and accuracy developments, and promote rim fire match cartridge sales.

Table 3 indicates the unit operative earnings on a full cost basis and the earnings summary on a cash cost basis in making the change. Increased earnings result from the price increases more than offsetting the added model costs for B versions.

Committee Action

The Committee approves and recommends General Management approve the Research and Development recommendation to introduce the M/40X-B Rim Fire rifle effective January 1, 1964, subject to further review of final selling prices by General Management prior to the issurance of the 1964 price list.

INTRODUCTION M/40X-B TO REPLACE M/40X IN 1964
SELLING PRICES AND OPERATIVE EARNINGS BASED ON FULL BOOK COSTS

Present Line	40X-S2	40XS-1	40XH-2	40XH-1
Retail Selling Price	$139.75	$170.35	$139.75	$170.35
Net Selling Price	$ 87.90	$107.00	$ 87.90	$107.00
Annual Volume	80	110	200	110
Cost of Goods	$ 87.40	$111.16	$ 87.14	$110.87
Operative Earnings	$ .50	($ 4.16)	$ .76	($ 3.87)
% of Net Selling	.6%	(3.9%)	.9%	(3.6%)

Proposed Line	40X-BS2	40X-BS-1	40X-BH-2	40X-BH-1
Retail Selling Price*	$155.00	$185.60	$155.00	$185.60
Net Selling Price	$ 97.50	$116.56	$ 97.50	$116.56
Annual Volume	80	110	200	110
Cost of Goods	$ 92.71	$116.47	$ 92.45	$116.18
Operative Earnings	$ 4.79	$ .09	$ 5.05	$ .38
% of Net Selling	4.9%	.01%	5.2%	.03%

SALES AND EARNINGS BASED ON CASH COST

	40X	40X-B	Difference
Annual Volume 1964	500	500	0
Net Sales	$ 48200	$ $ 52900	$ 4700
Cost of Sales	$ 31000	$ 32500	$ 1500
Operative Earnings	$ 17200	$ 20400	$ 3200
Net Earnings			$ 1400
Investment			
Working Capital			$ 1200
Total Capital Required			$ 1200
% Return on Total Capital Required			117%
Operations Charges			
Obsolete Parts and Conversion Costs			$ 1300
Payout Period			
Operations Charges			5 Mo.

* Secretary's estimate on S-1, H-2 and H-1 Grades.

OPERATIONS COMMITTEE

ILION DIVISION

Ilion Bulletin
#22-1963

R. H. Coleman
E. H. Bleckwell
H. K. Faulkner
H. M. Stoessel
Gail Evans
G. M. Calhoun
F. E. Morgan

R. A. Williamson
H. M. Pierce, Jr.
S. M. Alvis
D. S. Foote
C. H. Reinhard
E. B. Wallin
R. A. Morris

COPY NO. _____

INFORMATIVE BULLETIN #22-1963
ILION DIVISION
NOVEMBER 27, 1963

SUBJECT: APPROVAL FOR INVOICED SHIPMENT
MODEL 40X-B RIM FIRE RIFLE

On November 25, 1963, General Management approved the subject model for invoiced shipment. This model is an improved version of the Model 40 X incorporating Model 700 parts and a new fore end rail. The Sales Department plans to announce this model on January 1, 1964.

R. A. MORRIS,
Secretary

RAM:ms

GENERAL - contd.

MODEL 700 CUSTOM

R & D presented four (4) samples of proposed custom guns. One sample had an American walnut Stock with RK-W finish. The other Stocks were made from French walnut. There were several variations of features among the models. It had been R & D's original plan to offer the customer a selection of variations which could be produced since orders would be on an individual basis.

A Model 700 "BDL" gun was shown for comparison with the proposed custom guns. The question of the price differential was again discussed.

R & D's original proposal would be to list the gun in the catalog and sell on special order in the same manner as the Model 40X Center Fire target rifle.

Sales reported that there had been field opposition to the quality of the sample rifle as well as the discount which was being offered.

Committee Action

The development of cost figures, discounts and gun features was referred back to R & D and Sales to resolve.

XR SERIES BOLT ACTION LINE

R & D reported that the program presented at the June Operations Committe provided the proposed schedule for introduction of the XR Series Bolt Action Line.

	Announcement	Warehouse
Rim Fire Center Fire Shotgun	January 1967	Oct., Nov. & Dec. 1966

MINUTE NO. 14 - 1965

PAGE NO. 8

SUBJECT: MODEL 40X INTERNATIONAL MATCH RIFLE

MODEL 40X INTERNATIONAL MATCH RIFLE

R & D is proposing changes in design. A prototype has been furnished Marketing for review. Operations Committee approval will be requested when the proposed changes have been resolved.

MINUTE #15 - 1965 September 1965

FROM PAGE NO.: 5

SUBJECT: MODEL 40XB

MODEL 40X INTERNATIONAL MATCH RIFLE
& 40XB TARGET RIFLE

A prototype of the proposed change to the International Target Rifle has been reviewed with Marketing. The next step is to arrange a review with the military services.

The prototype of the International Match Rifle and proposed change to the Model 40XB Stock was reviewed with the Operations Committee.

Committee Action

Following the review with the military services, R & D is to submit drawings of the proposed Model 40XB changes to the plant for evaluation.

MINUTE NO. 18 - 1965

PAGE NO.: 4

SUBJECT: MODEL 40X INTERNATIONAL MATCH RIFLE
MODEL 40XB TARGET RIFLE

MODEL 40X INTERNATIONAL MATCH RIFLE
& 40XB TARGET RIFLE

The sample Model 40XB rifle is to be returned to Ilion and the cost of the proposed changes evaluated. A decision will then be made regarding the presentation of the rifle to the government for approval.

MINUTE #19 - 1965 November

FROM PAGE NUMBER 7

SUBJECT Model 40XB

MODEL 40XB STOCK

The prototype of the proposed Stock and Rails were turned over to P E & C to estimate costs. For production, modifications will have to be made. R & D and Process Engineering are resolving. The estimate should be completed for review at the December meeting.

SUBJECT: MODEL 40XB

MODEL 40XB STOCK

The proposed Model 40XB Stock was reviewed. The significant changes from the present Stock are:

1. Cheek piece
2. Indentation for hand grip
3. Off-cast Stock and other dimensional improvements to make the Stock competitive with the Anschutz being offered by Savage.
4. Increased rail length to better accommodate the hand stop and palm rest.

It was indicated the revised Stock design would also be more acceptable to the government than the present design.

The effect on product cost and expenditures is shown as Table 3. There is an added factory cost of $4.88 per rifle.

Committee Action

The proposed change was approved. A project is to be prepared for the $66,000 expenditure. Management approval to release for production is to be requested.

Table 3

ESTIMATED FACTORY COSTS AND COMPARISON - PRESENT MODEL 40XB VERSUS GUN WITH NEW STOCK DESIGN (BASED ON NOVEMBER 1964 THROUGH OCTOBER 1965 WEIGHTED AVERAGE - 359 RIFLES)

	Present M/40XB	Proposed With New Stock
Retail Price	$ 154.95	$ 154.95
Net Selling	$ 97.48	$ 97.48
Standard Material	$ 13.29	$ 15.51
Standard Labor	$ 12.25	$ 12.65
Factory Cost	$ 73.68	$ 78.56
Sell. - Admin. - Research	$ 13.65	$ 13.65
Full Book Cost	$ 87.33	$ 92.21
Oper. Earnings	$ 10.15	$ 5.27
% of Net Selling	10.4%	5.4%
Expenditures		
Capital		$ 15,300
Operations		$ 50,700
Total		$ 66,000

LIMITED DISTRIBUTION

OPERATIONS COMMITTEE

ILION DIVISION

Ilion, New York
December 21, 1965

E. H. BLECKWELL
R. H. COLEMAN

SUBJECT: APPROVAL TO RELEASE TO PRODUCTION
MODEL 40XB "RANGEMASTER" RIM FIRE TARGET RIFLE
IMPROVED STOCK AND RAIL
Ref: Operations Committee Minutes #21 - 1965

The Operations Committee at the December meeting approved the changes to the Model 40XB Rim Fire Stock and Rail. This change will upgrade the Remington rifle to be competitive with the Savage Arms Co. product.

You may indicate your approval to release to production by signing the attached New Product Approval.

V. G. DeReus, Secretary
Operations Committee

VGD:I
Attach.

LIMITED DISTRIBUTION

NEW PRODUCT APPROVAL

PRODUCT: MODEL 40XB "RANGEMASTER" RIM FIRE TARGET RIFLE

SERIAL: PROTOTYPE PRESENTED AT THE DECEMBER OPERATIONS COMMITTEE MEETING

DESCRIPTION: The significant changes to the Stock Assembly are:

1. Cheek Piece.
2. Indentation for hand grip.
3. Off-cast Stock and dimensional improvements to make the Stock competitive with the Anschutz being offered by Savage.
4. Increased rail length to better accommodate the hand stop and palm rest.

FOR ANNOUNCEMENT JANUARY 1967.

No change in retail selling price or annual sales anticipated. The attached indicates effect on product cost and the estimated expenditures.

APPROVED FOR RELEASE TO PRODUCTION DATE

_____ _____

Chairman - Operations Committee, *
& Vice-President & Assistant
General Manager

_____ _____

President & General Manager

* Signature of Chairman signifies approval of entire Committee.

LIMITED DISTRIBUTION

OPERATIONS COMMITTEE

ILION DIVISION

Ilion, New York
January 4, 1966

CC: R. A. Williamson
S. M. Alvis
A. D. Kerr
L. J. Boyle

TO: H. K. FAULKNER
P. H. BURDETT
C. M. ALBRIGHT, JR.
G. M. CALHOUN
H. M. STOESSEL

SUBJECT: APPROVAL TO RELEASE TO PRODUCTION
MODEL 40XB "RANGEMASTER" RIM FIRE TARGET
RIFLE - IMPROVED STOCK AND RAIL

December 30, 1965, General Management approved the release to Production of the Model 40XB "Rangemaster" Rim Fire Rifle with improved Stock and Rail.

Approval for invoiced shipment will be requested when rifles are ready for warehousing.

V. G. DeReus, Secretary
Operations Committee

VGD:I

MINUTE #2 - 1966 January

FROM PAGE NUMBER 3

SUBJECT 40X

MODEL 700-600 BARRELED ACTION

During 1965, Model 700 "ADL, "BDL", and Model 600 Barreled Actions were offered to selected gunsmiths. Sales were estimated at seven hundred (700) units. Actual sales were six hundred and seventy-two (672) plus twenty-four (24) Model 40X target rifle Barreled Actions.

A comparison of the estimated and actual economics is shown as Table 1.

Committee Action

This item will be dropped.

TABLE 1

BARRELED ACTIONS (MODELS 700, 600, 40XB) - COMPARISON OF EARNINGS
ESTIMATE DATED 10/2/64 VERSUS ACTUAL 1965 SALES

	M/700 "ADL"		M/700 "BDL"		M/600		M/40XB	TOTAL CASH	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ESTIMATE	ACTUAL
							(No estimate)		
VOLUME	350	372	150	243	200	57	24	700	696
JOBBERS CATALOG PRICE	$61.89	$67.47	$75.83	$78.61	$50.75	$50.75	$95.89		
*ACTUAL NET SALES VALUE	$59.80	$65.19	$73.27	$75.95	$49.03	$49.03	$92.65	$41,730	$47,720
FULL COST DATA - UNIT									
UNIT FACTORY COST	$32.98	$27.41	$35.58	$29.13	$31.60	$25.22	$50.27	$17,500	$15,120
UNIT S&A & RESEARCH	8.07	9.13	9.89	10.63	6.62	6.86	12.97	-	-
UNIT COST OF GOODS	$41.05	$36.54	$45.47	$39.76	$38.22	$32.08	$63.24	$17,500	$15,120
UNIT OPER. EARNINGS	$18.75	$28.65	$27.80	$36.19	$10.81	$16.95	$29.41	$24,230	$32,600
*% OF NET SELLING	31.4%	43.9%	37.9%	47.6%	22.0%	34.6%	31.7%		
CASH COST DATA - TOTALS									
SALES								$41,730	$47,720
COST OF SALES								17,500	15,120
TOTAL OPER. EARNINGS								24,230	32,600
TOTAL NET EARNINGS								11,780	15,800
INVESTMENT									
CONSTRUCTION								-	-
WORKING CAPITAL								14,900	19,000
TOTAL CAPITAL REQUIRED								$14,900	$19,000
% RETURN ON TOTAL CAPITAL								79.1%	83.2%
OTHER PROJECT COSTS								-	-

*ACTUAL NET SALES = JOBBERS CATALOG PRICE LESS FORMULA DISCOUNT, FREIGHT AND DELIVERY CHARGES

MINUTE #2 - 1966 January

FROM PAGE NUMBER 4

SUBJECT M/40XB

MODEL 40XB STOCK

R & D is preparing models of the proposed Stock and Rail change to clear the design with government procurement sources. It is planned that drawings not be released to the plant until government approval has been received.

The project to authorize funds for the proposed Stock Assembly change is being circulated for signatures.

R & D is working on a cost reduction program for the Model 40XB. The commercial sales volume does not justify expenditures unless a government sales volume can also be anticipated.

Committee Action

R & D is to prepare estimates of the proposed cost improvement items and the estimated cost to effect.

MINUTE # - 1966 February

FROM PAGE NUMBER 5

SUBJECT Model 40XB

MODEL 40XB STOCK

Models including the proposed Stock and Rail change are being prepared to clear the design with government procurement sources. Government Sales is to arrange a meeting.

Drawings are not to be released to the plant until government approval of the changes has been received.

R & D is working on a cost reduction program for the Model 40XB.

MINUTE #6 - 1966 March 1966

FROM PAGE NO.: 4 & 5

SUBJECT: MODEL 40XB

MODEL 40XB STOCK

Walnut wood prototypes of the proposed Stock change have been completed. However, since the use of birch is being considered, new models will be made for review with government procurement sources.

In order to be competitive on future government bids, the government specifications might be changed to specify the proposed Stock features. Competitors would then have to bid to a revised specification. Or to be competitive, sufficient cost reductions would have to be effected to offset the added factory cost of the proposed Stock and Rail change.

The plant was requested to expedite the evaluation of the proposed product improvement changes being considered by R & D.

Any rifles presented to the government agencies for approval should include such modifications as are now proposed by R & D.

Committee Action

Rifles incorporating the proposed features are to be reviewed with government procurement sources.

Revisions in the estimated factory cost, if completed prior to the next committee meeting, are to be sent to committee members for review.

MINUTE #7 - 1966 April

FROM PAGE NUMBER 4 & 5

SUBJECT Model 40XB

RIM FIRE RIFLES

MODEL 40XB

In December 1965, the Operations Committee approved a change to the Model 40XB Stock and Rail in order to be competitive with the Anschutz model being offered by Savage. The change was contingent on approval by government procurement sources.

To reduce the added cost of the change, R & D has revised the design. The costs calculated on the use of walnut and reflecting 1966 material and labor prices is shown on the attached Table 1 for the current model, the initial proposal and the current design. The prototype was reviewed by the Operations Committee.

Prototypes with birch and walnut Stock were shown to government representatives at the Springfield Armory. Several of the features are different from the present government specifications. The weight of the prototypes also exceed up to six ounces the present 13 pound maximum weight. Although the proposed change was well received, any change must originate with the Arms Weapons Command at Rock Island, Ill. Further reviews will be scheduled through Government Sales.

As part of the Product Improvement Program, several changes are being effected to reduce costs of the Model 40XB. In several instances, other models using the common parts will also be affected. Attached as Table 2 is the status. The increased factory cost of the Stock and Rail of $2.47 (Table 1) will partially be offset by savings of $1.97 (Table 2) which should be effected in 1966. Other items are being evaluated and effected if economically justified. The use of birch instead of walnut for the Stock should also result in a cost improvement.

Committee Action

The Committee approved the revised prototype. Since the indicated costs are less, further Management approval will not be required.

Any change to the Model 40XB Stock and Rail for commercial production is contingent on acceptance by government procurement sources.

TABLE 1

ESTIMATED FACTORY COSTS & COMPARISON
MODEL 40XB VS. GUN WITH NEW STOCK DESIGN
(BASED ON NOV. 1964 THRU OCT. 1965 WEIGHTED AVERAGE -- 359 RIFLES)

	Present M/40XB	Original Proposed Stock	Revised Proposed Stock
Retail Price	$154.95	$154.95	$154.95
Net Selling	$ 97.48	$ 97.48	$ 97.48
Std. Material	$ 15.01	$ 16.78	$ 16.77
Std. Labor	$ 12.71	$ 13.11	$ 12.74
Factory Cost	$ 76.35	$ 80.48	$ 78.82
Sell. - Admin. - Research	13.65	13.65	13.65
Full Book Cost	$ 90.00	$ 94.13	$ 92.47
Oper. Earnings	$ 7.48	$ 3.35	$ 5.01
% of Net Selling	7.3%	3.3%	4.8%
Expenditures			
Capital		$15,300	$ 9,800
Operations		$50,700	$51,000
Total		$66,000	$60,800

TABLE 2

MODEL 40XB
PRODUCT IMPROVEMENT PROGRAM

	Est. Factory Cost Savings as Reflected in Full Gun Cost	Est. Expend.	Est. Return on Total Expenditure	Status
Telescope Bases - Powder Metal (Also to be used for M/700 Varmint)	$1.38/Gun	$17,000	29.3%	Tooling being designed.
Trigger Housing Assembly - Riveted Assembly (Also to be used for M/700)	.10/Gun	$12,000	60.4%	Model drawings to be issued.
Sear & Safety Cam - Powder Metal (Also to be used for M/700, M/600, XP-100)	.49/Gun	$ 4,000	Reduction in plant invest.	Production Oct. 1966
	$1.97			
Firing Pin - Stamping plus secondary opers.		Being estimated.		
Trigger Housing - Remington machine for drilling & tapping (Also to be used for M/700)		Machine layout being made for evaluation.		
Stock - Change from walnut to birch	$2.70 (Stock (Blank	Production costs to be determined.		

