

## FIREARMS

### Model 1100 Improvements

Although the interlocked connector/disconnector exhibited a higher breakage rate in dry cycle testing than the standard systems, the difference does not appear statistically significant. Live fire testing will begin when Test Lab priorities permit.

300 feed latches with the spring loaded retention design have been received from the vendor. A lot of 50 has been turned over to Production for gallery testing.

### Model 1100 Weighted LT-20, 28 and 410 Ga. Skeet Guns

A complete set of guns has been transferred to Marketing for shooting tests. Results are expected by June 2, 1978.

During endurance testing the LT-20 receiver had two cracks at 25,000 rounds. Subsequent strain gauge testing with and without the weight verified that inclusion of the weight has no significant effect on stress levels in the problem areas.

Further Research testing will not be done until Marketing approves the present design (weight and center of gravity matched to the 12 Ga.), or makes a recommendation to alter the specifications -- possibly matching weight and c.g. to the .410 Ga. which is the heaviest of the small gauge guns.

### Model 1100 Waterfowl Guns

All drawings and specifications for the 12 Ga. and LT-20 versions have been transmitted to the Plant. Introduction of these guns is scheduled for January, 1979.

### XSG

The first A3 prototype is ready for specification check and preliminary shooting tests. This will be done subject to Test Lab priorities.

Research Department

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May, 1978

A back-up design for the feeding system is being developed.

Additional prototypes are being assembled.

#### Model 870 All Ga. Wood Cosmetics

A market research study was performed on six different checkering patterns. A design was selected and we are awaiting return of the guns before starting drawing work.

#### Model 3200 Skeet Set

No Research activity.

#### Nylon 66 Improvements

Prototypes for the short type barrel mounted scope mount have been received from the Model Shop. This mount offers better appearance and considerably more rigidity than earlier stamped mounts. Prototypes were of machined steel construction which is too costly. Investment casting costs were also too high. We are currently investigating ferrous powder metal and aluminum die casting fabrication.

We will revert to a manual push-pull actuation for the bolt lock device. Two problems remain to be solved. In our original shooting tests we experienced failure of the operating handle. New material (Du Pont Zytel ST-801) has been received and should correct this. Also, the position detent for the handle has to be made more positive to prevent the handle from coming out when the lock is disengaged.

#### Models 7400 - 7600

We have begun testing Production trial and pilot guns. The first phase will involve ten guns which are fitted with the revised design firing pin, retractor spring, hammer and breech bolt with rotated extractor position.

Layout work to improve magazine box performance, reliability and cost is still in progress.

Research Department

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May, 1978

#### Model 870 Competition Trap

Blowup tests have to be completed. If results are satisfactory, drawings can be transmitted by the end of May. Work is proceeding on evaluation of Marketing's field test results.

#### Model 600 Carbine Styling

Marketing has nine rifles with various designs that are to be used for a focus panel.

#### Model 541 - 22 Hornet

A single-shot model will be assembled and proofed by the end of May.

A parts list and set of drawings is being sent to Process Engineering for a high-spot cost estimate. This is being done to investigate additional costs that may be required because of the design changes made to the present M/541 components.

#### Model 700 Fire Control

A new trigger has been completed. Model Shop work on the sear safety cam will be done by June 2.

#### Process Research

##### Centerfire Rivetless Extractors

No "short run" stamping vendors were willing to quote on supplying us with a large test quantity of prototype extractors. Therefore, equipment for making them "in house" is being investigated.

Two variations of extractors, with .026 and .020 spring arms, were tested up to 3000 rounds in M/700 - Cal. 30-06 rifles with no failures.

Research Department

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May, 1978

Dies for reforming current extractors into "magnum" and "small" caliber rivetless extractors are being manufactured. M/700 "magnum" and "small" caliber bolt heads will be machined to accept these. Testing should begin in mid-July.

Discussions are continuing with vendors who can supply the equipment for full "in house" production of rivetless extractors.

#### Bench Rest Bullets

Approximately 62,000 6mm 68 gr. bench rest bullets have been shipped to the warehouse.

A cost reduction program on the 6mm bullet job has been implemented. Direct labor, machine downtime and preliminary operations are being studied.

Research Department

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May, 1978