Section I

Deficiency: Prior Sear-Block Safety Design

Part II

"A major stumbling block has developed..." Pre Model 700

Exhibit A

Arms Minute 3, 1956

CENTER FIRE RIFLES

1. MODEL 722 - 222 TARGET RIFLE

In a preliminary survey, Sales was unable to develop sufficient interest to indicate a substantial market for such a rifle. They pointed out that, in order to develop the full potential of such a rifle, it would be necessary to bring out a match grade of ammunition. It was agreed to drop this item.

2. MODEL 725

As a result of the subcommittee meeting, there has been some change in the thinking of the Sales Department with regard to the Model 725. It is now suggested that the Model 725ADL might be introduced at $124.45 with a cast aluminum trigger guard, checkering, colored bolt handle, hinged floor plate, and sling swivels. The barrel length would be 22 inches except in the 222, 244, and 300 Magnum, in which it would be 24 inches.

A list price of $94.95 was suggested for the Model 725A, which would have the features of the Model 725ADL, except that it would retain the stamped trigger guard and bright bolt, and would have no checkering. This grade would be available in all calibers except 300 H&H Magnum, which would be available only in grades ADL and higher. All grades of the Model 725 would have the new stock design with common sight line and a longer fore-end with more taper.

A major stumbling block has developed in the safety design, which is considered inadequate in the Models 721 and 722. Research and Development reported that redesign of the safety might involve a number of other design changes, and that it would be necessary to review the complete design.

In view of the importance attached by Sales to the improvement in the safety, Research and Development was asked to review the design and to meet again with the subcommittee following this review, in an attempt to establish which features will be offered in the various grades.

As soon as possible, costs will be provided to N. F. Larsen in order that he may determine selling prices which will give proper return. In the light of these revised selling prices, Sales will reconsider the forecast and make recommendations concerning the disposition of the Model 725 and the retention or abandonment of the Models 721 and 722.

28 and 410 Gauges
Evaluations Requested

Proposal No.	M/11-48	Sportsman-58	M/870

CENTER FIRE RIFLES

MODEL 721 - TARGET GRADES

Sales has decided to defer any recommendations on this item until the program on the Model 725 is established.

MODEL 725

Although Research and Development work is not completed on the revised safety recently requested by Sales, sufficient progress has been made to permit presentation of a model for general design features. The proposed safety is of the type used on the Enfield rifle with a relatively long throw. However, it has a feature not available in the Enfield safety in that, with the indicator halfway between the safe and fire positions, the bolt can be unlocked for unloading the gun with the safety still in operation. Both the general design and this particular feature were considered acceptable by Sales. Final approval cannot be given, of course, until design work is completed and samples are submitted for evaluation and approval.

The Ilion Plant is obtaining vendor quotations on all of the model drawings which have been released for estimating. It is anticipated that all of these quotations will be received by August, after which an economic evaluation will be prepared. There was considerable discussion of the probable outcome of this evaluation, since it now appears improbable that this gun will show an adequate return at the expected selling price. This arises not only from the extensive changes required to incorporate the new style safety, but more particularly from the requirement of hand checkering on the long stock. It was pointed out that Machine Development has several times considered the possibility of developing a machine to perform this operation, but it has never been

MODEL 870

28 and 410 Gauges

CENTER FIRE RIFLES

MODELS 721 and 722 MATCH RIFLE

The Sales Department reports that there is renewed interest in the possibility of producing a match rifle in the 308 and 30/06 calibers. They will prepare tentative specifications and sales estimates for consideration by Research and Development.

MODEL 725

The Ilion Plant now has determined that start-up costs on the Model 725 would be approximately $200,000. With this information, the required economic study can now be prepared. The Treasurer's Department is uncertain how soon this can be available.

The Treasurer's Department is proceeding on the assumption that the Model 725 should be introduced in grades A, ADL, and BDL. Sales felt that the new guns should be in grades ADL and BDL only, and that the Models 721 and 722 should be retained as the A grade. However, discussion brought out that this apparent difference was essentially only a difference in terminology since Sales feels that the Models 721 and 722 should be modified to incorporate some of the more important features of the Model 725 (i.e., the revised safety). The revised Models 721 and 722 would thus be substantially identical with the proposed Model 725A. The Treasurer's Department will therefore proceed with the economic evaluation as planned, and will advise the committee when it is available.