[illegible]

MODEL 42XB STOCK - COMPARISON OF ESTIMATED COSTS - PRESENT WALNUT VS PROPOSED DESIGN IN BOTH WALNUT AND BIRCH

		PRESENT WALNUT	PROPOSED DESIGN (WALNUT)	PROPOSED DESIGN (BIRCH)
		$	$	$
STD. MATERIAL		4.00	5.70	3.10
VARIANCE	80	.32	.46	.25
STD. LABOR		2.51	2.57	2.72
VARIANCE	42.0	1.05	1.08	1.14
BURDEN	2200	5.52	5.65	5.98
SUB-TOTAL		$ 13.40	$ 15.46	$ 13.19
PLANT OVERHEAD	2.5	2.88	3.32	2.84
INVENTORY ADJ	1.0	16	19	16
FACTORY COST		$ 16.44	$ 18.97	$ 16.19

18.97
16.19
$ 2.78

CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER

MINUTE #10 - 1966 May

FROM PAGE NUMBER 3

SUBJECT MODEL 40XB (Wood)

RIM FIRE RIFLES

MODEL 40XB

The proposed revision to the Model 40XB Stock, Rail and other minor changes had been reviewed at the Springfield Armory. Although the proposed changes were well received, any revision to the specification must originate with the Arms Weapons Command at Rockford, Illinois. A date for review is to be set up through Military Sales. Any action to change the commercial design is held until government procurement approval is received.

At the April meeting, proposed product improvement items were presented. The use of birch in place of walnut indicates a savings in the blank cost of $2.70. If birch is approved, the proposed Stock without accessories would have factory cost of $16.19 which compares with the present design cost in walnut of $16.44.

MINUTE #12 - 1966 June 1966

FROM PAGE NUMBER 3

SUBJECT MODEL 40XB TARGET RIFLE

RIM FIRE RIFLES

MODEL 40XB TARGET RIFLE

The proposed change to the Stock and rail configuration as well as offering the rifle with a birch Stock was reviewed with the government procurement source at Rock Island. While considered satisfactory, Remington was requested to further review the rifle with the Army, the Marines and the Air Force. Steps are being taken by R & D to check the packaging prior to sending the prototypes (walnut and birch wood) to the services.

A proposed revision to the government MIL-R-1296C specifications for M12 (Model 40XB) rifle had been sent to Ilion for comment. In the reply sent to Military Sales, the specification changes which would be necessary to cover the proposed rifle were included.

When all approvals have been received and model drawings issued to the plant, a schedule can be established.

MINUTE #17 - 1966 September 1966

FROM PAGE NUMBER 5

SUBJECT MODEL 40XB TARGET RIFLE

RIM FIRE RIFLES

MODEL 40XB TARGET RIFLE

The proposed change to the Stock and Rail configuration as well as offering the rifle with a birch Stock had been reviewed with the government procurement source at Rock Island. Further consultations with the Army, the Marines and the Air Force were recommended. The first review with the Army at Fort Benning, Ga. is scheduled the latter part of September.

MINUTE #19 - 1966 October 1966

FROM PAGE NUMBER 4

SUBJECT MODEL 40XB TARGET RIFLE

RIM FIRE RIFLES

MODEL 40XB TARGET RIFLE

The proposed change to the Stock and Rail configuration as well as offering the rifle with a birch Stock had been reviewed with the government procurement source at Rock Island. Further consultations with the Army, the Marines and the Air Force were recommended. The review with the Army at Fort Benning, Georgia is being made October 13.

MINUTE #21 - 1966 - November 1966

FROM PAGE NO.: 4

SUBJECT: MODEL 40XB TARGET RIFLE

RIM FIRE RIFLES

MODEL 40XB TARGET RIFLE

Marketing reported the proposed change to the Model 40XB Stock and Rail should be resolved with the Arms Services the latter part of December. Comments to date have been favorable.

MINUTE #24 - 1966 December 1966

FROM PAGE NO.: 7

SUBJECT: MODEL 40XC TARGET RIFLE

RIM FIRE RIFLES

MODEL 40 XC TARGET RIFLE

The proposed Model 40 XB rifle with changes to the Stock and Rail was reviewed with two shooters at Ft. Benning. Comments were received on the length of Trigger pull and the weight of the rifle. International Match shooters are shooting at 50 meters. The sample rifles shot groups of 1" or less at 100 yards. To meet what the International Match shooters desire would be a 10-shot group of .4" max. at 100 yards. Further goverrment contacts are to be made before the design is released to the plant.

MINUTE #2 - 1967 January 1967

FROM PAGE NO.: 5

SUBJECT: MODEL 40XC TARGET RIFLE

RIM FIRE RIFLES

MODEL 40XC TARGET RIFLE

A review was made of the proposed Stock and Rail change at Fort Benning. It appears that one design would not satisfy everyone. R & D now proposes to continue the Model 40XB and provide a replacement for the International Match Stock which can also use the Model 40X action.

R & D is to make a prototype rifle incorporating as many of the recommendations as possible from the government source reviews.

MINUTE #2 - 1967 January 1967

FROM PAGE NO.: 8

SUBJECT: RIM FIRE TARGET RIFLE
MODEL 40XC

RIM FIRE TARGET RIFLE

Bridgeport R & D has been reviewing the original prototype of a rim fire target rifle using the Model 580 action. Based on field comments on the Model 40XC rifle and other recommendations, R & D is to prepare a new prototype for review with Government Sales and Marketing.

The program is aimed at providing acceptable replacements for the Models 513T and 521T.

MINUTE #4 - 1967 FEBRUARY

FROM PAGE NUMBER 6

SUBJECT POSITION STOCK TARGET RIFLE
(REPLACEMENT OF INTERNATIONAL MATCH RIFLE)
Model 40XB

RIM FIRE RIFLES

POSITION STOCK TARGET RIFLE (REPLACEMENT OF INTERNATIONAL MATCH RIFLE)

The program is to continue the production of Model 40XB target rifles.

R & D is proposing to replace the present International Match Rifle with a new Position Stock Rifle. The Model 40XB action can be used with the proposed Stock.

A prototype should be completed in March.

MINUTE #7 - 1967

FROM PAGE NO.: 10

SUBJECT: POSITION STOCK TARGET RIFLE
(REPLACEMENT OF INTERNATIONAL MATCH RIFLE)
MODEL 40XB

POSITION STOCK TARGET RIFLE

The program for a Position Stock Target Rifle is being held. A meeting is scheduled for September which should clarify the type Stock that will be acceptable in future competitive rifle matches.

As now visualized by R & D, when a Stock design is formalized, production will be on plant equipment.

MINUTE NO. 19 - 1968

PAGE NOS.: 7 & 8

SUBJECT: BENCH REST CENTER FIRE TARGET RIFLES M/40XB/BRCF

BENCH REST CENTER FIRE TARGET RIFLES

R & D had proposed the addition of a Bench Rest Center Fire Target Rifle to provide an additional prestige rifle and to tie in with the Remington production of a Target Telescope. The manufacture would be in the R & D Custom Shop.

A prototype rifle was reviewed by the Committee. The special features are described in a letter to Marketing, a copy of which is attached as Exhibit 5.

R & D estimated economics are shown as Exhibit 6. The Custom Shop has machine capacity to produce the indicated yearly volume of rifles.

Committee Action:

The Committee approved the addition of the Bench Rest Center Fire Rifle. General Management approval to release to production and make invoice shipments is to be requested.

EXHIBIT 5

Ilion, New York
September 25,1968

MEMORANDUM

TO: F.E. MORGAN

FROM: M.H. WALKER

SUBJECT: 40XBR (BENCH REST)

In order to speed the promotion of our target telescope, models of a modified M/40XB have been made. Many bench rest competitors have been asking for a complete 10 1/2# class rifle. Remington has not catered to this demand other than to supply the M/40XB with any legal barrel length. Additional custom work must be done to make the M/40XB meet the 10 1/2# limit with target scopes presently available.

With the introduction of the new Remington Target Telescope it is possible to modify the M/40XB and supply the bench rest shooters with a top combination ready to shoot in competition.

These modifications consist of:

1. A stock better suited to bench rest shooting
   (a) Wide flat fore end
   (b) Shorter pull
   (c) Less wood in stock for lighter weight

2. A specially selected barrel to meet better accuracy standards
   (a) Stainless steel only
   (b) Two weights, one to meet the 10 1/2# class, 20" in length and one to meet the 13 1/2# class, 24" in length

3. Optional with a new lower cost 4 oz. trigger

EXHIBIT 5

The cost of these modifications is chiefly in the added testing required to insure that the rifle meets better accuracy standards.

Pricing was discussed with H. Albaugh last week. It is suggested we consider introducing the rifle at $259.95 recommended list with discounts of 20% and 15%. Net to Remington would be $159.28. With the new telescope at $159.95 list a combination price of $409.90 is suggested for $10.00 saving to the consumer.

Rifle would be tested with the scope delivered with it to insure the best results possible in the hands of the shooter: Scope would be packed in the shipping carton separately to avoid excise tax.

The Custom Shop is ready to start manufacture as soon as approval is obtained. Both the scope and the rifle can be available in reasonable qualities by Jan. 1,1969.

Albaugh has one of the models in his possession.

MHW:w

HI-SPOT COSTS AND ECONOMICS FOR MARKETING
PROPOSED MODEL 40XB BENCH REST CENTER FIRE TARGET RIFLE
(R & D CUSTOM SHOP ITEM)

	FULL BOOK COSTS	
	PRESENT LINE 40XB/CF	PROPOSED LINE 40XB/BCF
VOLUME	(200)	500
ESTIMATED INCREASE IN VOLUME		300
RETAIL PRICE) 1969 PRICING &	$244.95	$259.95
NET SELLING) DISCOUNTING (20% & 15%)	$144.84	$153.55
FACTORY COST	$105.00	$110.00
SELLING, ADMIN. AND R & D	$ 15.93	$ 16.89
TOTAL COST	$120.93	$126.89
OPERATIVE EARNINGS	$ 23.91	$ 26.66
% OF NET SELLING	16.5%	17.4%

CASH BASIS

CASH COST DATA (RESULT BASED ON 300 ADDITIONAL SALES)

VOLUME	300
SALES	$47,810
FACTORY COST	$32,300
OPERATIVE EARNINGS	$15,510
LESS 5.8% and 48%	$ 8,620
	$ 6,890
INVESTMENT	
CONSTRUCTION	0
WORKING CAPITAL	$18,300
RETURN ON INVESTMENT	37.7%
RETURN ON TOTAL EXPENDITURES	32.7%

PROJECT COSTS	
CAPITAL	0
OPERATIONS	$3800
TOTAL	$3800

LIMITED DISTRIBUTION

OPERATIONS COMMITTEE

ILION DIVISION

Ilion, New York
November 26, 1968

P. H. BURDETT
R. H. COLEMAN

SUBJECT: APPROVAL TO RELEASE TO PRODUCTION AND MAKE INVOICE SHIPMENTS OF MODEL 40XB/BRCF BENCH REST CENTER FIRE TARGET RIFLES

At the November meeting, the Operations Committee approved the addition of a Bench Rest Center Fire Rifle which would be produced in the R & D Custom Shop. This would add a bench rest rifle to the present Model 40XB/CF line. Also this rifle would tie in with the Remington production of Target Telescopes.

You may indicate approval for release to production and invoice shipment by signing the attached New Product Approval.

V. G. DeReus, Secretary
Operations Committee

VGD:I
Attach.

NEW PRODUCT APPROVAL

PRODUCT: MODEL 40XB/BRCF
BENCH REST CENTER FIRE TARGET RIFLE

SERIAL: PROTOTYPE RIFLE 37020B

DESCRIPTION: The rifle description is covered in the attached letter to Marketing September 25, 1968. The rifle is to be offered in the same calibers as the companion Model 40XB/CF.

Volume	500
Net Increase in Custom Rifle Sales	300
Selling Price	$259.95

Attached are the economics to add the Bench Rest Center Fire Rifle.

The announcement date is to be established by Marketing when the R & D Custom Shop provides the date production can be started.

APPROVED FOR RELEASE TO PRODUCTION AND INVOICED SHIPMENT _____ DATE _____

_____ _____

Chairman - Operations Committee,*
& Vice-President & Assistant
General Manager

_____ _____

President & General Manager

* Signature of Chairman signifies approval of entire Committee.

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OPERATIONS COMMITTEE

FIREARMS - TRAPS

ILION BULLETIN
#11 - 1968

R. H. COLEMAN
P. H. BURDETT
R. H. REA
J. P. McANDREWS
E. SPARRE
G. M. CALHOUN
H. M. STOESSEL
H. K. FAULKNER
E. SAPP

J. E. DICKEY
F. E. MORGAN
G. T. PORTER
R. A. WILLIAMSON
J. H. HODGSON
S. M. ALVIS
D. S. FOOTE
T. J. SHARPE
V. G. DEREUS

COPY NO. File

OPERATIONS COMMITTEE
ILION DIVISION

DECEMBER 2, 1968

SUBJECT: APPROVAL TO RELEASE TO PRODUCTION AND MAKE INVOICE SHIPMENTS OF MODEL 40XB/BRCF BENCH REST CENTER FIRE TARGET RIFLES

November 27, 1968, General Management approved the release to production and invoice shipment of the Bench Rest Center Fire Rifle. This rifle will be produced in the R & D Custom Shop.

V. G. DeReus, Secretary
Operations Committee

VGD:I

MINUTE #2 - 1969 JANUARY 1969

FROM PAGE NUMBER 5

SUBJECT POSITION TARGET RIFLE
Model 40XB
Military Sales

RIM FIRE RIFLES

POSITION TARGET RIFLE

R & D reported that in addition to continued accuracy testing, the suggested program is to replace the Model 40XB with two versions of a Position Target Rifle. These are proposed to meet the Anschutz competition.

One which would be produced by the Plant would be a prone rifle with adjustable Butt Plate. Production has been furnished drawings of the Stock and Fire Control changes for estimating. This rifle would be priced at approximately $225.00.

The second would be a position rifle with complete International Match hardware. For the low volume hardware components, it is planned to process using R & D N/C machines. This rifle would list for approximately $325.00.

Military Sales will have to determine if the present Model 40XB Stock should be retained for volume government orders.

Committee Action:

Economics are to be developed for the proposed target rifle program and submitted to the Operations Committee for review.

MINUTE #3 - 1969 FEBRUARY 1969

FROM PAGE NUMBER 7

SUBJECT Target Rifle (Prone)
Model 40XB

RIM FIRE RIFLES

PRONE TARGET RIFLE

The Plant is estimating the cost of the Model 40X Rim Fire Prone Target Rifle proposed as a replacement for the Model 40XB. Economics will determine if the special machines required to produce the Stock configuration will be justified.

R & D reported that all of the technical problems of the target Barrel and ammunition have not been resolved. It is hoped that the proposed replacement target rifle will be a partial answer.

MINUTE #7 - 1969 APRIL 1969

FROM PAGE NUMBER 7

SUBJECT MODEL 40XB RIM FIRE TARGET RIFLE
Target, Match or Prone Rifle

Exhibit 2

MODEL 40XB RIM FIRE TARGET RIFLE

The economics for the proposed Model 40XB prone rifle to replace the present design (Exhibit 2) were reviewed. The return is marginal.

It was reported that the ISU rules for three position small bore rifle competition now specify no thumb hole; however, a thumb rest or cut-out in the Stock is acceptable. The Butt Plate can only be movable up or down three centimeters with no in or out movement. A free trigger is specified and a maximum weight of eleven pounds. The ISU rules were not changed for the small bore free rifle competition.

Representatives from Marketing, and Ilion and Bridgeport R & D are continuing to hold meetings to resolve the specifications for Remington Target Rifles and ammunition.

The recommendation was made that no change be made at present to the Model 40XB rifle and that a quantity of not more than fifty (50) rifles to the proposed specifications be made by R & D. These would be used to determine if Remington can interest outstanding shooters to use the Remington rifle in competition and to further evaluate the Target Rifle market. The Stocks and hardware could be fabricated in the R & D Model Shop or the wood Stocks could be purchased. The program and quantity of rifles is to be handled by the Marketing and R & D committee.

Committee Action:

Due to the marginal return and other problems, no change will be made to the Model 40XB Rim Fire Target Rifle for 1970.

PROPOSED MODEL 40XB PRONE - RIM FIRE TARGET RIFLE
HIGH SPOT ESTIMATED COST AND PROJECT ECONOMICS

FULL FACTORY COSTS

	BEFORE LINE CURRENT MODEL 40XB S-2	AFTER LINE PROPOSED MODEL 40XB PRONE S-2
VOLUME	250	500
RETAIL SELLING PRICE	$169.95	$225.00
NET SELLING	* $100.00	* $132.35
FACTORY COST	$ 84.66	$ 94.47
SELLING & ADMIN. RESEARCH	$ 10.90	$ 14.43
TOTAL COST	$ 95.56	$111.90
OPER. EARNINGS	$ 4.44	$ 20.45
% NET SELLING	4.4%	15.5%

* DISCOUNTS 20% & 15%

CASH OR PROJECT RESULTS

ESTIMATED SALES VOLUME	500	
NET INCREASE IN SALES VOLUME	250	
NET SALES	$ 41,180	
FACTORY COST	$ 27,550	
OPERATIVE EARNINGS	$ 13,630	
LESS 5.6% & 52.8%	$ 7,560	
NET EARNINGS	$ 6,070	
INVESTMENT		
CONSTRUCTION		$ 67,200
WORKING CAPITAL		$ 22,680
RETURN ON TOTAL EXPENDITURES		1.5%
RETURN ON INVESTMENT		6.8%

PROJECT COSTS	
DEVELOPMENT	$ 2,600
CAPITAL	$ 67,200
OPERATIONS	$101,220
TOTAL	$171,000

MINUTE #11 - 1969 MAY 1969

FROM PAGE NUMBER 9

SUBJECT MODEL 40XB RIM FIRE TARGET RIFLE

RIM FIRE RIFLES

MODEL 40XB RIM FIRE TARGET RIFLE

Marketing and R & D proposed a program to provide ten (10) each "free" and "prone" rim fire target rifles for field evaluation. Due to the Custom Shop work load, it is proposed to purchase finished Stocks. R & D would provide the actions and hardware. The estimated cost of the twenty (20) rifles is $7000.

