

Ilion, New York
March 22, 1966

S. M. ALVIS

FORECAST RESEARCH EXPENSE

New Products - Firearms

B 0250 Over & Under Autoloader & Pump

During the year 1966 it is planned to investigate the possibility of re-inventing the Model 32 and the double barreled side by side Parker for feasibility of producing these items by tape controlled machining processes. Unless the volume becomes exceedingly high these processes should be applicable to this particular type of item. It is also envisioned that modern processes and methods be used to the fullest extent but always keeping the highest quality of product uppermost in the design and manufacture.

B 0300 M/670 - 1100 Shotgun - 28 & 410 Ga.

These are already listed on the Development Schedule.

C 0150 Center Fire Bolt Action Rifle

Also listed on the Development Schedule.

C 0550 Future Center Fire Rifles

This is reviewed below on other items.

C 0650 Bolt Action Front Lock-Up

This development is a continuation of the original XR-XC Series multiple lug system which utilizes the process of the Torrington swage to produce accurate locking splines for surfaces within the receiver along with a very smooth surface finish. Progress this far indicates that double locking system similar to the M/700 can be accomplished on this process. It is planned that this front lock-up system will be the forerunner of a new line of center fire bolt action rifles which will incorporate numerous advanced technology, included later in this discussion. These items are to be incorporated into the new model at various intervals over the next 10 years.

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C 0700 Bantam 223 Cal. C.F. Rifle

This is an investigation to determine if a heat treated receiver identical in dimensions with the 580 Series RF multiple lug system will be adequately strong to accommodate the 223 Cal. CF cartridge. If this investigation is successful an extremely light center fire rifle incorporating the new 223 military cartridge will be available.

D 0100 R.F. Bolt Action Rifle

Listed in the Development Schedule.

D 0250 New Target Rifle - Bolt Action

Listed in the Development Schedule

D 0350 Packers & Campers Model

This rifle was conceived to provide an extremely low cost combination of break action system between the barrel and receiver, and accommodate a single shot and box fed autoloading mechanism. It is believed that the basic system can be made lower priced than the M/514 bolt action rifle.

D 0400 5mm RF Autoloader and Slide

This combination is presently under development and it is planned both models will have appearance of the forerunner M/6600. It will incorporate the new formed type receiver with nylon insert for a guidance system accommodating the reciprocating mechanism. A new innovation of an unlock initiated by the protrusion of the base of the rim of the shell is necessary to cause unlocking of the action.

E 0550 Pellet Type GunE 0700 Bolt Action - Left Hand

Both listed in the Development Schedule.

Rim Fire Autoloader and Slide

It is planned that this will be a takeoff and companion model to the 5mm RF Autoloader and Slide mechanism, and will be re-initiated when practical to make the parts of both models interchangeable. It is planned that these rifles will have similar appearance to the M/6600..

Center Fire - Pump and Autoloader

A replacement will eventually be needed for the M/742-760 Autoloader - Pump Rifles now in existence. It is envisioned that these rifles will incorporate the features that will be discussed later and planned to introduce into the new front lock-up bolt action series.

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Center Fire - Bolt Action Front Lock-Up Series

To include fluted barrels, rotary box magazines, high grade, left hand as well as right hand, tapered bore, formed stock, electrical ignition, the details of which are discussed as follows.

The fluted barrel will involve flutes running parallel to the axis of the bore. It is believed that the stability and accuracy of a heavy barrel, the OD of which would be the same as the OD of the fluted barrel, would exist, but be much lighter. These investigations will have to be developed as soon as proper accuracy measuring equipment is available. It is planned that this product can be produced by the Torrington swaging method.

The tapered bore, which is a process adaptable to the GPM barrel making machine, will allow unheard of velocities to be developed into center fire rifles. This principle utilizes the system where one starts with a large case capacity and large bullet diameter, will fold and resize itself into a smaller dimension as it progresses down the barrel. Upon exit from the muzzle extremely high velocities should be obtained.

A formed stock, processed of laminated walnut, is envisioned for the future stock for center fire rifles. This is necessary to accommodate internally devices which will aid in recoil reduction and power packs for providing sources of energy for electrical ignition.

A rotary box magazine has always been known to be the most positive of all functional types of magazine for center fire rifles. A detachable box is also considered a desirable characteristic. It is planned to incorporate these two features of rotary box magazine into the future bolt action rifle.

Exploratory ResearchA 0400 Investigation of ORV Equipment

Basic investigation of the Off the Road Vehicle program will include all of the existing items of this type that are available, plus investigation of various types of power plants needed for propelling such a vehicle.

A marketing analysis indicates that there is a demand for a high quality off the road vehicle which will traverse most all types of terrain, water and snow. Basic concepts and specifications are being formulated and it has been agreed by Marketing and Research that such an item must be small enough to fit into a standard station wagon, powerful enough to traverse adverse terrain conditions and up slopes to include 45 degrees, reliable to the extent of being safe to transport two individuals into rough backwoods country, and possibly to have facilities for adding various

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types of accessories such as mowing attachments, snow blowers, power generators, plows, power takeoffs, winches, and the like. These items being secondary to the main objective of providing a pleasure type vehicle. An objective cost of \$1,000 retail for such an item has been set.

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