MODEL 740

280 Remington

cc: D.E. Miller

Ilion, New York
December 9, 1957

E. B. WALLEN

While in Bridgeport Friday, Mr. Warden asked us to let him know about what it would cost to supply the M/721 & 722 with the new safety such as on M/725, together with M/725 style of hinged floor plate. Obviously this would involve the complete M/725 trigger guard casting and magazine latch, etc.. Also, for the safety, it would involve adding a clearance cut in the grip of the stock.

My guess to him was that it would amount to about $5 more to be added to the retail price, but told him would have you check and advise him more definitely. How far off am I?

S. M. Alvis, Manager
Ilion Research Division

SMA:T

1295001726

THREE POSITION SAFETY LOCK

Safe "S"

(Fig. 1)

Cock rifle then rotate safety lock thumbpiece fully rearward to "S" mark on receiver. Bolt is *locked closed* in this position and bolt handle cannot be raised.

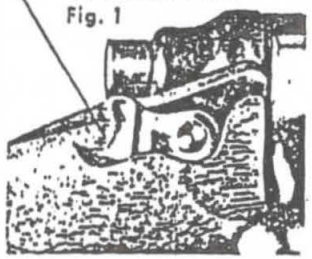


Fig. 1

Unlock Position

(Fig. 2)

Rotate the safety lock thumbpiece to UNLOCK position between "S" and "F" (no mark). Bolt handle can then be raised and the bolt unlocked.

NOTE: Rifle *cannot be fired* when safety thumbpiece is set for unlock position.

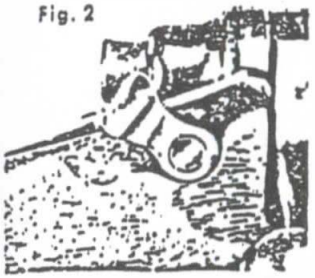


Fig. 2

Fire "F"

(Fig. 3)

Rotate the safety lock thumbpiece fully forward to "F" mark on receiver.

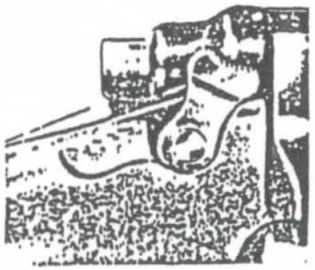


Fig. 3

SIGHT ADJUSTMENTS

OPEN SIGHTS

The sights on the Remington 725 are targeted at 100 yards and carefully adjusted at the factory.

For *Windage Adjustment* the rear sight eyepiece may be moved to the left by turning the windage screw clockwise. By turning the windage screw counter clockwise the rear sight eyepiece may be moved to the right.

NOTE: The windage screw is located beneath the eyepiece.

For *elevation or range* adjustment the rear sight may be raised or lowered by adjusting the notched sight step beneath the rear sight eyepiece.

TELESCOPE or RECEIVER SIGHTS

The all-purpose stock on the Remington 725 is adapted for use with telescope or receiver sights as well as gun factory sights. The location and design of the rear sight holes are standard for most target telescope mounts. If rear sight is removed for receiver sighting clearance, the rear sight barrel screw holes may be filled with the receiver plug screws.

Shoot REMINGTON or PETERS Ammunition for best results

The Remington 725 is calibered for high power center fire cartridges, and designed to deliver quality performance for your shooting pleasure.

A full choice of bullet weights and styles is available. Choose the cartridge best suited to your particular hunting needs.

Remington DUPONT

Remington 725 DELUXE

Bolt Action

High Power

REPEATING RIFLE

DUPONT

Instruction Fold

REMINGTON - CONFIDENTIAL

cc: G. M. Calhoun - Dpt.
D. Godfrey "
G. Evans "
J. D. Crammond "
W. H. Foster, Jr. "
D. E. Miller - Ilion
H. J. Hackman "
S. M. Alvis/W. E. Leek

Ilion, New York
September 8, 1960

D. MITCHELL
RIDGEPORT

BOLT ACTION CENTER FIRE RIFLE LINE

A meeting was held with Sales and R&D in Bridgeport on August 17th to [illegible]re program for the Bolt Action Center Fire.

The general feeling was that our present line is too complicated (number of [illegible] etc.) for present day sales volume. A volume twice present sales could support fifteen (15) different warehouse combinations, six (6) of these [illegible]d by a deluxe line including two (2) different rifles and six (6) calibers [illegible] or portion of the parts not interchangeable with the standard line.