The rifles and ammunition will be individually matched.

Marketing will have to establish the field program. If possible, the rifles should be available for Camp Perry in August. This would allow time to test before the Phoenix Shoot in 1970. If the program develops satisfactorily, additional rifles may be required.

Committee Action:

Marketing is to establish the program to be followed.

MINUTE #13 - 1969 JUNE 1969

FROM PAGE NUMBER 6

SUBJECT MODEL 700 BOLT ACTION CENTER FIRE RIFLE
Calibers 25'06 & 17/223
Exhibits 4 & 5

MODEL 700 BOLT ACTION CENTER FIRE RIFLE

Caliber 25'06

The estimated project costs and economics to add the 25'06 caliber to the Model 700 Bolt Action Center Fire Rifle, Regular and BDL grades, is shown as Exhibit 4.

A meeting was held June 12, 1969 and a program was developed for the addition of this new caliber in the Model 40XB Center Fire Rifle January 1, 1970 to be followed by the availability of ammunition and Model 700 rifles by mid-year 1970. (Minutes of June 12, 1969 meeting attached as Exhibit 5.)

Committee Action:

The Committee approved the proposed program and recommends General Management authorization to release to production. This decision is to provide the Plant time to procure the required tooling.

Caliber 17/223

Experimental work to produce stainless steel or regular steel test Barrels for Bridgeport which have the large diameter has not been successful. It is indicated that a stainless steel 17/223 caliber blank in the regular Barrel dimensions can be produced on the GFM machine.

PROPOSED MODEL 700 ADL-BDL 25'06 CALIBER
BOLT ACTION CENTER FIRE RIFLE

ESTIMATED PROJECT COSTS AND ECONOMICS

FULL FACTORY COSTS

	BEFORE LINE - REPRESENTS LOSS IN PRESENT CALIBER SALES - COSTS BASED ON 22-250 CALIBER		AFTER LINE - PROPOSED 25'06 CALIBER - BASED ON THE 30-06 CALIBER	
	ADL	BDL	ADL	BDL
VOLUME	(1000)	(1000)	2500	2500
RETAIL SELLING PRICE	$134.95	$154.95	$134.95	$154.95
NET SELLING	$ 72.26	$ 82.97	$ 72.26	$ 82.97
FACTORY COST	$ 45.14	$ 51.51	$ 45.07	$ 51.44
SELLING & ADMIN. RESEARCH	$ 7.88	$ 9.05	$ 7.88	$ 9.05
TOTAL COST	$ 53.02	$ 60.56	$ 52.95	$ 60.49
OPERATIVE EARNINGS	$ 19.24	$ 22.41	$ 19.31	$ 22.48
% NET SELLING	26.6%	27.0%	26.7%	27.1%

CASH OR PROJECT RESULTS

ESTIMATED ANNUAL SALES VOL.	5,000	
NET INCREASE IN SALES VOL.	3,000	
NET SALES	$232,850	
FACTORY COST	$116,300	
OPERATIVE EARNINGS	$116,550	
LESS 5.6% & 52.8%	$ 64,620	
NET EARNINGS	$ 51,930	
INVESTMENT		
CONSTRUCTION	$ 0	
WORKING CAPITAL	$129,300	
RETURN ON TOTAL EXPENDITURE	38.3%	
RETURN ON INVESTMENT	40.2%	
PROJECT COSTS		
DEVELOPMENT		$ 1,100
CAPITAL		0
OPERATIONS		$ 9,700
TOTAL		$ 10,800

EXHIBIT 4

MODEL 700 - 25/06 GUN AND CARTRIDGE DEVELOPMENT MEETING

JUNE 12, 1969

ATTENDING:
J. E. DICKEY
F. E. MORGAN
J. W. STONE
M. H. WALKER
G. M. CALHOUN
D. S. FOOTE
L. J. SCOTT
M. W. CORDAS
J. C. CALLAHAN

The purpose of the meeting was to resolve problems that concerned the January 2, 1970 announcement of the 25/06 caliber Model 700 gun and cartridge combination.

The development of the cartridge with acceptable bullet weights will require more development and test work than anticipated. After considerable discussion it was understood and agreed that it would not be possible for Bridgeport R & D and Bridgeport production to have product available for January 1970 announcement. Work will proceed towards a possible mid year 1970 announcement date.

The Model 40XB, during the interim, will be chambered for the 25/06 Remington caliber in the hopes that it will hold the caliber and cartridge design for Remington. For the record, the 25/06 was defined as a combination hunting and varmint caliber. Two bullet weights are to be offered and tentatively we lean toward the following:

87 to a 100 grain bullet that will produce good accuracy and velocity for the varminter

117 to 120 grain bullet for hunting that will produce a minimum velocity of 3100 fps.

The shoulder angle of the case was discussed for the purpose of giving better ballistics and a more modern appearance.

The rifle is to be made with a twist of 1 turn in 10" or whatever is needed to stabilize the bullet weights that hand loaders will use.

R & D will study bullet weight, cartridge shoulder angles and rifle twist and make appropriate recommendations to Marketing for approval.

FEMorgan/bc
6/13/69

MINUTE #13 - 1969 JUNE 1969

FROM PAGE NUMBER 7

SUBJECT RIM FIRE TARGET RIFLE
Model 40XB
Model 540X
& Exhibit 6

RIM FIRE TARGET RIFLE

The development program for Remington small bore match rifles is as covered by the F. E. Morgan letter May 27, 1969 (Exhibit 6). R & D reported difficulty in selecting Model 40XB actions for Fort Benning. A matching of the rifles and ammunition is required. R & D is handling with Bridgeport.

To reduce the variables in testing Model 540X and 40XB rifles and ammunition, Ilion R & D has completed a portable accuracy device. This is part of the coordination program.

RD-49 REV. 6-58

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

cc: J.P. McAndrews
G.M. Calhoun
J.E. Dickey
S.M. Alvis
J.W. Stone
T.J. Sharpe

May 27, 1969

TO: M.H. WALKER

FROM: F.E. MORGAN

DEVELOPMENT PROGRAM FOR REMINGTON SMALLBORE MATCH RIFLES

As agreed upon in telephone conversation May 23, 1969, between M.H. Walker, F.E. Morgan and T.J. Sharpe, the following will be the first step in the development program. The success Remington achieves in this step should provide the information on which to proceed with the remainder of the program.

Ilion Research will build twelve rifles with carefully selected barrels mated to a lot of .22 Rifle Match ammunition of sufficient size to complete the program. The barreled actions, as well as the completed rifles, must perform with superior accuracy. Four of each of the following types of rifles will be provided.

1. "Smallbore Free Rifle", with thumbhole stocks, adjustable hooked butt plates and palm rests. These will be made with heavy barrels and single stage triggers adjustable to approximately 2 ounces. At least two set triggers will also be provided. All stock and accessory adjusting screws should have Allen heads and use a wrench of the same size. Triggers should be adjustable from outside without removal from rifle.

2. "Prone Rifle", stock similar to M540X except for higher and straighter comb. Rifles will have adjustable rubber butt plates, heavy barrels and standard triggers adjustable within the approximate range of 1 - 3¼ pounds.

3. "Standard Position Rifle", stock similar to M540X, standard weight target barrel and single stage trigger adjustable to approximately 2 ounces. See Enclosure 1 for dimensional limitations. Maximum weight allowable is 11 pounds.

EXHIBIT 6

All of the above rifles will have the receiver bridge grooved for the Anschutz International Micrometer Rear Sight and the Anschutz No. 6720 International Sight Set will be furnished with each rifle. The rifles will be completed as near to August 1, 1969, as possible.

Upon completion, Marketing and Research will take the rifles to the USAMTU, Fort Benning, Georgia for exhaustive tests, with the objective of proving Remington's combinations and interesting the top flight shooters in using the combination in the 1969 U.S. International Shooting Championships, to be followed immediately by the Little World Championships, both at Phoenix, Arixona in September and October. The latter is a dress rehearsal for the 1970 World Championships and will have several foreign teams participating. To have U.S. shooters, with the ability to win in the U.S. Team Tryouts as well as the 1970 World Championships, use Remington rifles and ammunition is the ultimate objective of this step of the program. The detailed evaluation of the results obtained during this period will provide Remington with the information on which to complete the development of the future match rifle line for International and United States competitions. U.S. competitive programs are trending towards those used in International and Olympic matches as pertains to equipment.

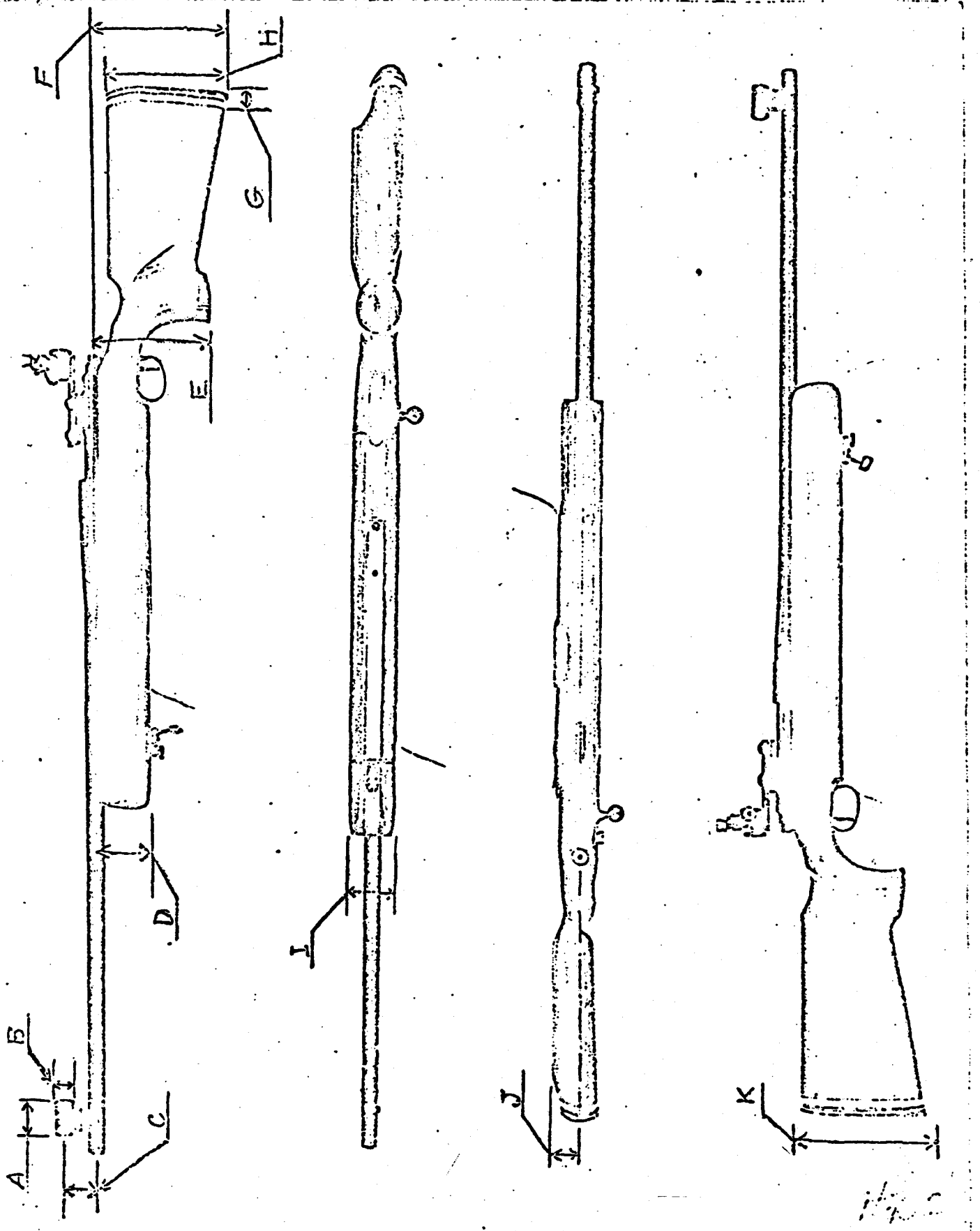
TJS/ml

ISU STD RIFLE

"Factory make" specifications			Dimensions of factory make approved by the ISU Technical Committee		
Metric	English			Me	
5.0 kg	11 lbs.		*Max. weight	5.0 k	
None	None		*Min. trigger wt		
6x6 cm	2.362" x 2.362"	I	Max. dimen. of foreend; max. distance from center of barrel to lowest point:	5.372 cm x 2.115" x 2.3	or
8 cm	3.149"	D	In front of trigger guard	6.147 cm	2.420"
13 cm	5.118"	E	Bottom of pistol grip	12.700 cm	5.0"
18 cm	7.088"	F	Of stock or back plate.	15.405 cm	6.065"
4 cm	1.574"	J	Width of cheek piece from center line of stock	3.492 cm	1.375"
15 cm	5.905"	H	Height of butt end	13.970 cm	5.500"
2 cm	.787"	G	Depth of butt plate	1.905 cm	.750"
3 cm	1.181"	K	Movement of butt plate in each direction, up and down only	3 cm total 6 cm	1.181"total 2.
5 cm	1.968"	A	Max. length of front sight	3.451 cm	1.360"
2.5 cm	.984"	B	Max. diameter of front sight	2.463 cm	.970"
4 cm	1.574"	C	Max. height of center of front sight ring from center of barrel	3.296 cm	1.298"

* Minimum Trigger Weight: No trigger weight limit

Enclosure 1A



Enclosure 1B

MINUTE #18 - 1969 OCTOBER 1969

FROM PAGE NUMBER 10

SUBJECT RIM FIRE TARGET RIFLE
Model 40X

RIM FIRE RIFLES

RIM FIRE TARGET RIFLE

R & D reported that the plans are to have the twelve (12) Model 40X rim fire target rifles available for review in November.

MINUTE #6 - 1970 MARCH 1970

FROM PAGE NUMBER 13

SUBJECT BENCH REST BULLETS
Model 40XB-BR

BENCH REST BULLETS

R & D reported that experimental lots of 222 caliber bullets have been produced to check out the tooling. Improvements to the V & O press feeding attachment are required. A target showing the group size produced was shown to the Committee. Two (2) Model 40XB-BR rifles were used for the test. The group size average was .25" and .29".

The program is to produce in quantity 222, 6mm and 30 caliber Bench Rest Bullets.

MINUTE #15 - 1972 September 14, 1972

FROM PAGE NUMBER 10

SUBJECT MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE

Marketing reported that competition is hurting Remington target rifle business primarily because of Stock design. New design target Stocks were made and shown at Camp Perry this year. The rifles were well received and this appears to be the way to regain some of this business. It was requested that economics be developed for these rifles.

R & D reported that the present work program will not allow completing the design work required for 1973 introduction of these rifles.

Marketing asked that at least one of these rifles be available for introduction at Camp Perry in August, 1973.

The three models are to be added to the Development Schedule.

MINUTE #18 - 1972 October 19, 1972

FROM PAGE NUMBER 9

SUBJECT MODEL 540X & 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

R & D reported that prototype rifles exist but the designs have not been done for the new Stocks. It may be possible to assign a designer to this work such that 1974 introduction could be met. Marketing believes that improvement in Stock design will significantly improve acceptance of these target rifles. Some competitive rifles shoot smaller groups than these do, however, R & D sees nothing to prevent the Remington rifles from shooting as accurately as any competition. A high spot project estimate for the changes is to be made by R & D and Production so that a priority for this work can be established.

MINUTE #19 - 1972 November 21, 1972

FROM PAGE NUMBER 10

SUBJECT MODEL 540X & 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RF
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

R & D reported that design work can start on these rifles in the first quarter of 1973. Costs are to be estimated from the prototype rifles without drawings.

Marketing reported that the Models 540X and 540X-JR rifles should be done first. T. J. Sharpe is to develop a program for the other two rifles.

MINUTE #22 - 1972 December 20, 1972

FROM PAGE NUMBER 10

SUBJECT MODEL 540X, 540X-JR, 40XB

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

R & D reported that rifles have been provided to Production which are being used instead of drawings as a basis for estimating.

Production reported that estimates are being made except for the Model 40XB Army National Match Course Rifle.

MINUTE #2 - 1973 January 24, 1973

FROM PAGE NUMBER 9

SUBJECT MODEL 540X AND MODEL 540X-JR RIFLES
MODEL 40XB STANDARD POSITION RIFLE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE

Exhibit 3

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

Production reported that Models 540X, 540X-JR and 40XB are standard rifles except for new Stocks. Project cost estimates for these rifles are being completed. Product cost and project economics are to be determined. Exhibit 3 is a report on these rifle proposals.

EXHIBIT 3

RD-69 REV. 6-58

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington

c: J. P. McAndrews
G. M. Calhoun
J. G. Williams
F. E. Morgan/H. D. Albaugh
W. E. Leek
J. H. Sweeney
M. H. Walker

LIMITED DISTRIBUTION

Bridgeport, Connecticut
January 11, 1973

TO: Operations Committee, Firearms and Traps

FROM: T. J. Sharpe

IMPROVED 540X, JUNIOR 540X, 40XB STANDARD POSITION RIMFIRE AND 40XB ARMY NATIONAL MATCH CENTERFIRE RIFLES

In the spring of 1969, prototypes of the 40XB Standard Position Rimfire Rifle and the then 40XB Army Centerfire Rifle were designed and produced by Ilion Research for trial by the U.S. Army Marksmanship Training Unit at Fort Benning, Georgia. At that late date in preparations for the 1970 World Championships, there were several modifications that would have required too much time to pursue. Also, there was the requirement that the rifles be a commercial catalog item at the time of the championships. However, the rifle development program has been pursued in an orderly fashion.

The development of the Improved 540X and a Junior Model of the same rifle commenced in late 1970 and was extensively field tested in late 1971 and 1972. The models were enthusiastically received by the Acorn Junior Rifle Club, Alexandria, Virginia, the National Junior Rifle Individual and Team Champions for the past three years. They also were very complimentary of the new 40XB design.

