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Subject: September Monthly Report

MODEL 522 VIPER

The Model 522 Viper has completed and passed the Design Acceptance Testing.

The rifle's design has been turned over to the plant and they are currently making components and assembling rifles for Trial and Pilot. Upon the plant building 200 trial and pilot rifles, Research will select 30 for testing. After successful testing of these 30 rifles, full scale production will begin.

To date, 5 M/522 were shipped to Wal-Mart for their evaluation. Six other rifles are in the process of being selected for the writers seminar in October.

5R Rifling

Process has begun making 20 varmint M/700 with 5R rifling in 2 calibers (10 30-06; 10 .308 cal). These are scheduled for completion by the end of October (they have been delayed due to other plant priorities). Testing will then commence and be comprised of accuracy and endurance testing.

M/541 Heavy Barrel

A drawing package of the design changes has been transmitted. A prototype rifle has also been completed in the custom shop and is currently out for catalog photography.

M/11-87 Sporting Clays Fore-end Fit

Production and marketing have requested design to enhance the rear fit of the M/11-87 Sporting Clays fore end with the front of the receiver. Current fore ends "rattle" at the back end and have an objectionable amount of movement in Marketing's estimation.

Design has proposed three possible corrective actions:

1. Alter the process to cut the receiver clearance cut at the rear of the fore end as the last operation to improve its dimensional variability and to hold mean figure. This will enhance the fit of the fore end side to side.
2. Taper the bottom radius of the receiver to remove the clearance between the receiver and the rear portion of the fore end. This will eliminate most of the up/down movement.
3. Add a stamped component which slips over the magazine tube and prevents the fore end from moving both vertically and side to side.

All three approaches are being prototyped. Receivers with the new bottom radius have been received and are an improvement, but not a total solution. Fore ends with the rear receiver clearance cut have been received and are in the tool room for alteration. They will be complete in December.

Lastly, the Test Lab has been given 5 fore end collars and three M/11-87 Sporting Clays guns for endurance testing. These guns were turned over to the Lab on July 24 and are currently in test. These are the results to date:

| Sample | Ammo used | Assembled | Total Rds. | Status |
|--------|-------------|-----------|------------|--------|
| No. 1 | Field/3"mag | backwards | 500 | broken |
| No. 2 | Field/3"mag | backwards | 1000 | broken |
| No. 3 | Field/3"mag | correctly | 1500 | broken |
| No. 4 | Target | correctly | 4000 | ok |
| No. 5 | Target | correctly | 7000 | ok |

11-87 Product Improvement

Work has been initiated to develop a lower cost and improved endurance life gas system for the Model 11-87. Efforts revolve around two major approaches:

1. An investigation and redesign of the current 2 piece steel piston and piston seal to utilize a higher strength steel or a change to the slot dimension of the current design.
2. The design of a stamped "heat shield" stainless steel piston and synthetic plastic piston seal to reduce cost and improve endurance life.

The Test Lab has been given 10 M/11-87 Premiers to evaluate both approaches. These guns were submitted to the Test Lab July 24 and are currently in test.

NCS

To date only some preliminary discussions have taken place between Firearms Research, Ammunition Research, and Marketing on what the performance criteria and specifications for this new family line of shotguns should be. A meeting needs to be scheduled soon between the various interested parties to iron out objectives and scheduling.

Low Cost Centerfire Rifle

Currently, this program is envisioned as a M/700 ADL style derivative product with a synthetic stock. Custom Shop has been asked to make 2 prototypes and the plant has been asked for a no-turn barrel prototype to go with one of the custom shop rifles.

Low Cost Rimfire Rifle

Currently, this program is envisioned as a replacement for the M/581 and to be in keeping with the M/522 Viper. This program is currently in the feasibility phase to see if it is worth pursuing.