It is also apparent that our rifles do not compete favorably with foreign [illegible] in appearance. Research personnel feel that a single model, [illegible] two rifles with the standard calibers and with some custom type [illegible]ld be more competitive.

In order to accomplish this the following changes were recommended:

1. Improve appearance of stock by adding a Monte Carlo cheek piece, [illegible] cuts, checkering, fore-end tip and grip cap. Make the shape of the stock more toward the custom type with close grip, slim fore-end, and light weight.

2. Move the safety from along side of receiver to the bolt plug. This will eliminate a large portion of the present dimensional tolerances causing either too hard or too easy safety operation. This will also improve the appearance by eliminating the ugly unfinished stock cuts for the present safety.

3. Improve the receiver shape at the rear by shaping the tang more like the Springfield, giving better and slimmer stock shape and also room to operate the bolt plug safety in the same plane as the present M/725.

AL 0026676

DON'T SAY IT—WRITE IT

cc: Gail Evans
G.M. Calhoun

To M. H. WALKER

Date June 23, 1961

From J. M. ALVIS

RECEIVED

JUN 27 1961

G. M. CALHOUN

MODEL 700 - NEW BOLT ACTION C.F. RIFLE

I talked with Gail Evans regarding the sample which he took back with him after the Operations Committee Meeting on June 21st. Opinions were generally favorable as relates to the new safety; however, he still needs to clear several more individuals. And anticipates asking that we consider reducing the height of the finger piece by about one third. I told him that perhaps we could still do this and at the same time go ahead and release the safety stamping, which probably involves a longer time for tooling.

As to the stock, he desires to allow the approval as to dimensions to stand as per action at the Operations Committee Meeting. This included agreement by Sales that we should not take off so much wood from the side of the stock to clear all of the known receiver sights to extent that the structure is weakened. Gail also made an observation that if possible they would like to see us not have so much clearance in the slot which is provided for the safety lever. He thought this was too much of an opening for chips and dirt to get into the action. I told him that I would check on this and let him know if could be done within limitations of the wood machining process.

Also suggested that the sample rifle might be sent back by J.D. Mitchell and W.H. Foster if they are coming here next week. If not, there will also be an opportunity to send it back by the way of C.D. Hunt, who is to come to Ilion the first week in July.

After the above conversation with Gail Evans we had a later call from W.H. Foster asking the following:

1. That we consider providing the knurl on both the top and bottom of the bolt handle as done by Weatherby.
2. That our sample seems to have a safety which makes a distinct and audible "click" when moved to the OFF SAFE position. It is thought this may cause complaints from the "still" hunters.
3. The "mid-point" position as provided on the M/725 safe is thought to be a desirable feature and is not provided on the M/700 safe.
4. The drop of the comb on the stock of the sample was found to be too high for several Sales personnel including J.D. Mitchell.

It was agreed we would check these and call back. The stock is actually a compromise to accommodate both the scopes and

RECEIVED
JUN 28 1961
J. D. CRAMMOND

THERE IS A SAFE WAY; DO IT THAT WAY

the iron sights. The design and sample have been made to slightly favor the drop dimensions for scopes which we believe covers most of the shooters. The sample is presently fitted with iron sights only. Therefore we do not recommend changing design, and until we can get approval it is necessary to continue to hold up building the masters controlling the stock shaping and checkering.

SMA:T

S. M. Alvis
Ilion Research Division

RD-69 REV. 6-58

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

cc: Gail Evans
J.D.Mitchell
C.A.Nash
J.D.Crammond

CONFIDENTIAL

Bridgeport, Conn.
June 27, 1961

S. M. ALVIS
ILION

MODEL 700 BOLT ACTION CENTER FIRE RIFLE

Confirming our phone conversation, following are Sales Department comments on the sample Model 700 rifle recently sent to Bridgeport:

1. Cutaway of wood by the safety appears too large and might be a dirt catcher.
2. Safety has noticeable click when released.
3. 3-position safety would be preferable.
4. Suggest knurling on bottom as well as top of bolt handle.
5. 50% of people trying gun find stock is too straight.
6. Sample had tool marks on trigger guard.

W.H.Foster
Firearms, Ammunition,
Traps & Targets Marketing

WHF:lk

AL 0032046

ARMS

RESEARCH DEPARTMENT PRESENTATION - 1974

Our Arms presentation today involves a combination of product improvement and future development in all areas except rim fire. It is aimed toward an ever increasing program of improvement in product safety, functional performance, endurance and appearance. As we proceed with the presentation you will be exposed to a series of alternatives and recommendations.