All four subject rifles were displayed at Camp Perry, Ohio, during the National Rifle Matches of 1972. The final designs have incorporated the most desirable and feasible features. The changes have been limited to minimum modifications to present components. The only major change is to the stock assembly.

At present, our major competitors are Savage-Anschutz in the rimfire rifles and the Winchester M70 in the 7.62mm centerfire rifle. It is believed that the major market is in the rimfire gallery line. Including rifle clubs, competitive leagues, juniors, and

EXHIBIT 3

first time smallbore indoor qualifications, the National Rifle Association estimated over 200,000 individuals participate. The largest group are the juniors and high school and college students.

The Improved 540X is intended to compete with the Anschutz M64, priced at $104.95. The Junior 540X fills the void of an excellent target rifle, with the stock designed so that it can be extended to fit anyone into adulthood. It has been tried on 10 and 11 year olds.

The M40XB Standard Position Rifle is designed and priced to compete more than favorably with the Anschutz 1407 Match 54 priced at $225.00. The Anschutz 1407 is a very popular rifle with the better gallery shooters, the outdoor position shooters and the shooters interested in berths on the International teams.

The 40XB Army National Match Course Rifle, in 7.62mm caliber, has the features that should outsell the Winchester M70, priced $399.95 in 1972. The main complaint against the M70 is the length of the bolt throw, it is an action designed for the 30-06.

The proposed line should place Remington in its most favorable target rifle position since the late 1950s. All models should be profitable.

TJS/bta

MINUTE #4 - 1973 FEBRUARY 22, 1973

FROM PAGE NUMBER 9

SUBJECT MODEL 540X, 540X-JR, 40XB
Exhibits 3 & 4

MODEL 540X AND 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

Proposed volume, selling price and costs of the position rifles was reviewed - Exhibits 3 & 4. In discussing the proposed rifles, it was indicated that essentially the only change would be new Stocks. It is believed that this is what is required to make the target rifles more acceptable. The economics are to be completed as soon as possible so that a decision can be made upon project submission.

MINUTE #6 - 1973 March 22, 1973

FROM PAGE NUMBER 9 & 10

SUBJECT MODEL 540X, 540X-JR, 40XB
EXHIBITS 5 & 6

MODEL 540X AND 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

R & D reported that cost estimates and economics have been prepared using sycamore wood. Economics were reviewed - Exhibits 5 and 6.

If standard procedures are used for processing the wood changes, finished drawings are required and will be difficult to obtain for 1974 announcement. Higher priority items are absorbing all design effort. Also, a 7-month lead time is required on wood delivery.

Production reported that a realistic warehouse date for these rifles would be April, 1974.

Committee Action:

The Operations Committee accepted the Marketing recommendation to introduce the Model 540X and 540X-JR Position Rifles, Model 40XB Standard Position Rifle - Rim Fire and Model 40XB Army National Match Course Rifle. Announcement is to be January, 1974 with availability in April, 1974.

MODEL 540X & 540X-JR RIM FIRE "POSITION" TARGET RIFLES

ESTIMATED COSTS AND ECONOMICS

	FULL FACTORY COST	
	PRESENT	PROPOSED
VOLUME	1000	2000
RETAIL PRICE W/O SIGHTS	$104.95	$125.00
NET SELLING	$ 61.26	$ 72.96
FACTORY COST	$ 51.95	$ 55.16
SELLING, ADMIN. & RESEARCH	$ 7.17	$ 8.54
TOTAL COST	$ 59.12	$ 63.70
OPERATIVE EARNINGS	$ 2.14	$ 9.26
% OF NET SELLING	3.5%	12.7%

	CASH RESULTS
VOLUME (ADDED BUSINESS)	1000
NET SELLING	$84,660
FACTORY COST	$48,860
OPERATIVE EARNINGS	$35,800
LESS 5.0% & 48%	$18,120
NET EARNINGS	$17,680

INVESTMENT

WORKING CAPITAL	$46,000
RETURN ON INVESTMENT	38.4%
RETURN ON TOTAL EXPENDITURES (AMORTIZE R & D AND OPERATION CHARGES OVER 5 YEARS)	21.0%

PROJECT EXPENDITURES

OPERATIONS	$38,500

JHSweeney:I
3/21/73

MODEL 40XB RIM FIRE "POSITION" TARGET RIFLE
MODEL 40XB CENTER FIRE ARMY NATIONAL MATCH COURSE RIFLE

ESTIMATED COSTS AND ECONOMICS

	FULL FACTORY COST		
	PRESENT M/40XB RF	M/40XB RF	M/40XB CF
VOLUME	200	300	200
RETAIL PRICE	$199.95	$240.00	$400.00
NET SELLING	$116.69	$140.06	$235.44
FACTORY COST	$104.90	$105.45	$157.96
SELLING, ADMIN. & RESEARCH	$ 13.65	$ 16.39	$ 27.55
TOTAL COST	$118.55	$121.84	$185.51
OPERATIVE EARNINGS	($1.86)	$ 18.22	$ 49.93
% OF NET SELLING	(1.6%)	13.0%	21.2%

CASH RESULTS

VOLUME (ADDED BUSINESS)	300
NET SELLING	$65,720
FACTORY COST	$36,340
OPERATIVE EARNINGS	$29,380
LESS 5.0% & 48%	$14,870
NET EARNINGS	$14,510

INVESTMENT

WORKING CAPITAL	$34,000
RETURN ON INVESTMENT	42.7%
RETURN ON TOTAL EXPENDITURES (AMORTIZE R & D AND OPERATION CHARGES OVER 5 YEARS)	19.9%

PROJECT EXPENDITURES

OPERATIONS	$38,350

JHSweeney:I
3/21/73

MINUTE #8 - 1973 April 27, 1973

FROM PAGE NUMBER 9

SUBJECT MODEL 540X AND 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION
MODEL 40XB ARMY NATIONAL MATCH COURSE

MODEL 540X and 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

Production reported that Sycamore wood for these target rifles has been ordered. A Plant Order for the tooling is to be prepared.

MINUTE #10 - 1973 May 24, 1973

FROM PAGE NUMBER 7

SUBJECT MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB ARMY NATIONAL MATCH COURSE RIFLE

Production reported that a plant order for tooling these rifles is circulating for authorization.

R & D reported that a method for making Stock masters using a computer and the Calcomp drafting machine is being developed.

MINUTE #14 - 1973 July 20, 1973

FROM PAGE NUMBER 13

RIM FIRE RIFLES

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

R & D and Production are developing the information necessary for N/C machining on these Stocks. Copy lathe formers have been ordered. Design of other tooling for the Stocks has started.

The deep Model 540X Stock blank will not fit the Richardson G16 machine for inletting. It may be necessary to assemble the bottom portion of the forearm with adhesive after inletting. This was done on the prototype rifles.

Model 540X Position Rifle and Model 40XB Standard Position Rifle prototypes were reviewed. The Stocks will have a walnut finish as on the prototypes.

After the meeting, R & D requested that "Army" be dropped in the title - Model 40XB Army National Match Course Rifle.

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OPERATIONS COMMITTEE

FIREARMS - TRAPS

Ilion, New York
August 14, 1973

CC: R. L. Hall
W. E. Leek
A. D. Kerr
F. T. Millener

TO: P. H. BURDETT
R. A. PARTNOY
J. P. McANDREWS
H. M. PIERCE, JR.
E. SPARRE - E. HOOTON, JR.
G. M. CALHOUN
H. M. STOESSEL

SUBJECT APPROVAL TO RELEASE TO PRODUCTION
MODEL 540X AND 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB NATIONAL MATCH COURSE RIFLE

July 31, 1973, General Management approved the release to production of the above subject rifles.

J. H. Sweeney

J. H. Sweeney, Secretary
Operations Committee

JHS:I

MINUTE #16 - 1973 Sept. 21, 1973

FROM PAGE NUMBER 10

SUBJECT MODEL 540X & 40XB

RIM FIRE RIFLES

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

Production reported that tool design for these new position rifle Stocks is in progress. It is planned to complete trial and pilot operations on the Stocks in February, 1974.

MINUTE #18 - 1973 Oct. 18, 1973

FROM PAGE NUMBER 11

SUBJECT MODEL 540X & 40XB

RIM FIRE RIFLES

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

R & D reported that work on tooling is progressing. The plant would like to have a change in designation to help with planning and production of these rifles. 40X "C" and 540X "B" have been suggested.

As a matter of information, the 40X center fire rifles will have the Model 700 Bolt guide system after January 1, probably in March. The rim fire Model 40X, because of its basic construction, will not have the Bolt guide system.

Marketing is to approve the proposed new designations or reccmmend alternatives.

MINUTE #19 - 1973 Nov. 15, 1973

FROM PAGE NUMBER 9

SUBJECT M/540X, 540X-JR, 40XB

RIM FIRE RIFLES

MODEL 540X AND MODEL 540X-JR POSITION RIFLES
MODEL 40XB STANDARD POSITION RIFLE - RIM FIRE
MODEL 40XB NATIONAL MATCH COURSE RIFLE
(Introduction 1974)

Production reported that tool design for these target rifles will be completed December 1. Trial and pilot operations will start the week of January 7. New designations for these rifles are:

Model 540XR	Position Rifle
Model 540XRJR	Junior Position Rifle
Model 40XC	National Match Rifle
Model 40XR	Position Rifle - Rim Fire

MINUTE #22 - 1973 Dec. 18, 1973

FROM PAGE NUMBER 10

SUBJECT MODEL 540XR, JR, 40XC, XR

RIM FIRE RIFLES

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

Production reported that trial and pilot operations for these new rifles are expected to start in January.

MINUTE #1 - 1974 Jan. 24, 1974

FROM PAGE NUMBER 11

SUBJECT: MODEL 540XR, XRJR, 40XC, XR

RIM FIRE RIFLES

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

Production and R & D reported that delays on tooling deliveries may delay the warehouse schedule of these position rifles.

A firm schedule is not available. It is hoped that product can be warehoused in June.

Marketing priority is for the Models 540XR and 40XR first and 40XC second.

MINUTE #3 - 1974 FEBRUARY, 1974

FROM PAGE NUMBER 12

SUBJECT MODEL 540XR, 540XRJR, 40XC, 40XR

RIM FIRE RIFLES

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

R & D reported that design changes for these rifles have been completed.

Production reported the current schedule for these position rifles shows completion of trial and pilot assembly in June. It is believed that some production to warehouse of the rim fire models will start in June.

MINUTE #6 - 1974 March 22, 1974

FROM PAGE NUMBER 8

SUBJECT MODEL 540XR, XRJR, 40XC, XR

RIM FIRE RIFLES

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

Production reported that trial and pilot operations on the position rifle Stocks have been delayed by tool revisions. Progress will improve and it is expected that some rim fire rifles will be warehoused in June.

MINUTE #8 - 1974 April 23, 1974

FROM PAGE NUMBER 7

SUBJECT MODEL 540XR, XRJR, 40XC, XR

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

Production reported there is a design change on the Model 540XR Stock which moves the front of the grip forward. Tool revisions required are being determined. It is estimated that revisions will take about four weeks. Pilot assembly will be delayed to July which means that warehouse production probably will start in August.

Trial of N/C inletting shaping of the Model 40XR-XC Stocks continues.

Marketing reported there are significant orders for the 540XR and 540XRJR rifles.

MINUTE #10 - 1974 May 30, 1974

FROM PAGE NUMBER 7

SUBJECT MODEL 540XR, XRJR & 40XC, XR

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

Production reported tool revisions have been made to move the grip forward on the Model 540XR Stock. Pilot assembly will be completed in July. Production to warehouse probably will not start until August.

It is expected that trial and pilot operations will be completed on the Model 40XR-XC Stocks in June. Pilot assembly will be completed and production to warehouse started in July.

MINUTE #12 - 1974 June 21, 1974

FROM PAGE NUMBER 7

SUBJECT MODEL 540XR-SRJR, 40XC-XR

RIM FIRE RIFLES

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

A new pilot lot of Model 540XR Stocks is in process and is to be ready for hardware assembly the week of July 1. Pilot assembly and testing are to be completed in July.

Programming of the N/C routing of outside contours of the Model 40XR-XC Stocks requires further revision. The goal remains to complete pilot assembly, design testing and start production to warehouse in July.

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OPERATIONS COMMITTEE

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ILION BULLETIN
#4 - 1974

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COPY NO. Model file

INFORMATIVE BULLETIN #4 - 1974
ILION DIVISION
SEPTEMBER 17, 1974

SUBJECT: APPROVAL TO RELEASE FOR INVOICE SHIPMENT
MODEL 540XR AND 540XR-JR POSITION RIFLES
MODEL 40XR POSITION RIFLE - RIM FIRE

September 17, 1974, General Management approved invoice shipment of the Model 540XR and 40XR position rifles.

J. H. Sweeney, Secretary
Operations Committee

JHS:I

MINUTE #16 - 1974 OCTOBER 16, 1974

FROM PAGE NUMBER 8

SUBJECT MODEL 540XR, JR, 40XC, XR

RIM FIRE RIFLES

MODEL 540XR AND 540XRJR POSITION RIFLES
MODEL 40XC NATIONAL MATCH RIFLE
MODEL 40XR POSITION RIFLE
(Introduction 1974)

Production reported that Model 540XR, 540XRJR and 40XR position rifles have been released for invoice shipment.

It is expected Model 40XC rifles will be assembled and tested in October.

MINUTE #22 - 1974 December 20, 1974

FROM PAGE NUMBER 10

SUBJECT MODEL 40XC NATIONAL MATCH RIFLE

MODEL 40XC NATIONAL MATCH RIFLE
(Introduction 1974)

Production reported that the first production lot of Stocks has been completed and rifles assembled. A production sample rifle was presented for review with the recommendation that this product be released for invoice shipment.

Committee Action:

The Operations Committee accepted the production sample Model 40XC National Match Rifle. It was recommended that General Management release this rifle for invoice shipment.

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OPERATIONS COMMITTEE

FIREARMS - TRAPS

Ilion, New York
December 20, 1974

J. P. McANDREWS
P. H. BURDETT

SUBJECT: REQUEST FOR APPROVAL TO RELEASE FOR INVOICE SHIPMENT MODEL 40XC NATIONAL MATCH RIFLE

At the December 20, 1974 meeting, the Operations Committee approved the production sample Model 40XC National Match Rifle. General Management approval to release for invoice shipment was recommended.

You may indicate approval by signing the attached Revised Product Approval.

J. H. Sweeney

J. H. Sweeney, Secretary
Operations Committee

JHS:I
Attach.

REVISED PRODUCT APPROVAL

PRODUCT: MODEL 40XC NATIONAL MATCH RIFLE

SERIAL: 046104C

DESCRIPTION: MODEL 40XC NATIONAL MATCH RIFLE IS THE PREVIOUS MODEL 40XB "RANGEMASTER" CENTER FIRE REPEATING RIFLE WITH A POSITION STOCK SIMILAR TO THE MODEL 40XR POSITION RIFLE.

SELLING PRICE	$400.00
ESTIMATED ANNUAL SALES VOLUME	200
NET INCREASE IN ANNUAL SALES VOLUME	200

ATTACHED ARE THE ESTIMATED FULL FACTORY COSTS AND ESTIMATED CASH OR PROJECT ECONOMICS THAT WERE SUBMITTED WITH THE RELEASE TO PRODUCTION.

APPROVED FOR INVOICE SHIPMENT _____ DATE _____

_____ _____

Chairman - Operations Committee,*
& Vice-President & Assistant
General Manager

_____ _____

President & General Manager

*Signature of Chairman signifies approval of entire Committee.

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F I R E A R M S - T R A P S

ILION BULLETIN
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INFORMATIVE BULLETIN #1 - 1975
ILION DIVISION
JANUARY 8, 1975

SUBJECT: APPROVAL TO RELEASE FOR INVOICE SHIPMENT
MODEL 40XC NATIONAL MATCH RIFLE

January 6, 1975, General Management approved invoice shipment of the Model 40XC National Match Rifle.

J. H. Sweeney

J. H. Sweeney, Secretary
Operations Committee

JHS:I

MINUTE #4 - 1975 February 26, 1975

FROM PAGE NUMBER 6

SUBJECT MODEL 40XC

MODEL 40XC NATIONAL MATCH RIFLE
(Introduction 1974)

Production reported that this rifle has been released for invoice shipment. It is recommended that reporting be dropped.

Committee Action:

The Operations Committee agreed to drop reporting.

Copies to: R. L. Hall
G. E. Puckett
A. D. Kerr
C. B. Norcman
W. E. Leek
J. J. Marley
J. Kowalski
Est. File #3401

RFK

March 21, 1975

J. H. SWEENEY

Model 700-40XC-40XR Three-Position Safety

An economic evaluation has been completed on the proposal to re-design the present Two-Position Safety to a Three-Position Safety on the Models 700-40XC-40XR rifles. Presently, the bolt on these rifles can be unlocked and opened only when the safe is in the 'Fire' position. The Three-Position safe would enable the bolt to be opened in either the 'Fire' position or the new 'U' position. On the 'U' position the rifle could not fire.

The economics indicate an annual cost increase of $4400 and an expenditure of $25,600 for new tooling and fixturing. The full book unit cost indicates a cost increase of $ .036 for each rifle.

METHODS & STANDARDS SECTION
F. G. Carlson, Superintendent
John Polivka

By: John Polivka

JP/mc

Policy for Dealing with Bolt Locks on Model 700 and Model 40X (B,C, & R) Firearms Returned for Repairs

There was discussion of procedures to be followed in repairing firearms with bolt locks. Since the absence or presence of a bolt lock is not a safety problem, determination of the policy to follow in these circumstances was not a matter for the Product Safety Subcommittee.

C. A. Nash, Secretary
Product Safety Subcommittee

CAN/kam

MINUTE #15 - 1975 Sept. 19, 1975

FROM PAGE NUMBER 1

SUBJECT MODEL 40XC - PALMA MATCH RIFLES

PALMA MATCH RIFLES

Marketing reported the National Rifle Association has requested that Remington supply 152 Model 40XC rifles and 13,000 rounds of ammunition for the August, 1976 Palma Match. The rifle would be the standard catalog item except for special marking. Ammunition would have special head stamp.

