

FIREARMS

Model 1100 Improvements

The three major improvement items, interlocked connector/disconnector, carrier latch retainer, and new feed latch retention designs, are being tested.

Carrier latch retainers for 3" Magnum guns are being gallery tested in lots of 50. Forty guns passed the gallery test and were warehoused. Six were rejected for unrelated reasons and four were rejected for "failure to lock open" malfunction. Additional lots of 50 will be tested as they become available from the fire control assembly area.

An improved feed latch design which uses spring loading to secure the assembly is being tested in an LT-20 which is now approaching 3,000 rounds. The same latch was previously dry cycled 50,000 cycles. The latch remains securely attached during assembly and disassembly of the gun.

Six interlocked connector/disconnector systems (1100, 870, 742, 760, 552, 572) are being dry cycle tested. One disconnector (870) failed at 40,000 cycles.

A DCR has been transmitted to change the direction of blanking on the carrier latch latching slot. This will eliminate burrs on the latching surface and is intended to reduce "hang up in the rear" malfunctions.

Model 1100A

Five hundred 2-3/4" Magnum loads were shot in the A2 version in order to test the new energy absorbing buffer. The buffer performed well - 70% reduction in rebound velocity - however, it was no longer serviceable after 500 rounds due to extensive surface crazing. The buffer has been redesigned to provide more volume for expansion under load. It will be retested before the end of the month.

All work on the A3 version is on schedule to permit assembly of prototype guns in April.

Research Department

-2-

January, 1978

M/742-760 New Generation

Bolt velocities have been measured on a M/742 NG prototype chambered for 25-06 Rem. using both carbine and standard length barrels. Results were excellent and the condition of fired cases was good (no bent rims from excessive extractor pull). The 25-06 Rem. and the 270 Win. are candidates for new chamberings in the M/742 NG.

A test was performed to determine the cause of an "extremely hard unlock" malfunction reported on a field test gun. The malfunction could be duplicated with snow in the action and a subsequent melt/freeze cycle. However, the problem was more severe in a Browning BAR and a production M/742 that were used for experimental controls. Further investigation of this problem will be undertaken after receipt of trial and pilot guns.

Model 3200

Nothing new to report.

Model 870 Competition Trap

Marketing has furnished a report on their initial testing of the M/870 Competition Trap gun compared to the Perazzi Single, Winchester M/12, and the Browning BT99. The overall rating of our Competition Trap gun was second only to the shooter's own gun.

Endurance testing is in progress with approximately 20,400 rounds to date on one gun. The gas seal on this gun is blown out every 500 to 1,500 rounds. To overcome this a second gun was tested with the gas seal removed and the piston area increased. The velocity and shoulder forces were similar. This gun has had 2,500 rounds in the endurance testing to date.

A third gun failed after approximately 172 rounds due to a poor braze joint between the gas cylinder and the barrel. The gun was removed from endurance testing after it was repaired and failed again due to poor brazing.

The retaining screw that holds the fore end to the sleeve has failed several times. Redesign is in progress.

Research Department

-3-

January, 1978

Nylon 66 Improvements

Nothing new to report.

Nylon 66 New Generation

A wooden mockup of this gun using a round barrel and radiused receiver (versus the previously shown hexagonal shapes) is being made in the Model Shop.

A drawing of the hex shaped stamped receiver has been sent to our vendor. He indicated that there should be no major problems in manufacturing this part.

A final stock drawing for Superfill injection molding is 90% complete.

Model 600 Carbine Styling

Six prototype Model 600 Carbine rifles have been fabricated with a variety of design and styling improvements. Two more prototypes are being made, one incorporating the M/700 fire control and bolt handle on the M/600 action in a new stock. The other will be a M/700 short action in a carbine style stock. These two guns will be complete in March.

Model 541 - 22 Hornet

Design of the bolt head, bolt body and firing pin have been completed. Prints are in the Model Shop. Design is now being concentrated on the receiver and stock to attach a recoil lug behind the magazine box opening. The lug will be internally threaded so that a second stock retaining screw can be used. The lug may also be used as a magazine guide. Completion of the single shot prototype model is scheduled for March.

Bench Rest Bullets

Approximately 43,000 , 6mm 68 gr. bench rest bullets will be shipped to the warehouse this month. Most operations of the bullet production are running well. Minor problems are still being encountered in the jacket cut-off

A cost reduction study by the Industrial Engineering Section has begun.

Research Department

-4-

January, 1978