Bolt Action - Center Fire (Walker)

M/700
- Product Safety
- 3 position safety
- Appearance
- Other calibers

M/788
- Product Safety
- Bolt handle and firing pin head
- Appearance

Recommendations:

Custom Firearms Development
Mion Research Division

June 14, 1974

MODEL 700

Sear

Porosity in our powder metal sear is causing large excursions in coefficient of friction. The result of trigger pulls as high as 7 to 10 pounds is that shooters will attempt to adjust the trigger and get themselves in trouble with firing pin follow down. Some so-called competent gunsmiths produce the same results. We are seriously considering changing back to wrought material and sealing the trigger adjustments permanently.

3-Position Safety

With three lawsuits ~~pending chargeable~~ to poor gun handling on a 788, a 721 and a 700, we are, and have been, working on a 3-position safety lever for the 700. This will allow loading and unloading with the safety lever in the "on" position at all times. Many 3-position safety levers such as the Winchester 70, the '03 Springfield, and the 98 Mauser, will not allow moving the safety lever to the "on" position with the bolt open.

Enclosed ~~Bolt Head~~

There is still some doubt that we can develop a system which will improve the safety of the 700. Nevertheless efforts in this direction are being exerted. Some testing of designs, which in addition improve the lock time, has been done. The same proposal applies to the 40XB and 40XR.

New Calibers

Since there are no calibers, at least currently, that could improve the volume on the 700, our recommendation would be to consider the 6x47 bench rest cartridge or an African cartridge such as the .458 - .416. Either of these would have some prestige value and would get Remington's name before the shooting public.

Appearance

Appearance changes just introduced should be sufficient for some time.

PLAINTIFF'S EXHIBIT 3073

AL 0022822

1 of 1

EXHIBIT 16

PRODUCT DEFICIENCIES (KNOWN OR SUSPECTED) 1975

Remington 3200 -

Model 1100 -

Model 1100 and 870

Model 742 -

Model 700 - three position safety would be desirable.

Model 788 - bolt handle breakage.

REM 0028214

REM 0027621

EXHIBIT 16

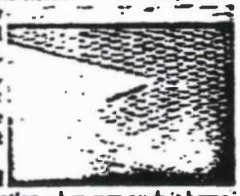
One of a continuing series. **Remington Reports**

When a rifle's as good as the Model 700, why improve it?

Great performance. Great looks. They've made the Remington Model 700 America's best-selling bolt action center fire rifle.

It's why so many experienced hunters would not rely on anything else.

And now we've improved the Model 700 five important ways. Introducing our new stock. First and foremost, you'll really be proud of the 700 BDL with its deep, sharp checkering, cut 20 lines to the inch. And it wraps all the way around the fuller, deeper fore-end to fit your palm better.



And a redesigned anti-bind bolt that prevents drag or hesitation when you push it home. We moved the bolt handle forward, too, just enough to make it miss your forefinger on recoil.

A new rear sight. Easier to adjust for elevation and windage. Easier to read because of the highly visible graduated markings. Easier to detach when you're ready to mount a scope.

We've put more grip in the pistol grip by making it slimmer at the wrist and fuller at the grip cap. To give you greater comfort and control.

Followed by a brand-new follower. This one's tough stainless steel. It's a more expensive process, but it pays off in smooth, smooth operation.

Other new features: the butt plate (it now has four screws to eliminate any chance of warping), in magnum calibers a new presentation-type recoil pad and a checkered grip cap now make the 700 BDL a better than ever gun to buy.

And don't overlook the existing features which helped make the Model 700 America's best-selling bolt action center fire rifle.

The strength of its bolt action is unsurpassed. The famous three rings of steel action remain the heart of this great gun. When loaded, the cartridge head is completely surrounded by three rings of solid steel—the bolt head, the barrel and the receiver. There are no extractor cuts to weaken this critical area.

The 700 is so accurate its design was used as the basis for the Remington 40-XB Bench Rest competition rifle.

The choice is yours... the handsomely crafted 700 BDL Custom Deluxe or the 700 ADL Deluxe. The BDL, with its precision-contoured Monte Carlo stock protected by DuPont's tough RK-W finish, black fore-end tip and white line spacers, hinged floor plate, jeweled bolt and sling strap with quick-release swivels, starts at $189.95*. The ADL, with Monte Carlo stock, skip-line checkering, and DuPont RK-W wood finish, is priced from $164.95*.