It was estimated this program would cost about $20,000 and would be charged to promotional costs. The purpose of participating in this program is to promote center fire rifles and ammunition.

Marketing is to firm up this proposal with Production and R & D for capability of meeting specifications and delivery. Firm costs and justification are to be developed.

MINUTE #18 - 1975 Oct. 23, 1975

FROM PAGE NUMBER 8

SUBJECT PALMA MATCH RIFLES
MODEL 40XC

PALMA MATCH RIFLES

Marketing reported that the Remington proposal has been submitted.

The Model 40XC rifle does not meet the ISU weight specification and could jeopardize sale of the rifles after this match. Marketing is following this changing situation.

MINUTE #13 - 1976 JULY 13, 1976

FROM PAGE NUMBER 11

SUBJECT MODEL 40XR RIM FIRE SPORTER

MODEL 40XR RIM FIRE SPORTER

The Model 40XR Rim Fire Sporter has the same feel, weight and balance as the 700 BDL varmint special rifle. It would make an ideal training rifle for the shooter who owns a varmint rifle as it would allow him to practice with rim fire ammunition. The rifle is ideal for 1/4 scale 22 rim fire metallic silhouette shooting and is also a highly accurate sporter.

The 40XR Rim Fire Sporter is composed of a 40XR barreled action in a Model 700 BDL varmint special stock. This model would require a very minimum of operations money to put into production.

MINUTE #13 - 1976 JULY 13, 1976

FROM PAGE NUMBER 28

SUBJECT Silhouette 22 Rifle (or Model 40X)

Item 9 - Silhouette 22 Rifle (or Model 40XR Rim Fire Sporter Rifle as designated in the presentation) - Introduction of this rifle in January, 1977, is contingent upon development of a suitable marketing position.

MINUTE #19 - 1976 NOVEMBER 18, 1976

FROM PAGE NUMBER 9

SUBJECT BUSINESS MEETING - RESEARCH PERFORMANCE

Silhouette 22 Rifle

9. Silhouette 22 Rifle

This product could be introduced in 1978.

MINUTE #21 - 1976 Dec. 16, 1976

FROM PAGE NUMBER 6 & 7

SUBJECT TARGET RIFLES
MODEL 40 XR - XB

RIM FIRE RIFLES

TARGET RIFLES

R & D reported that a number of new lots of rim fire target loads were supplied Ilion Research for accuracy evaluation tests. These lots of ammunition are being tested in a number of Remington and competitive target rifles against competitive ammunition. At the present time, we have indications that the accuracy on the 40XR might not be as good as we were experiencing with its predecessor, the 40XB Rim Fire Rifle. We are presently testing to determine the 40XR accuracy potential and to determine its position with respect to the 40XB and Anschutz rifles.

MINUTE #2 - 1977 Jan. 26, 1977

FROM PAGE NUMBER 6

SUBJECT M/40XR SPORTER
(Item 8 - Dev. Sched.)

8. M/40XR Sporter

R & D recommended that this model variation be dropped as a possible addition to the line because of the high selling price and limited appeal of this single shot rifle. Marketing agreed.

FIREARMS

BUSINESS

PRODUCT LINE SIMPLIFICATION

Marketing reported that both they and Production prepared a list of specifications to be considered as candidates for elimination from the 1978 line. Agreement was reached and the following specifications are recommended to be dropped from the line:

- M/552 Gallery Special
- M/580 Smoothbore
- M/700 BDL 264 Win. Mag.
- M/1100 20/26 SK VT LH
- M/870 12/30 MD VT TC
- M/870 12/30 MD VT TC MC
- M/40XB Rim Fire Sporter

Additional items to be discontinued next year as a result of our programs are:

- Eleven M/1100 Field Gun, 20 Gauge Regular Frame, Right Hand and three Left Hand specifications will be eliminated next year. We will evaluate the M/870 line for 1979.

- In the Remington 3200, three field gun items will be discontinued. We also hope to eliminate the two magnum gun specifications.

- As a result of the new model version, the 552 Carbine will be dropped in 1978.

Production's list contained three items related to either elimination from the line or cost savings. It was agreed that adopting these recommendations now was not timely but that Marketing will give further consideration for 1979.

BUSINESS - contd.

The Chairman asked if the list of items to be dropped had been reviewed with International. Marketing replied that they had not.

The Chairman requested that Product Line Simplification be reviewed in six months and again in October, 1978.

Committee Action:

The Operations Committee agreed to drop the specifications listed above for 1978.

MINUTE #17 - 1977 Oct. 20, 1977

FROM PAGE NUMBER 10

SUBJECT MODEL 40 XB-BR CHAMBERED FOR 22 BR-REM. CART.

MODEL 40 XB-BR CHAMBERED FOR
22 BR-REM CARTRIDGE

Marketing reported that they are requesting approval to chamber the Model 40 XB-BR for the 22 Remington bench rest cartridge. This is the cartridge we discussed at Tuesday's meeting and was used by Jim Stekl to set a world's record. It is a shortened 308 with a small rifle primer.

Although we will be cataloging these items - gun and case - our purpose is to maintain an image of superiority in center fire products. If the market changes and new improvements are found, we will respond and not perpetuate these past their useful life.

The Chairman asked if this work would be done in the Custom Shop. Research replied that the rifles would be chambered in the Custom Shop.

Committee Action:

The Operations Committee agreed to chamber the Model 40 XB-BR for the 22 Remington Bench Rest Cartridge.

MINUTE #17 - 1977 Oct. 20, 1977

FROM PAGE NUMBER 14

SUBJECT MODEL 40XB-BR RIFLE

MODEL 40XB-BR RIFLE

At this time, Marketing requested approval to shorten the Barrel of the Model 40XB-BR (heavy Barrel only) from 26" to 24".

Committee Action:

The Operations Committee agreed to reduce Barrel length of the Model 40XB-BR, heavy Barrel only, from 26" to 24".

MINUTE #20 - 1977 Dec. 13, 1977

FROM PAGE NUMBER 8

SUBJECT MODEL 40XB-BR CHAMBERED FOR 22 BR-REM. CARTRIDGE

MODEL 40XB-BR CHAMBERED FOR 22 BR-REM. CARTRIDGE

Research reported that the announcement to produce the 40XB-BR in this caliber was made at the Writers' Seminar at Remington Farms. The chamber drawings have been released to production.

MINUTE #6 - 1978 April 20, 1978

FROM PAGE NUMBER 2

SUBJECT TARGET GUNS - 40XR

PRODUCT LINE SIMPLIFICATION - TARGET GUNS

In the Target Gun segment of the line, the following items have been proposed as candidates for elimination:

- Model 40XR and 540XR Rim Fire Match Rifles
- Backbore on Model 870-1100 Skeet Barrels
- Model 1100 standard frame 20 Gauge Skeet Gun

Marketing recognizes the merit of considering these suggestions. However, we would like to delay our response until the June meeting.

MINUTE #6 - 1978 April 20, 1978

FROM PAGE NUMBER 11

SUBJECT MODEL 40XB-BR CHAMBERED FOR 22 BR. REM. CARTRIDG

MODEL 40XB-BR CHAMBERED FOR 22 BR REM. CARTRIDGE

Research reported that their work is complete. Rifles are being produced and shipped. We suggest this item be removed from the agenda.

Committee Action:

The Operations Committee agreed to drop reporting on this item.

MINUTE #10 - 1978 June 13, 1978

FROM PAGE NO. 2

SUBJECT MODEL 40XR and MODEL 540XR RIM FIRE MATCH RIFLES

Model 40XR and Model 540XR Rim Fire Match Rifles

Marketing reported that the Chart (Exhibit 1) shows year-to-date sales for these guns. They represent our only participation in this area of rim fire shooting. Additionally, we would not pick up this business in other models if we discontinued the match line.

For 1978, we increased prices 15%. April and May's output cost report showed the M/540X line profitable on a factory basis. Our plans are to pursue this pricing strategy again in 1979. Research is looking at a possible replacement or addition to this line. We are encouraged by the initial sample.

We recommend keeping the existing specifications in the line for 1979.

MINUTE #17 - 1978 October 18, 1978

FROM PAGE NUMBER 9 & 10

SUBJECT MODEL 40XB-BR CHAMBERED FOR 6mm REM. BR CARTRIDGE

MODEL 40XB-BR CHAMBERED FOR 6mm REM. BR CARTRIDGE

Marketing reported that, based on current order experience, they recommend deleting the 40XB in the following chamberings:

- .222 Rem. Mag.
- .223 Rem.
- 6X47

They further recommended that deletion of the .222 Rem. Mag. in the 40XB BR.

Marketing further recommended, based on consumer enthusiasm for the 22 Bench Rest cartridge, a shooter tendency in the trade toward the use of 6mm cartridges, and the winning capabilities of this cartridge, that the 40XB BR be chanbered for the 6mm cartridge.

MODEL 40XB-BR - Contd.

Research reported that they are in agreement with Marketing that this rifle should be chambered for this new cartridge. It has been used to win several championships and registered NBSRA and IBS matches. It will be a good addition to the target rifle line.

Research discussed the proofing of this rifle, as no industry standards are in existence. R & D will work up specifications for hand loading proof rounds, and these specifications will be well documented.

The Chairman cautioned the Committee to be watchful of a proliferation of non-SAAMI specifications.

Committee Action:

The Operations Committee approved the deletion of the .222 Rem. Mag., .223 Rem., and the 6X47 in the Model 40XB, and the .222 Rem. Mag in the Model 40XB BR. The Operations Committee further approved the addition of the 6mm in the Model 40XB BR.

CENTER FIRE RIFLES

MODEL 788 - 7mm-08 CALIBER - Contd.

Bullets used in testing and development of this cartridge were 100 gr. Rem., 120 gr. Sierra, 125 gr. Rem., 140 gr. Sierra, 150 gr. Rem., 162 gr. Hornady, 165 gr. Rem., and 175 gr. Rem. These bullets were used in load development. The bullets were shot for accuracy in Barrels with lengths of 18½, 24, and 27 inches. The 120 gr. Sierra, shot in a Model 40XB, averaged .961" for seven (7) groups. A Model 600 with 18½ inch Barrel, and a Model 700 Varmint rifle with 24 inch Barrel, were shot for accuracy. Groups showed accuracy that was comparable to the Model 40XB results, and were felt to be more than acceptable for competition.

Production reported that tool design has been started. It is expected that trial and pilot will begin by the first of October. Rifles should be complete, ready for Research design verification testing, by the middle of November.

MODEL 700 SILHOUETTE RIFLE
(1980 Introduction)

Research reported that testing has shown that the 7mm-08 Caliber in the standard Varmint Barrel shoots as well as the longer and smaller diameter Barrels that were originally requested in the proposed model requirements. This has been discussed with Marketing, and they agree that the standard Barrel length and contour is satisfactory. Marketing has also agreed to use the standard Grip Cap and drop the proposed Grip Cap with the ram insert.

Production reported that, based on Marketing's and Research's decision to change the product definition by dropping the Grip Cap and Barrel revisions, engineering estimates will be prepared. The amount of time required to put this gun into production should be significantly shortened as a result of these changes. Production will have a schedule available at the next meeting.

Marketing reported that Research and they have reviewed model requirements for the silhouette rifle, and the following product specifications have been agreed to:

- 7mm-08 Caliber
- 24" Heavy Barrel
- Standard "Varmint Special" Stock
- Stock selected for weight

CC: R. C. Hadley
B. E. Strader
C. B. Wells
M. R. Warden
G. C. Clifford

Bridgeport, Connecticut, September 4, 1945

TO: G. E. McCORMICK
ILION

FROM: E. L. WEMPLE

SUBJECT: MODEL 721 STOCK DESIGN

We recently received from you a Model 721 bolt action rifle equipped with a 300 Magnum barrel and a stock made in accordance with the Products Committee decision on July 6, 1945. This stock has been reviewed with G. E. Pinckney and C. B. Wells.

The stock was measured and found to conform to the Products Committee recommendations except for the dimensions from the trigger to the butt plate. This dimensions was measured at 13-7/16" and it was recommended by Wells and Pinckney that this shorter dimension be continued.

Messrs. Wells and Pinckney are both of the opinion that the stock now used on the Model 513S rifle is an excellent design and this design could be applied to the Model 721. They have suggested that a stock be prepared as follows:

1. The fore-end to be the same as the sample made in accordance with the Products Committee minutes of July 6.

2. The drop dimensions to be the same as specified by the Products Committee Minutes of July 6 as follows:

   a. 1-7/8" drop at comb
   b. 2-7/8" drop at heel

3. 13-7/16" length of pull

4. The balance of the stock to be the same as the stock now used for the Model 513S rifle.

SUBJECT: MODEL 721 STOCK DESIGN

It is suggested that the stock that has been made in accordance with the Products Committee Minute of July 6 be retained for comparison with the stock requested in this letter.

R. L. Wemple
Secretary, Products Committee

RLW:MK

MINUTE # 39 - 1946 December 5, 1946

FROM PAGE NO.: 3

SUBJECT: SAFETY - M/514

MODEL 514

The Technical Department requested approval to use the current Model 510 front sight (without tinned bead) to give time for investigation of other designs for the Model 514. Also, approval was requested for rotating the Safety from "on" to "off" position by moving the thumb piece in a counterclockwise direction instead of clockwise as originally presented. In addition, approval was requested for use of the Model 514 open sight leaf on the Models 510, 511, 512, 121 and 550.

Decision:

The Products Committee approved the front sight alternate design and the change in direction of movement of Safety as described. No action by Products Committee was considered necessary on the use of the Model 514 open sight leaf on the other models.

PRODUCTS COMMITTEE STANDARDS
FOR MODELS 721 AND 722

There was a full discussion of the standards which were circulated with the program for the September meeting. While preliminary examination of these standards had been made by representatives of the Sales Department, the Production Department representatives also commented on the subject matter contained therein. It was agreed that the Arms Technical Division representatives should review these standards with the Ilion Plant Management to determine what data should be deleted therefrom and what items should be added. For example, on the 30/06 Springfield type of Model 721 "A" grade, H. K. Faulkner questioned the requirement for four coats of Browning on the barrel when only two coats are applied to barrels of the Model 512 Series of Rifles. Also, it was stated that Products Committee action should be recorded under the column marked "References" opposite each item concerning which action had been taken. For example, authority to use aluminum for the butt plate of the Model 721 was granted by the Products Committee. Therefore, the proper Products Committee Minute should be recorded opposite this item.

Decision:

The Products Committee requested that these Standards be rewritten after a consultation between representatives of the Arms Technical Division at Ilion and the Ilion Plant Management, with a view of adding Products Committee Minute references where appropriate action has been taken and delete such material as is not considered desirable for incorporation in these reference standards.

FILE: M/721
M/722
Products Committee Standards - Arms

MINUTE # 19 - 1947 December 8, 1947

FROM PAGE NO.: 1

SUBJECT: SAFETY - M/514

PRODUCTION SAMPLE MODEL 514 "A" GRADE RIFLE

In Minute #17, November 11, 1947, the Products Committee recommended to Management that a production sample of the Model 514-"A" Grade Rifle designated as P-267 be approved. In the course of handling and operating this rifle, it developed that when the safety was turned to the "off" position there was a tendency to turn the bolt which sometimes caused the opening of the bolt sufficiently to eject a cartridge. This condition did not develop at the Products Committee Meeting when the rifle was submitted for approval, nor was this deficiency in evidence at the Ilion plant, as the rifle had passed all of the inspections and tests. Apparently, there was a defection in the relationship of the bolt and safety detents. S. M. Alvis advised that this condition had not been encountered before but that an examination of other rifles indicates that there should be a greater margin of safety to overcome the possibility of a repetition of this defect. Accordingly, the countersink in the bolt detent retainer has been altered to give more positive control.

Decision:

The Products Committee reaffirms action taken at the meeting on November 11, 1947, and recommends to Management that the production sample of Model 514-"A" Grade Rifle, designated as P-267, be approved. This rifle has been altered to overcome the defect described above.

[illegible] with respect to [illegible]

ARMS DEVELOPMENT SCHEDULE

The Ilion Technical Division presented the Quarterly Arms Development Schedule. The only significant change was the addition of two columns to the Schedule to the left of the column for "Warehouse Stock" in order to provide the Products Committee and Management with a schedule for completion of product design and tooling. Some revisions in Warehouse Scheduling for 12 gauge Model 11-'48 and Sportsman-'48 and the Models 514 and 721-722 are shown.

In view of the action taken by the Products Committee in Minute #8 (Arms) 1948 in which recommendation was made that we abandon all work on the Calibers 224 and 280, it is recommended that these calibers be stricken from the Arms Development Schedule on the Models 721, 722, 742 and 762 Center Fire Rifles. Also, the announcement date of the Model 514 should be changed from 4-1-48 to 4-15-48.

Decision:

The Products Committee recommends to Management that the Arms Development Schedule incorporating the changes recommended above be approved.

FILE: Gun Development Schedule (papers) M/721
Model 11/'48 M/722
Sportsman - '48 M/742
Caliber 224 M/762
Caliber 280 M/514

MINUTE # 1 - 1949 January 20, 1949

FROM PAGE NO.: 4

SUBJECT: SAFETY - M/514

MODEL 514 "P" GRADE RIFLE

The Production Sample of Model 514 "P" Grade was submitted for approval. G.E.Pinckney questioned the position of the peep sight as it interfered somewhat with the operation of the Safety. Upon examination it was found that the Sight could be moved forward sufficiently without interference with other operating parts to facilitate operation of the Safety.

Decision:

The Products Committee approved the production sample of the Model 514 "P" Grade with the understanding that the peep sight will be moved forward as far as possible to facilitate operation of the Safety. After this change has been made in the position of the peep sight, the Production Sample will be labeled P-275 and will be shipped to Bridgeport for reference storage.

MODEL 721-722 RIFLES

(a) High Comb Stocks as Standard on the Model 722 - Caliber .222 Remington Rifle instead of the Regular Stock used with other Calibers. Based on the recommendation of G. E. Pinckney that most of the Model 722 - Caliber .222 Remington Rifles would be used with telescopic sights, the proposal of having a high comb stock as standard on the Caliber .222 appeared desirable. The actual labor and material costs for the high comb stock is about the same as that of the regular stock of standard dimensions. G. E. Pinckney explained the reasoning back of this recommendation and stated that it would not conflict with our present policy of furnishing regular stocks of standard dimensions and charging extra for the high comb stocks on other calibers.

Decision:

The Products Committee approved the recommendation that high comb stocks be supplied on the Caliber .222 Remington Rifles as standard at no extra cost.

(b) Special Stocks. S. M. Alvis reviewed the proposal of supplying special stocks to be purchased from Frank LeFever and Sons. These special stocks would be of the Monte Carlo type with cheek piece and would involve a revision of the Standards to include the adding of this type of stock. After considerable discussion it was decided that the matter should be referred to the Sales Department to work out a plan with the Production Department for the supply of these special stocks to sell at prices to give a satisfactory profit.

(c) Checkering "B" Grade Stocks. The Ilion Plant forwarded three stocks of the Model 721 type to G. E. Pinckney with suggested checkering for the "B" grade. These samples were prepared to simplify the originally approved checkering pattern. It is understood that the change in checkering will affect a saving of $3.45 per rifle in commercial costs. The sample presented for examination included the recommendations of G. E. Pinckney as contained in his memorandum of June 20, 1949 to H. K. Faulkner. S. M. Alvis is to prepare a new photograph or print showing the accepted modified checkering for the Remington Standard Book. The sample presented for approval will be marked P-280 and be forwarded to Bridgeport for Products Committee reference purposes.

Decision:

The Products Committee approved the simplified checkering pattern for Model 721 "B" grade stocks as shown on sample P-280. New photographs or prints of this "B" grade stock with the modified checkering will be prepared and distributed for use with Remington Standard Books.

(d) Stock Finishes and Checkering. There was a general review of this subject as a result of H. K. Faulkner's recommendation that consideration be given to a military oil finish for our regular Model 513-T Stocks. During this discussion it was brought out that the present "B" Grade rifles of the Model 721-722 being furnished are really "AC" grades as the wood for the stocks is not specially selected as in the case of other models and as stipulated in the Standards. It was the concensus of opinion that the "AC" grade should be added to our book of Standards for the Model 721-722 and that the "B" grade be retained but when produced the wood should be specially selected to conform with accepted practice.

With respect to the use of the military oil finish on the regular Model 513-T Stocks, G. E. Pinckney agreed there was no objection to military oil finish for parts supplied to the Government in accordance with their specifications but that our regular lacquer finish should be retained on Model 513 Stocks for commercial trade.

Decision:

The Products Committee approved a recommendation that the "AC" Grade be added to the list of grades furnished for the Models 721-722 beginning January 1, 1950.

MINUTE # 10 - 1949 July 21, 1949

FROM PAGE NO.: 5

SUBJECT: SAFETY - M/514

AVERAGE PRODUCTION SAMPLE MODEL 514-P RIFLE

At the Products Committee meeting on January 20, 1949, a production sample of the Model 514-P Grade was submitted for approval. At that time the position of the peep sight was questioned as it interfered somewhat with the operation of the safety. The Products Committee approved the production sample of the Model 514-P Grade with the understanding that the peep sight would be moved forward as far as possible to facilitate operation of the safety. A Model 514-P Grade Rifle modified as recommended was presented to the Products Committee for examination. It was agreed that the modified sample was satisfactory.

Decision:

The Products Committee approved the average production sample of the Model 514-P Grade so modified that the peep sight does not interfere with the operation of the safety. In accordance with the decision rendered in Minute #1 dated January 20, 1949, this production sample will be labeled P-275 and will be shipped to Bridgeport for reference storage.

MINUTE # 4 - 1950 January 27, 1950

FROM PAGE NO.: 6

SUBJECT: SAFETY - M/510

MODEL 510 - REMINGTON STANDARDS

Proposed Standards were distributed January 19, 1950, but certain corrections were submitted to the Products Committee as follows:-

Sheet 3 - Packing - omit reference to peep sight.
Sheet 4 - Safety - add provision for "Automatic Safe".

Decision:

The Products Committee approved the Standards distributed January 19, 1950, for the Model 510 Rifle with the corrections listed above.

MODELS 721-722

(a) DESIGN IMPROVEMENTS.

This is a new project undertaken to investigate certain design improvements to protect our competitive position. It was stated that most of the suggestions for improvement as requested by customers in the field related to targeting of this rifle and/or bedding of the barrel and receiver. In short, some customers want a target rifle whereas these models were designed for general field use to sell at a competitive price. M. Walker described changes which could be made, some of which would reduce costs and others add to appearance. Those related were as follows:

1. Strengthen the stock by change in shape and thickness of the grip to reduce cracked stocks in production and in shipping. G. E. Pinckney objected strenuously to this change as it would cause a departure from the highly acceptable stock now furnished on these models and in his opinion would be a step backward in our design. He felt that other means of reducing stock breakages should be studied, such as improved packing and a better fit between the bedding of the barrel and receiver in the stock at the shoulder to reduce the forces of impact on the wood when the rifle is fired.

2. A three-piece trigger guard was proposed of detachable type similar to that used on the old Model 720. It will be cheaper to make and the trigger guard itself will be made of aluminum whereas the other parts will be made of pressed steel as at present. No samples were available but a drawing was presented. G. E. Pinckney expressed an interest in this change and requested that a sample be made for examination.

3. New rear sight - By changing the design and utilizing a new process, a new sight can be produced at present costs but the tooling cost of $2,000 cannot be justified. Possibly this new design can be considered in connection with improvements on the rifles in the Model 500 Series to widen the distribution of the tooling cost. G. E. Pinckney liked the appearance of the new sight but stated that he would like to see it a little wider at the rear end. Experiments along these lines will be continued.

4. Due to accuracy troubles which have been encountered at times from brazing the front sight ramp onto the barrel, experiments have been made to eliminate the brazing and use a pinning method for attaching the ramp. This change shows promise and will be explored further.

OPERATIONS COMMITTEE MEETING
MINUTE #9 - 1950 - MAY 11, 1950

PAGE NOS.: 6 & 7

SUBJECT: TRIGGERS - M/500 SERIES

be provided. Since the whole discussion was of an exploratory nature, D. S. Foote recited some of the changes that could possibly be made:-

(a) Provide an automatic safe for the Model 514 only. This was considered desirable and since no additional costs were involved, authorization for this change was indicated.

(b) Provide a hooded front sight with a ramp for the front sight on each model in this Series.

(c) Provide a white line filler in the butt plate to improve appearance. G. E. Pinckney ruled out this suggestion as it has been considered many times previously and would now be considered as copying Sears Roebuck.

(d) Dove-tail the rear sight at some additional cost to be estimated.

(e) Die cast the trigger guard at an additional cost.

(f) Improve the stock shape on all models.

(g) Provide plastic inserts on the sides of the stock.

(h) Chrome plate the bolts.

(i) Provide machine checkering on a long range basis.

(j) Provide improved comb cuts.

After listening to the above suggestions, G. E. Pinckney was requested to list in order of preference the changes desired by the Sales Department.

It was agreed that the following order should prevail:-

(a) Improved stock shapes on all rifles in this Series were considered of first importance.

(b) Chrome plate all bolts - adds appreciably to appearance.

(c) A better rear sight is highly desirable.

(d) A better trigger guard and trigger are next in importance.

(e) A longer bolt handle but not as long as the one furnished on the Model 513 T, is considered desirable.

The order of study of improvements for rifles in the Model 500 Series will be in accordance with the aforesaid list.

OPERATIONS COMMITTEE MEETING
MINUTE #9 - 1950 - MAY 11, 1950

PAGE NOS.: 6 & 7

SUBJECT: TRIGGERS - M/500 SERIES

MODEL 500 SERIES IMPROVEMENTS

G. E. Pinckney has emphasized at frequent intervals the necessity for improving our Model 500 Series of Rifles to enhance our competitive position and to bring about better appearance and functioning. D. S. Foote reviewed changes that are being studied to improve various components of those rifles. G. E. Pinckney expressed preference for a stock which would taper forward along the fore-end portion but it was stated that the production of this type would involve the procurement of a new expensive machine. However, samples were exhibited of an improved front end of the fore-end which probably can be produced cheaper than the present form. G. E. Pinckney also desired that the swelling or "belly" at the bottom of the fore-end be reduced or eliminated and that a more pronounced comb cut

MINUTE # 11 - 1950 July 13, 1950

FROM PAGE NO.: 3 & 4

SUBJECT: SAFETY - M/514

MODEL 514 IMPROVEMENTS

A report on efforts to improve the Model 514 indicated that the following are being considered:

1. Chrome plated bolt, bolt handle and trigger
2. Improved trigger
3. Model 513-S trigger guard
4. Improved safety (thumb piece)
5. Automatic safety

It was estimated that it would cost 42¢ for chrome plating the bolt and bolt handle and finish with a high grade polish. By color buffing after chrome plating but without a prior polish before plating, the cost can be reduced to 26¢ but the finished components would possibly not have a sufficiently high lustre as now furnished on the Winchester rifle. The improved trigger involves an additional cost for normal year production of 2.3 cents per rifle with $2,000 required for tooling. The use of the Model 513-S trigger guard involves an additional tooling cost of $1,350 and 4.1 cents per rifle. The improved safety (thumb piece) would require $500 for tooling with increased cost of .3 cents per rifle. After an examination of the latter feature, it was thought that the direction of rotation for turning the safety "on" and "off" should be carefully checked as there is a tendency to turn the bolt toward the unlocked position when the safety is turned to the "off" position. This condition could become serious and possibly cause accidents. It is to be restudied to determine costs of revising the direction of turn so that the bolt handle will be turned downward (locked position) as the safety is turned to the "off" position. It was stated that no additional cost would be involved for the supply of an automatic safety but G. E. Pinckney felt that this feature should not be added to the Model 514 as it is a distinctive feature of the higher priced Model 510 Rifles.

If we accept the lower plating cost for the bolt handle of 26¢ and add the additional cost of the other items, we find that a total increase in the cost would be 32.7 cents per rifle with $3,850 in tooling involved. The margin of profit is now extremely low even on a forecast of 60,000 rifles per year so that it is considered highly desirable to make more intensive studies on the plating particularly as it is the feature desired immediately. By contacting plating firms which produce for the automobile trade, it is believed that a chrome plated bolt handle can be obtained for a cost approximating 10¢ each. However, there is some risk in damage to bolt heads while shipping to and from the plating plants.

The verbal discussion of this subject was considered as a progress report and the Operations Committee requested a prompt and thorough exploration of ways and means of reducing plating costs on bolts, bolt handles and triggers.

MODEL 510 SERIES IMPROVEMENTS

A Model 512 Rifle having the following improvements was presented for examination:

1. Improved stock shape
2. Model 513-S trigger guard
3. Plastic stock insert medallions with plastic butt plate filler piece in matching color
4. New rear sight
5. New front sight and ramp
6. New front sight hood
7. Chrome plated trigger

The improved stock shape will involve a tooling cost of $1,400. The adoption of the Model 513-S trigger guard will involve an additional cost of 4.5 cents per rifle during a normal year and $1,350 in tooling provided all the stocks are made common. Improvement #3 listed above was dropped from the discussion as it was not considered worthwhile. The new rear sight would be the same as proposed for the Model 721 and would involve an additional cost per rifle of 28.5 cents. The new front sight and ramp including a new front sight hood, could be supplied at an additional cost of 22.7 cents per rifle utilizing the tooling for the proposed Model 552. The chrome plated trigger was considered quite satisfactory but it was thought advisable to add the Model 513-S type of bolt handle and finish with chrome plating. As the cost of chrome plating the trigger had not been calculated and it was suggested that a plated bolt handle of the Model 513-S type be supplied, it was considered advisable to await economics on cost of the plating before taking any action. Furthermore, this particular subject was interlocked with the discussion of the improvements on the Model 514 and H. K. Faulkner requested consideration of the supply of one single shot rifle only instead of two as now furnished. Therefore, the Ilion Technical Division was requested to make an evaluation of the Model 514 with suggested improvements as a replacement for the present Models 510 and 514.

FILE: M/512 Bolt
M/552 Sight
M/721 Stock
Trigger

INFORMATIVE BULLETIN #15
October 1, 1950
Pages 1, 2, & 3
SUBJECT: TRIGGERS

MODEL 514 IMPROVEMENTS

The following letter dated September 21, 1950 was addressed to members of the Management Staff:

"In view of current and expected competition, it is the opinion of the Sales Department that improvement to the Model 514 rifle is required in order to attain annual sales volumes that are currently forecasted as follows:

1951 - 45,000 guns
Normal Year - 60,000 "

INFORMATIVE BULLETIN #15
October 1, 1950
Pages 1, 2, & 3
SUBJECT: TRIGGERS

"Improvements have been carefully considered by the Operations Committee and are proposed as follows:

"Improve the finish by ball burnishing the Bolt, Bolt Handle and Trigger.

"Increase width of finger piece on Trigger.

"Substitute the Model 513 type Trigger Guard by reshaping to fit the Model 514 stock contour.

"Add an Operating Lug to the Safety for ease of operation.

"It is the opinion of the Sales Department that, without these improvements, loss in sales volume may result, as indicated by the following sales estimates:

	Improved Guns	Present Guns
1951	45,000	40,000
Normal Year	60,000	50,000

"Based on these estimates of sales volume the economics of the proposed improvements are summarized as follows:

"Estimated Expenditure for Engineering and Tooling $ 5,000

"Gain in Net Earnings

45,000 versus 40,000 guns - 1951	$ 3,475
60,000 " 50,000 " - Normal Year	$10,000

"It is therefore the recommendation of the Arms Division of the Operations Committee that the present forecasted sales volumes be sustained by prompt adoption of the proposed improvements.

"Your approval of this recommendation is requested."

With respect to the preceding letter, the following Model 514 Improvements were approved on September 26, 1950:

Improve the finish by ball burnishing the Bolt, Bolt Handle and Trigger.

Increase width of finger piece on Trigger.

Substitute the Model 513 type Trigger Guard.

Add an Operating Lug to the Safety piece.

The improvement to the finish of the Bolt and Bolt Handle should be introduced promptly. It is the desire of Management to introduce the improvements simultaneously provided obsolescence can be confined to

reasonable limits. It is estimated that engineering and tooling for the Trigger and Trigger Guard can be completed and these improvements introduced by May 1951 without appreciable obsolescence of materials and work-in-process.

Recent oral advice from the Aluminum Company indicates that revised special formed aluminum bars for the new Safety could be available by late December 1950. However, due to possible allocations of material, this information is subject to change without notice. In raw material and work-in-process there is sufficient material on hand for a large quantity of present type Safeties - over 100,000. This resulted from the necessity of purchasing the specified minimum amount of special formed bars.

Introduction of the new Safety in May 1951, therefore, would result in obsolescence of about $1,750 worth of special formed aluminum bars.

In view of these circumstances, the timing of the introduction of the improvements to Trigger, Trigger Guard and Safety is a matter for decision by the Sales and Production Departments for the greatest advantage to the Company.

MINUTE #

INFORMATIVE BULLETIN #15
October 2, 1950

FROM PAGE NO.: 1, 2 & 3

SUBJECT: SAFETY - M/514

MODEL 514 IMPROVEMENTS

The following letter dated September 21, 1950 was addressed to members of the Management Staff:

"In view of current and expected competition, it is the opinion of the Sales Department that improvement to the Model 514 rifle is required in order to attain annual sales volumes that are currently forecasted as follows:

1951 - 45,000 guns
Normal Year - 60,000 "

"Improvements have been carefully considered by the Operations Committee and are proposed as follows:

"Improve the finish by ball burnishing the Bolt, Bolt Handle and Trigger.

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"Substitute the Model 513 type Trigger Guard by reshaping to fit the Model 514 stock contour.

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Normal Year	60,000	50,000

"Based on these estimates of sales volume the economics of the proposed improvements are summarized as follows:

"Estimated Expenditure for Engineering and Tooling $ 5,000

"Gain in Net Earnings

45,000 versus 40,000 guns - 1951	$ 3,475
60,000 " 50,000 " - Normal Year	$10,000

MINUTE #

INFORMATIVE BULLETIN #15
October 2, 1950

FROM PAGE NO.: 1, 2 & 3

SUBJECT: SAFETY - M/514

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"Your approval of this recommendation is requested."

With respect to the preceding letter, the following Model 514 Improvements were approved on September 26, 1950:

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MINUTE # 9 - 1950 May 11, 1950

FROM PAGE NO.: 6 & 7

SUBJECT: SAFETY - M/500 SERIES

(a) Provide an automatic safe for the Model 514 only. This was considered desirable and since no additional costs were involved, authorization for this change was indicated.

(b) Provide a hooded front sight with a ramp for the front sight on each model in this Series.

(c) Provide a white line filler in the butt plate to improve appearance. G. E. Pinckney ruled out this suggestion as it has been considered many times previously and would now be considered as copying Sears Roebuck.

(d) Dove-tail the rear sight at some additional cost to be estimated.

(e) Die cast the trigger guard at an additional cost.

(f) Improve the stock shape on all models.

(g) Provide plastic inserts on the sides of the stock.

(h) Chrome plate the bolts.

(i) Provide machine checkering on a long range basis.

(j) Provide improved comb cuts.

After listening to the above suggestions, G. E. Pinckney was requested to list in order of preference the changes desired by the Sales Department.

It was agreed that the following order should prevail:-

(a) Improved stock shapes on all rifles in this Series were considered of first importance.

(b) Chrome plate all bolts - adds appreciably to appearance.

(c) A better rear sight is highly desirable.

(d) A better trigger guard and trigger are next in importance.

(e) A longer bolt handle but not as long as the one furnished on the Model 513 T, is considered desirable.

The order of study of improvements for rifles in the Model 500 Series will be in accordance with the aforesaid list.