Caliber selection for the Model 700 is almost unlimited... a caliber for every kind of hunting, from varmints to elephants.

To get the best performance from your Model 700, it makes sense to use the ammunition that was made for it. Remington "Core-Lokt" or "Power-Lokt" cartridges pack the stopping power you need when one shot makes the difference.

For more information on the complete line of Remington products, write for our free 1974 full-color catalog. Send a postcard to: Remington Arms Company, Inc., Dept. 477, Bridgeport, Conn. 06602.

MODEL 700 CALIBERS

CALIBERS	700 ADL	700 BDL	700 "VARMINT SPECIAL"
22-250 Rem.	X	X	X
222 Rem.	X	X	X
223 Rem.			X
25-06 Rem.	X	X	X
6mm Rem.	X	X	X
243 Win.	X	X	X
270 Win.	X	X	
30-06	X	X	
308 Win.	X	X	
7mm Rem. Mag.	X	X	
264 Win. Mag.		X	
300 Win. Mag.		X	
375 H&H Mag.		X	
458 Win. Mag.		X	

†Left-hand model available

Remington. DUPONT

Great guns deserve great ammunition. We make both.

*Suggested retail prices, subject to change without notice. "Remington," "Power-Lokt" and "Core-Lokt" are trademarks registered in the U. S. Patent Office.

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

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 $ .056 for each rifle.

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

By: John Polivka

JP/mc

8½ x 11 — 6 columns
With description column

MODELS 700 - 40XC -40XR 3-POSITION SAFETY

		M/700		M/40XC-40XR	
		PRESENT 2-POSITION	PROPOSED 3-POSITION	PRESENT 2-POSITION	PROPOSED 3-POSITION
STD. LABOR		99,251	101,889	340,980	343,618
VARIANCE	10%	9,925	10,189	34,098	34,362
TOTAL STD. LABOR		109,176	112,078	375,078	377,980
IND. REL	41%	44,762	45,952	153,782	154,972
DIRECT EXPENSE		1,044	1,106	3,380	3,442
ALLOCATED BURDEN	9.8%	10,699	10,984	36,758	37,042
MFG. OVERHEAD	16.3%	17,796	18,269	61,138	61,611
SUB TOTAL		183,477	188,389	630,136	635,047
PLANT OVERHEAD	12%	22,017	22,607	75,616	76,206
INV. ADJUSTMENT	1%	1,835	1,884	6,301	6,350
TOTAL COST/C		207,329	212,880	712,053	717,603
COST INCREASE PER UNIT FULL BOOK			.056		.056

RD-5565
Rev.:10-10-67
1-12-71

ESTIMATE #_____
ESTIMATED SAVINGS & RETURN ON INVESTMENT

M/700 -40XC -40XR 3 - POSITION SAFETY

	PRESENT 2-POSITION SAFETY	PROPOSED 3-POSITION SAFETY		
Forecast Year	2 - 1975			
Quantity Forecast	105620			
OPERATING COSTS				
Purchased Parts	$	$	$	$
Raw Material				
Standard Labor	109640	112430		
Labor Variance @ 10%	10960	11240		
Industrial Relations @ 41 %	49450	50700		
Supplies	650	670		
Tool Replacement	200	230		
Cutter Grind				
Tool Maintenance	40	70		
Maintenance	250	250		
Electricity				
Equipment Depreciation @				
Franchise Tax @				
	$ 171190	$ 175590	$	$
SAVINGS IN OPERATING COST	LOSS	($ 4400)		$
Less: All other expense:				
All Other_____%; Federal Tax_____%		$		$
NET SAVINGS		$		$
INVESTMENT				
Project expenditures		$		$
Manufacturing and working facilities				
Net change in working capital				
Total capital required for this project		$		$
RETURN ON INVESTMENT - THIS PROJECT		%		
NET SAVINGS - After Amortization of Operation Charges		$		$
Project Operation Charges		$ 25600		$
Less: Federal Tax_____%		$		$
Total capital required including research and development and other charges		$		$
Return on total capital required		%		
Equipment to be released				
Increased space requirements (Decrease)				
Production capacity				
Forecast burdening		%		

Engineer: [signature]