CC: C.K.Davis, M.R.Warden, W.U.Reisinger, R.H.Coleman, W.F.H.Mattlage, G.M.Calhoun, H.A.Brown, G.D.Pinckney -2, J.S.Hoffman, R.B.Howard, W.L.Clay, H.K.Faulkner -2, S.M.Alvis -2, A.J.Greene -, J.H.Lewis,Jr., D. Godfrey, G. Evans, J.J.Callahan, H.J.Hackman, A.J.Brown

COPY NO. ___

Safety
Finish
Trigger
Safety

OPERATIONS COMMITTEE - ARMS DIVISION
INFORMATIVE BULLETIN #18

SUBJECT: MODEL 514 IMPROVEMENTS

In Informative Bulletin #15, on page 2, it is stated that the improvement to the finish of the bolt and bolt handle should be introduced promptly. Further, that it is the desire of Management to introduce the remaining improvements simultaneously provided obsolescence can be confined to reasonable limits.

On page 3 of the aforesaid Bulletin it was stated that the timing of the introduction of the improvements to Trigger, Trigger Guard and Safety is a matter for decision by the Sales and Production Departments for the greatest advantage to the company. Since the above Bulletin was issued, market conditions with respect to certain materials have changed considerably so that the following decisions are issued for the guidance of all concerned:

1. Ball burnishing of the Bolt, Bolt Handle and Trigger should be introduced promptly as desired by Management.

2. It is understood that engineering and tooling for the Trigger and Trigger Guard changes will be completed and these improvements introduced by May 1951 without appreciable obsolescence of materials and work-in-process.

3. Introduction of the new Safety will be deferred until the present supply is exhausted.

This office has been informed that the Sales Department will make no announcement of these improvements on the Model 514 until the changes in the Trigger and Trigger Guard have been accomplished in May 1951.

W. L. Clay, Secretary,
Operations Committee

WLC:VPD
11/17/50

GUN FINISHES

(a) Browning

The records show customer complaints on finishes to be relatively few. For the Model 11-'48 they amounted to 2% of the total complaints received in 1950 and in the case of the Model 870 there were only 2 complaints charged to this defect. Also, at the same time, it is agreed that our finishes should be further improved, especially the Browning process which is principally used in the coloring of our metal parts.

At present a minimum of two coats are used on parts of the 500 Series, three coats on the Model 721, and four coats on shotgun parts. Mr. Kenneth Wheat recited a brief history of the Browning process and explained the studies that are being made with the help of a DuPont Consultant to determine many of the unknowns connected with this process. Formerly it was a slow process without the elaborate controls that are now available for temperature and humidity. The merits of this process were discussed in some detail in comparison with the merits of the Cyanide Black process which is covered later in these Minutes. Additional progress reports on research into the Browning process will be submitted at intervals until the study has been completed.

FILE: Finishes (papers)
Browning
Complaints
Model 11-'48
Model 870
M/500 Series
Model 721
Parts
Cyanide Black
Components

MINUTE #3 - 1952 May 8, 1952

FROM PAGE NO.: 7

SUBJECT: SAFETY

MODEL 514 IMPROVEMENTS

Various improvements to the design of the Model 514 were adopted in 1950-51; these included improvements to safety, trigger, and trigger guard. The proposed changes to the safety would have involved the scrapping of our inventory of formed aluminum stock, therefore, action on this part was postponed. The Plant reports that these changes were put into effect in 1951, with exception of the safety. In this case sufficient material is still on hand for approximately two year's supply on basis of present forecast. It was stated that the current catalog description, as well as cuts, should be revised to reflect these new improvements.

Action on the safety will, therefore, be deferred. A summary of the improvements is shown in Informative Bulletin #18, dated November 17, 1950.

MODEL 37 AX

On the bottom of page 7 of Minute #2, 1952, Arms Division, dated March 12, 1952, the words "telescope sight bases" should be changed to read "rear sight bases". Please change previous minutes accordingly.

MINUTE #4 - 1952 July 9, 1952

FROM PAGE NO.: 8

SUBJECT: SAFETY

NEW RIM FIRE DESIGNS

E. W. Hailston reported that considerable testing had been done on the M/552 which will accommodate Short Hi-Speed, Long Rifle Hi-Speed, Long and Long Rifle cartridges. The 22 Short of Standard Velocity was eliminated for use in this new design. Gail Evans stressed the necessity of simplification of types in the rim fire line and the development of new and attractive models to help maintain and improve our volume of business in this particular field. He offered Sales assistance wherever possible to aid the designers in accomplishing the aforesaid objectives which have No. 1 priority from a sales viewpoint.

In discussing the lower cost autoloader it was stated that plans were progressing along the following lines:- first, to convert a M/511 to do the desired work thus minimizing new tooling costs. Estimates of cost and functioning tests should be available in the early part of August; second, another autoloader will be prepared with features somewhat different than the M/511 but less complicated than the M/552. This design will also be ready for test by August 1; third, another rifle is being prepared to replace the M/37. This design also will be ready by August 1.

W. E. Leek pointed out there was very little change from the auto ejector type to the autoloader. If you leave out the magazine and make a few other changes on the autoloader you have an auto ejector. However, the bolt action single feed type presents many problems when box fed, therefore, it is possible that we may eventually keep the M/514 in the line.

C. W. Roney pointed out a safety feature which should not be overlooked. He stated that the Sheridan Arms Company had introduced an air rifle with an automatic safety of the push button type located on the top of the pistol grip so that in firing the gunner presses down on the safety with his thumb and then pulls the trigger. He felt this particular design should be studied with a view of utilizing it on the new rim fire rifle line.

C O P Y

W. H. Foster, Jr.
J. D. Crammond

November 4, 1959

TO: GAIL EVANS

FROM: J. D. MITCHELL

SUBJECT: FIREARMS RECOMMENDED FOR DELETION - 1960

As requested, we are listing the firearms that we propose be dropped from our line in 1960 so that this list can be presented to the Operations Committee for approval:

	Orders thru 10/23
Shotguns	
Spt.-48 - 12 and 20 Ga. Skeet	(12 Ga. -112 (20 Ga. - 64
M/870 - SC Field Specs.	- 1
Spt.-58 - SC Field Specs.	- 30
M/11-48 - with Poly Chokes	- 21
Spt.-58 - with Poly Chokes	- 96
M/870 - with Poly Chokes	-107
Rim Fire Rifles	
M/572 TWB	455
M/510 P	399
M/511 P	419
M/512 P	208
Center Fire Rifles	
M/740A and ADL - all calibers	Changed to M/742
M/760A and ADL - 222 Remington	427
M/760A and ADL - 244 Remington	303
M/760A and ADL - 35 Remington	317
M/722A 257 Remington	355

Any remaining stock of the above items in warehouse on January 1, 1960 will be listed as "Orders Subject to Stock on Hand" in our 1960 price list.

JDM/bmh
COPIED:MM
11-10-59

RIM FIRE RIFLES

MODEL 514 BEGINNER'S RIFLE

Specifications and economics relative to this item were reported in Minute No. 8-1960. Model designation will be Model 514BR.

The Sales Department forecasts 5,000 units for this item during 1961, based on a list price of $18.95. Announcement date will be January 1, 1961.

Warehouse date for this item has been set back until February, 1961, based on the vendor's inability to supply the required special butt-plate before that date.

> COMMITTEE ACTION: The Committee recommends General Management approval of the Model 514BR Beginner's Rifle for January 1, 1961 announcement, at a list price of $18.95, based on economics showing factory cost to be $11.65, and estimated expenditure to be $3,300.

MODEL 510CC CARBINE

This single shot, bolt action rim fire carbine has been approved. (Informative Bulletin No. 13-1960).

It is planned to announce this item on January 1, 1961 at a list price of $24.95.

MODEL 552C CARBINE

This autoloading rim fire carbine has been approved. (Informative Bulletin No. 13-1960).

Announcement is planned for January 1, 1961, at a list price of $54.95. No change in Model 552 forecast is anticipated.

NYLON 66 GALLERY SPECIAL

Statistical testing of this item has been initiated, and will take approximately nine days and 90,000 rounds for completion.

It was decided that this item will be furnished in standard Nylon 66 colors rather than Black with chrome-plate, since forecast volume of 1,500 will not justify special treatment.

Announcement is scheduled for May, 1961, at a list price of $65.35.

Samples will be supplied to Bridgeport for field testing and final approval of General Management.

711/725

OPERATIONS COMMITTEE

M. R. Warden
R. H. Coleman
H. K. Faulkner
H. M. Stoessel
Gail Evans
G. M. Calhoun
C. A. Nash
J. D. Crammond
Dewey Godfrey
J. S. Hoffman
N. F. Larsen
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J. D. Mitchell
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R. T. Catlin
J. K. Hamil
W. H. Foster, Jr.

MINUTE #11-1960

COPY NO.___

OPERATIONS COMMITTEE MEETING
BRIDGEPORT, CONNECTICUT
DECEMBER 20, 1960

PRESENT:

MEMBERS	OTHERS
C. A. Nash, Chairman	W. H. Barry
H. K. Faulkner	S. M. Alvis
H. M. Stoessel	R. B. Bowie
Gail Evans	D. S. Foote
G. M. Calhoun	H. J. Hackman
J. D. Crammond	M. H. Walker

FIREARMS

GENERAL

1961 ADDITIONS TO THE LINE

The status of items scheduled for addition to the line in 1961 is as follows:

MODEL 870 BRUSHMASTER - Production testing of this shotgun has been satisfactory. Warehouse stocks are now being accumulated.

MODEL 742 CARBINE - As reported in Minute No. 9-1960, this approved item is scheduled for announcement on January 1, 1961, in 30-06 Caliber only. Calibers 280 Remington and 308 Winchester will be available later in 1961, provided that functional problems arising from these calibers are solved.

At the present time, Model 742 Carbines in Caliber 30-06 have passed production testing and are being sent to warehouse stock. Research & Development is currently testing this Carbine for 280 and 308 cartridges.

MODEL 725 - CALIBERS 375 and 458 - This item will be announced January 1, 1961, with delivery date specified as March 1, 1961. Manufacturing time for these items is approximately forty-five days, inasmuch as barrels and stocks are obtained from outside vendors.

Field reports indicate very low sales volume for these calibers. It is planned to produce six Model 725 rifles in each caliber by March 1, 1961, and thereafter maintain this number in each caliber as orders are received.

It was pointed out that considerable testing will be necessary to insure satisfactory operation of the Model 725 in these calibers. Necessary gaging tools are being procured.

MODEL 510 Carbine - This item is now being warehoused.

MODEL 552 CARBINE - This item is now being warehoused.

MODEL 514 BOYS CARBINE - This item will be announced on January 1, 1961, for February, 1961 shipment. The February, 1961 shipment date is necessitated by the inability of vendors to supply the special butt plate before that date.

"BOYS CARBINE" has been selected as the nomenclature for this item. The model designation will be Model 514BC.

NYLON 66 GALLERY SPECIAL - Procurement of tooling for this item will be complete on April 1, 1961. Announcement to the trade is set for May 1, 1961, with warehousing of items on this date.

MODEL 721 CARBINE

This item is in design study status.

The Research & Development Department reports that the Plant is conducting an investigation of the economic advantages to be derived from use of the smaller Model 500 Series stock blank for this item. The possibility of reducing costs of this item by redesign of open sights is being considered. Volumes necessary to reach a breakeven point and those necessary to produce a favorable return are to be predicted.

Economic data are not yet available for Committee consideration.

MINUTE #5-1961
6-21-61

MODEL 721 CARBINE - DESIGN STUDY

The Research & Development Department has investigated the concept of providing a bolt action carbine which could be priced at the level of competitive lever action rifles. In original concept, it was planned to reduce manufacturing costs by use of Model 510 rim fire stock blanks, and lower cost sights.

The proposed Model 721 Carbine was costed out by the Plant in increments of 5, 10, 15 and 20 thousand units of added business, to determine effect on earnings. Results indicate low percentages of operative earnings for the first year, ranging from 2.8% for 5 thousand additional units, to 8.3% for 20 thousand units, on a full book economic basis.

In view of the relatively poor return and limited appeal indicated for the Model 721 Carbine, the Research and Development Department advocates a more complete departure from conventional design, as a means of increasing center fire rifle sales. One step in this direction is the bantamweight center fire bolt action carbine, defined under the XC-13 heading hereinafter.

The Sales Department proposes that further work on the Model 721 Carbine design study be terminated, in favor of continued development of the XC-13 concept. After review of a sample XC-13 rifle, the Committee accepts the Sales Department proposal.

The Model 721 Carbine design study will be dropped from the agenda.

points out that none of these models have been reviewed or forecasted as additions to the line on the schedule dates. To avoid any conflict in interpretation of the 5 year Sales Forecast, which does not include these items, it is recommended that the proposed warehouse dates be identified instead as dates of tentative availability of the subject designs.

RIM FIRE RIFLES

COST REDUCTION STUDY - SINGLE SHOT BOLT ACTION RIFLE

The Research and Development Department reports that 5 tentative designs for a low cost rim fire rifle are under consideration. Design data relative to 4 of the 5 designs has been transmitted to the Plant for costing.

At this time, the best design possibility for low cost appears to be the rolling block design reported in Minute No. 1-1962. The key to low cost in this design will be development of a satisfactory die cast receiver and frame. This component has been submitted for vendor quotation.

The Research and Development Department further reports that work relative to providing a Nylon stock for the Model 514 Bolt Action Rifle has been terminated, inasmuch as the new low cost design is intended to eliminate this model.

The Modernization Coordinator requested that the effect of this new design on Models 510, 511, 512, N-10, N-11 and N-12 be defined. Discussion indicated less than unanimous agreement as to retention of the Model 510, or the plans for further implementation of the Model N-10. It was agreed that the current 1962 forecast of 5,000 units for the Model 510 would not be changed at this time.

NYLON 76 RIM FIRE RIFLE

The Production Department reports that 661 Nylon 76 rifles have been warehoused at this date. Production schedule calls for production of 2,000 units in March, and 3,000 units in April.

The Sales Department reports 7,557 orders for the Nylon 76 to date. The 1962 forecast for this item is 20,000 units.

this low price could be provided for $160,000. They pointed out that the Model 514 project was for more than $160,000 and was justified by a volume of 90,000 guns a year compared to the 30,000 shotguns. (Subsequent to the meeting, it was established that the permanent investment for the Model 514 project at current prices and using current accounting procedures would be approximately $260,000). The Treasurer's Department questioned what the start up and design costs would be, and the time it would take to recover them. The answers to these questions will not be known until after additional effort aimed directly at them.

Due to the heavy load of higher priority work, the Committee requested that no work be done on this item for six months at which time it will be reviewed and the future course of action established.

CENTER FIRE RIFLES

M/700 BOLT ACTION RIFLE

The Production Department reported March production of 853 ADL's in a combination of calibers of 30-06 and 222. The April schedule is 2000 ADL's in a combination of all planned calibers except 280 and 308. The latter two calibers will be produced in May, completing the availability of the ADL line. The control component continues to be the stock. However, substantial progress has been made and the production rate is expected to continually improve.

Production of the BDL grade is limited by the emphasis on producing the indicated volume of ADL's to get rifles into the field. The Plant and Research and Development are also resolving a problem on shrinkage of the fore-end tip of the BDL. The shrinkage would limit the production rate if not corrected prior to running BDL stocks, and the emphasis on ADL's will allow time to do this. A sample BDL was displayed and was acceptable to the Committee except for the sling strap. The Research and Development Department will secure samples and prices of other sling straps and submit them to the Sales Department for selection and approval.

MODEL 600 "TRAILMASTER" RIFLE

The Research and Development Department reported that design of the Model 600 rifle is complete and has been released except for the vent rib, sights and stock. Design of the rib and sights is contingent upon the method of fastening the rib to the barrel. This appears to have been defined and these items will be released very shortly. The design of the stock is contingent upon selection of final stock design. An uncheckered wood stock is being evaluated against the original proposed which was Custom Checkered and had a black fore-end tip. The wood stock will be processed and costed by the Plant to determine effect on the project. This information along with

the cost to make these changes, and the factory cost of a Model 742 in caliber 243. For purposes of these estimates, the Sales Department indicated a sales forecast in the range of 1500-2000 additional rifles.

XC-6 AUTOLOADING RIFLE
XC-7 LEVER ACTION RIFLE
XC-8 SLIDE ACTION RIFLE

The Research and Development Department reported that these new firearms under development had been reviewed the previous week with the Sales Department and that no report would be made to the Committee at this time.

RIM FIRE RIFLES

LOW COST SINGLE SHOT RIM FIRE RIFLES

The Research and Development Department indicated that the preliminary economics of the low cost rolling block rifle were completed subsequent to the last meeting, indicating that its availability to replace the Model 514 would be economically attractive. Additional design and development work is underway to firm-up the information upon which this economic conclusion is based.

Artist's renderings of a modern stock version with pistol grip versus a straight stock were shown to the Committee to select the best design for a model. The Committee generally favored the modern type stock with pistol grip. It was suggested that the hammer be given a modern treatment and that generally smooth and rounded surfaces rather than sharp corners be employed.

The potential sales features of this rifle are its novelty and the safety inherent in this type action. Research and Developing is also investigating if the rifle could be adapted to the 22 Winchester Rim Fire Magnum. If so, it could be the lowest cost rifle available capable of handling this cartridge.

NYLON 10 SINGLE SHOT RIFLE

The economics were reviewed to replace the Model 510 single shot with a Nylon 10 single shot at the same selling price. The Nylon 10 would be a member of the Nylon 11 and 12 family utilizing the Nylon 11 stock and the Nylon 12 trigger guard and the basic metal parts common to both. The economics shown in the table on page 8 indicates that the Nylon 10 will provide additional operative earnings as the volume exceeds that of the Model 510.

feeding and functioning, and have a stronger type action, capable of handling high pressure loads equivalent to the Model 700. The family will also provide Remington a center fire lever action rifle capable of handling caliber 30-06.

The Chairman also asked about the economics of this family of rifles. Research replied that economics are being developed now. These will be based on conventional processing of receiver and cold forming of barrels. Comparison of receiver cost with those obtainable through development of a new receiver process may indicate the desirability of timing production of these rifles with the availability of a new receiver process.

The Committee concurred that the economics being developed as defined should be completed.

XP-100 A AUTOLOADING PISTOL

Research and Development displayed a 10 shot semi-automatic model of the XP-100 A. They reported that testing of the model, which may have good military potential, is proceeding satisfactorily.

RIM FIRE RIFLES

XR-5 LOW COST SINGLE SHOT RIM FIRE RIFLE

The Research and Development Department reported on the high spot economics of the alternatives requested by the Committee to assist in determining the style of the rolling block rifle on which model work should proceed. The conomics comparing the sale of 45,000 rolling block rifles with 28,000 Model 514 rifles, both selling at $20.95 retail, is shown in Table III attached. The alternatives considered for the rolling block rifle were: a straight, frontier type butt stock and separate fore-end; a modern type butt stock with pistol grip and grip cap and separate fore-end; a long stock per current Nylon production. Both the butt stock and fore-end of the first two alternatives would be molded in one piece without need for welding two halves together.

The economics indicate that the product cost and operative earnings on either a full book or out-of-pocket basis is better than the current Model 514. The two butt stock and fore-end alternatives are essentially the same and both are economically superior to the long stock alternative. The indicated payout period to recover the Total Project Funds Required range from two to three and one-half years as indicated.

The effect of volume and polymer material for the stock on the operative earnings and return are shown in Figure 1. The data are equally applicable to either of the two separate butt stock and fore-end alternatives. The upper curve is based on "Delrin" acetal

LIMITED DISTRIBUTION

cc: Gail Evans
F. E. Morgan
N. F. Larsen
D. E. Miller
A. J. Seckner-J. J. Philli
A. J. Brown-A. D. Kerr
File

Ilion, New York
March 19, 1963

TO: R. L. HALL

FROM: L. D. COX

SUBJECT: PROJECT AD XP-700-3
FIRST AND THIRD YEAR VOLUME

The confirms the first and third year volumes to be used for the Part 3 of the subject project. The volumes were obtained from N. F. Larsen through his discussions with Sales.

The table attached shows the project volumes. The first year will be that indicated by #2-1963 Sales Forecast. The third year will be practically the same used on the Part 3 of the Model 1100 Project. The exceptions are:

1. Total Plant Volume will be 361,115 instead of 359,115.
2. The XP-100 Pistol Volume will be 5,000 instead of 3,000.
3. The combination 5,000 Model 742's and 40,000 XC-6 will be combined as 45,000 Model 742's.
4. The 30,000 XR-5 Rolling Block will be revised to 30,000 Model 514's and no Rolling Block.
5. The Model 600 will be available beginning in 1964 in caliber 222, 308, and 35 Remington.

LDC:ms
ATTACH.

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PROJECT AD XP 700-3

ESTIMATED 1963 AND 1965 TOTAL PLANT VOLUME

MODELS	1963	1965
Shotguns		
1100* - 12 Gauge		40,000
- 16 & 20 Gauge		20,000
11-48		10,000
Sportsman 58 **	(1)	- (2)
878	(1)	- (2)
870		40,000
Total Shotguns		110,000
Center Fire Rifles		
40X - B CF		200
700		20,000
XP-100 Pistol		5,000
600 ***		15,000
742		45,000
760		15,750
Total C.F. Rifles		100,950
Rim Fire Rifles		
40X-B		620
513		1,120
514		30,000
521		925
550		10,000
552		12,000
572		9,000
N-10		7,000
N-11		12,500
N-12		15,500
N-66		36,500
N-76		15,000
Total Rim Fire Rifles		150,165
GRAND TOTAL		361,115

#2-1963 Sales Forecast

(1) Only 1963 models affected by Model 1100. Their volume if continued without Model 1100; Sportsman 58 - 20,000; Model 878 - 5,000.

(2) Only 1965 models affected by Model 1100. Their volume if continued without Model 1100; Sportsman 58 - 17,000; Model 878 - 4,000.

* Model 1100 - 80% Plain barrels, 20% Vent Ribs.

** 16 and 20 Gauge production only, in 1963.

*** To be introduced in 1964 in caliber 308, 222, and .35.

GENERAL

1964 FIREARMS LINE

The Sales Department's revised proposed plan for the 1964 firearms line is attached as Table 4. The 1963 line with volumes and selling prices are compared to the 1964 line adjusted for all anticipated changes. These changes include those outlined in Minute #16, Pages 4 and 5 plus the reintroduction of the Models 510, 511 and 512 in the wood stock version. Table 5 attached summarizes the approximate additional operative earnings expected from the 1964 line. Next year's costs are based on the 1963 #4 Production Forecast adjusted for the additional costs anticipated for KK-W and Custom Checkering applications. Approved 1964 price and volume changes have also been included.

Committee Action

The Committee approved and recommends General Management approve the 1964 line firearms line as shown in Table 4, subject to further review of final selling prices by General Management prior to the issuance of the 1964 price list.

M/600

LIMITED DISTRIBUTION

OPERATIONS COMMITTEE

ILION DIVISION

ILION
BULLETIN
#21-1963

R. H. Coleman
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H. K. Faulkner
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Gail Evans
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F. E. Morgan

R. A. Williamson
H. M. Pierce, Jr.
S. M. Alvis
D. S. Foote
C. H. Reinhard
E. B. Wallin
R. A. Morris

COPY No. _____

INFORMATIVE BULLETIN #21-1963
ILION DIVISION
OCTOBER 25, 1963

SUBJECT: APPROVAL FOR REVISIONS AND ADDITIONS TO THE FIREARMS LINE

On October 17, 1963, General Management approved the following revisions for the 1964 firearms line:

MODEL 1100 AUTOLOADING SHOTGUN

Add 16 and 20 gauge to the line.

MODEL 58 AUTOLOADING SHOTGUN - ADL GRADE

Discontinue 16 and 20 gauge.

MODEL 11-48 AUTOLOADING SHOTGUN - A and SA GRADE

Custom Checkering to replace machine checkering
12, 16, 20, 28, 410 gauges.

MODEL 700 BOLT ACTION CENTER FIRE RIFLE - ADL and BDL GRADE

RK-W Wood finish to replace lacquer wood finish.

MODEL 742 AUTOLOADING CENTER FIRE RIFLE

Replace Grade A and ADL with Grade Regular.
Replace Grade C and CDL with Grade Carbine.
Custom Checkering to replace machine checkering - Regular and Carbine Grade.
Discontinue offering Caliber .280 Remington in Carbine Grade.

MODEL 760 SLIDE ACTION CENTER FIRE RIFLE

Replace Grade A and ADL with Grade Regular.
Replace Grade C and CDL with Grade Carbine.
Custom Checkering to replace machine checkering - Regular and Carbine Grade.
Add Caliber .223 Remington in Regular Grade.
Add Caliber .35 Remington in Carbine Grade.
Discontinue offering Caliber 270 Winchester in Carbine Grade.
Discontinue offering Caliber 280 Remington in Carbine Grade.

MODEL 600 BOLT ACTION CENTER FIRE RIFLE

Add lightweight bolt action rifle to the line in Calibers .222 Remington, 308 Winchester, and 35 Remington.

MODELS N-10 A and SB Grade, N-11 A, and N-12 A

Replace 20 inch Barrel with 24 inch Barrel.

MODEL 510 BOLT ACTION SINGLE SHOT RIFLE

Add to the line with 24 inch Barrel.

MODEL 511 BOLT ACTION REPEATER (CLIP MAGAZINE)

Add to the line with 24 inch Barrel.

MODEL 512 BOLT ACTION REPEATER (TUBULAR MAGAZINE)

Add to the line with 24 inch Barrel.

MODEL 514 BOLT ACTION SINGLE SHOT RIFLE - A GRADE

Replace 20 inch Barrel with 24 inch Barrel.

All items being deleted from the line will be without obsolescence.

R.A. Morris

MINUTE #2-1964 (February, 1 964)

FROM PAGE NUMBER 12

MAJOR SUBJECT 1965 Firearms Line

SUB MAJOR (Book 600)

The following items which were discussed as possible 1965 items at the December meeting are not currently being planned for 1965:

- Model 870 - Add recoil reducing device to trap and skeet grades.
- Sportsman 58 - Dress up and re-introduce as three shot Sportsman 68
- Model 600 - Add recoil reducing device and chamber for 7mm Remington Magnum and 7.64 Remington Magnum

  Introduce a light weight rust free model in Caliber 221.
- Model 510X
  511X -
  512X Redesign stock for Monte Carlo and custom checker.
- Test market a Model 66 of laminated wood.

XR SERIES BOLT ACTION LINE - contd.

3. Monte Carlo Stock.
4. Match type Fire Control.
5. Detachable Box Magazine.
6. Increased strength by lug lockup in the rear of the Receiver which also permits feeding of rimmed calibers.
7. Shrouded rear end of the Bolt Assembly.

As far as possible, common components in the Rim Fire and Center Fire Rifles are being used. The common Fire Control is an example.

The plant has been furnished part of the preliminary drawings of the Rim Fire Rifle components. Development of accurate direct labor and material costs is essential in evaluating the lower cost rifles. Factory profit on these guns has always been marginal. The gun design must be set in order that equipment can be specified to produce the minimum direct labor and material costs. Vendor quotations are being obtained to establish firm prices for purchase blanks and parts.

In the Rim Fire review, the continuation of the Model 514 Bolt Action Rim Fire Rifle will again have to be evaluated. The plant objective is to have Rim Fire Rifle economics completed for preliminary presentation at the November meeting. Justification of the XR Series Bolt Action Line will require the combining of the Rim Fire and Center Fire Rifles.

R & D reported that development is on schedule. A request was made that Sales consider the dropping of the 221 caliber from the proposed line.

Evaluation of the Center Fire Rifles will be made by the plant when design drawings are available.

RIM FIRE RIFLES - contd.

MODELS 580 SINGLE SHOT, 581 BOX AND
582 TUBULAR BOLT ACTION RIM FIRE RIFLES - contd.

MODEL 788 CENTER FIRE BOLT ACTION RIFLES - contd.

Work by Ilion R & D on the magnum versions of rim fire rifles has been held until the combination rifle limitation and new magnum cartridge development has been coordinated. Ilion R & D is working closely with Bridgeport R & D. Several cartridge variations are being studied. It is probable that the new magnum rim fire cartridge will be a 5mm caliber. This smaller bore may cause Barrel manufacturing problems. It is indicated that the final recommendations for the magnum cartridge should be resolved in approximately six weeks.

In previous presentations, R & D had recommended the use of birch for the magnum rifle Stocks. The recommendation was made that walnut be used for all Stocks. The use of birch might be considered for possibly the Model 514 if the walnut Stock blank price increases making the use of birch an economic necessity.

The plant reported that processing, tooling and special machine design was progressing as scheduled. Standard and special machine procurement is being expedited.

Committee Action

The Committee approved the use of walnut for all rifles.

HAND GUNS

ALP 22 Caliber Hand Gun

Marketing reviewed the proposed R & D design of a 22 caliber hand gun. In view of the proposed gun legislation now pending and the advisability of Remington entering the hand gun field, Marketing recommended deferring any action at the present time.

Committee Action

The Committee recommends that R & D hold all consideration of the proposed hand gun for the present.

RIM FIRE RIFLES - contd.

Models 510, 511, 512 Bolt Action Rim Fire Rifles

The Models 510, 511 and 512 are being discontinued in 1966. Due to the number of years these models have been in production, recommendation was made that Ilion provide spare parts for a ten year period.

Canadian manufacture of rim fire rifles has imposed a 22½% tariff on imports. As a result, Remington Arms of Canada, Ltd. is proposing the manufacture of a rolling block design rim fire rifle. In addition, if sufficient equipment can be released by Ilion, the manufacture of the Models 510, 511 and 512 should be considered for Canada. The release of equipment by Ilion depends on the schedules for the replacement of Models 513 Target and 521 Target rifles. Replacements are scheduled for 1968 or 1969.

RIM FIRE RIFLES - contd.

Models 510, 511, 512 Bolt Action Rim Fire Rifles - contd.

Committee Action:

A study is to be made of the Ilion equipment that could be transferred to Canada.

METAL FINISHES

The receipt of the equipment for finishing Model 870 and 1100 Barrels and Receivers was delayed. The equipment was received September 12. Installation should be completed and limited production started in October.

As soon as pilot operations are set up, Marketing is to set the finish standards.

The draft of the Part II of the project has been revised and will be held until satisfactory pilot operation has been accomplished. It is believed the project can be submitted to the Board in December.

The vendor for the ultrasonic cleaning equipment to reduce bleed-out of component joints and powder metal parts did not ship as scheduled. The latest promise is shipment September 15. All preliminary work has been done so the unit can be installed as soon as received.

WOOD

Blanks

As previously reported, the Ilion plant purchased a pilot quantity of pecan Stock blanks which have now been processed as Model 514 Stocks. The scrap loss was greater than either walnut or birch. The Methods & Standards calculation of the factory costs for the Model 514 of walnut, birch and pecan are as follows:

MINUTE #2 - 1967 January 1967

FROM PAGE NO.: 8

SUBJECT: RIM FIRE TARGET RIFLE
MODEL 40XC

RIM FIRE TARGET RIFLE

Bridgeport R & D has been reviewing the original prototype of a rim fire target rifle using the Model 580 action. Based on field comments on the Model 40XC rifle and other recommendations, R & D is to prepare a new prototype for review with Government Sales and Marketing.

The program is aimed at providing acceptable replacements for the Models 513T and 521T.

MINUTE #4 - 1967 FEBRUARY

FROM PAGE NUMBER 8 & 9

SUBJECT MODEL 580 SERIES
MODEL 788
MODEL 510
MODEL 600
MODEL 660
MODEL 700

General

Marketing reported that field acceptance of the Model 580 Series rim fire and Model 788 center fire rifles has been very good. The only concern is the price of Model 580 single shot rifles.

The need of an automatic safety feature similar to the Model 510 was not sufficient to make any change in the design at present.

Committee Action:

Marketing is to determine for the rim fire and center fire rifles the Front Sight design to be used.

Safety markings are to be added to the Model 788 center fire rifle. R & D is to determine where safety markings can be added to Model 600 (660) and 700 center fire rifles.

The Operations Committee approved the Model 581 Magazine Box rim fire production sample rifle appearance with the Front Sight design being subject to Marketing review. Upon satisfactory completion of R & D function and endurance testing of ten (10) rifles, Management will be requested to authorize invoice shipment.

NOTE: February 28, Marketing requested the removal of the bead from the rim fire and center fire Front Sight.

RIM FIRE RIFLES - contd.

MODEL 580 SINGLE SHOT, 581 BOX &
582 TUBULAR RIM FIRE RIFLES
MODEL 590 SINGLE SHOT, 591 BOX &
592 TUBULAR 5MM CALIBER RIFLES
MODEL 788 CENTER FIRE RIFLE - contd.

Model 788 Bolt Action Center Fire Rifle - contd.

Field Assembly of the Bolt into the Receiver

A design change was made to the Receiver to improve the assembly of the Bolt in the Receiver. Tooling should be available in June. This change also requires a revision to the instruction folder.

Model 788 Left Hand Bolt Center Fire Rifle

The proposed Arms Development Schedule indicated 1969 for the introduction of Left Hand Bolt Rifles. The introduction in 1968 was recommended. The decision depends on the extent of the change from the right hand model. If a mirror image change is specified, these would be more extensive than if only a relocation of the Bolt Handle in the Receiver is required.

Committee Action:

Marketing and R & D are to resolve the specifications for the Model 788 Left Hand Bolt Action Center Fire Rifle. A review is then to be made of the introduction date.

RIM FIRE TARGET RIFLES

Replacement target rifles for the Models 521T and 513T must meet commercial and military sales requirements. Preliminary reviews have been made with representatives from each division.

WOOD - contd.

Finishes - contd.

Committee Action:

The Committee approved the change to the lacquer finish.

Reporting on wood finishes will be dropped by the Committee.

Blanks

Costs of four (4) types of wood (walnut, birch, mahogany and sycamore) were evaluated for the Model 514, 580 Series and 788 rifles (Exhibit 7). The previously approved samples of the Model 514 birch and mahogany Stocks and the recently processed sycamore, all with walnut finish, were reviewed by the Committee. Sample Model 580 and 788 rifles with mahogany Stocks (walnut finish) were also shown. R & D indicated that any of the woods would be satisfactory for the Model 580 and 590 Series rifles. Tests indicate mahogany has adequate strength for the Model 788 rifles.

Sycamore is now being marketed under the trade name of "Am-Wal" by the American Walnut Company.

The economics as shown indicate that at present sycamore produces the lowest cost for the Model 514 and mahogany for the other rifles. Based on supply and demand, prices of the blanks vary. Approval was therefore requested to allow the plant to use any of the four woods which will produce the lowest end cost.

The catalog description of the Model 788 states "American Walnut Stock." Marketing proposes to change the description in 1968 to omit reference to walnut. A price increase of $5.00 is also proposed for 1968. At present, Marketing would prefer to continue the use of walnut through 1968.

WOOD - contd.

Blanks - contd.

Committee Action:

The Committee approved the use of any of the four woods which produces the lowest end cost for the Model 514 and Model 580 and 590 Series rifles. General Management approval is to be requested.

Marketing should again consider the use of wood other than walnut for 1968.

The meeting adjourned at 2:45 p.m. The next meeting is scheduled to be at Ilion June 15, 1967 at 10:00 a.m.

VGD:I
Attached: Exhibits 1 - 7

MINUTE #11 - 1967 JUNE 1967

FROM PAGE NUMBER 9 & 10

SUBJECT WOOD - M/514 Stock
M/788 Stock

WOOD

Blanks

Marketing reviewed the possibility of using a substitute wood for the Model 788 Center Fire Rifle. It was indicated that sycamore would be acceptable based on the wood strength and the appearance of the Model 514 Stock sample. Marketing requested that a sample Model 788 sycamore Stock be prepared for review.

Committee Action:

The committee approved the use of walnut or sycamore for the Model 788 in 1968. Management approval is to be requested to use the wood that will produce the lowest finished cost. The request will be made after Marketing approves the sycamore sample.