

**LIMITED DISTRIBUTION**

ILION RESEARCH DIVISION

MONTHLY PROGRESS REPORT

OCTOBER

1978

FIREARMS

MODEL 1100 WEIGHTED LT-20, 28 and 410 Ga. SKEET SETS

Completed prototypes of the big bore 20 based set and .410 based set have been sent to Marketing for their evaluation.

Preliminary testing indicates that the present skeet sets can give the LT-20, 28 and 410 Ga. guns the weight and balance of either the standard 20 Ga. or 410 Ga. skeet guns.

Complete testing on one of these sets will be initiated once Marketing indicates which set they wish to see developed.

XSG

The first model of the XSG is near completion. New component parts are now being heat treated and final fitted into the model gun. The one piece piston in the design is fixed integral with the inertia bar assembly.

A new stainless, floating, symmetrical, double ended, one piece piston has been designed and is currently being made in the Model Shop. The design will alleviate the alignment and straightening problems encountered in our current design piston-inertia bar assembly. Also, a stainless steel magazine tube and gas cylinder is being designed to eliminate rust and corrosion problems of the gas system.

The new magazine spring retainer, magazine cap detenting component parts are completed and will be tested on a standard M/1100 prior to installation on the XSG.

*Remington Arms Company, Inc.*

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MODEL 3200 SKEET SETS

Preliminary testing of the first Trial and Pilot sets is complete. Bird breaking ability on skeet targets was found to be excellent. Stock drops and point of impact were within specification on all sets. Bottom barrel firing pin indents ran below specification although "fail to fire" malfunctions were not experienced. We are reviewing firing pin indents with Ammunition Research personnel, to correlate with 12 Ga. results. During shooting, some "shell slips by ejector" malfunctions were seen, especially on the 28 and 410 Ga. barrels. New barrel sets are to be evaluated using a below min. chamber specification.

One gun is being selected for a 20,000 round endurance test.

Thirty additional sets have been put up and are waiting for wood, and test and inspection operations.

Seventy seven (77) luggage type hard cases have been received from the vendor.

MODELS 7400-7600

Of the fifteen 7400 rifles slated for testing, twelve have been field functioned. Tests involved all three calibers, 30-06, 243 and 308, in all available loads. Test results are being evaluated and a test summary will be released soon. The carbines in these calibers have not yet been tested.

Twenty four of the new 7400 magazines have been processed through production. The vendor has promised followers by the end of October. When all parts are available, magazines will be assembled and tested.

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NYLON 66 IMPROVEMENTS

Three partially completed bolt handles with and without steel inserts are being heat environmental tested to determine the cause of the "creep" or bending problem which occurred during testing of the first set of handles. After one week in the heat chamber, the handle without the steel insert is showing slight bending of the shaft, while the other two show no signs of bending. At the completion of this test an endurance test will be shot using these handles.

Barrel mounted scope mount depicting both aluminum casting and powder metal designs will be started the first week in November.

MODEL 1100 and 870 IMPROVEMENTS

The assembly tool for the modified latches has been made with satisfactory results. 150 latches have been received from the vendor and are in the process of being heat treated. We expect to try these latches the last week in October.

One hundred fifty (150) carriers of thicker material are in heat treat. We would expect to have these put into fire controls by the end of October.

Testing of the spot welded M/870 fore end tubes was resumed 10-23-78.

MODEL 870 COMPETITION TRAP

The latest drawings for this model are being furnished to Process Engineering as required. Research is having parts made for assembling an A and B grade model to the latest design. Process Engineering will have economics ready for Marketing by next month.

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MODEL 870 COMPETITION TRAP Continued

A target trigger is back in the Test Lab. It was found that the left connector was binding, causing the fail to connect. A clearance cut has been made in the trigger housing to keep the connector from binding. Other solutions are being investigated.

MODEL 700 - 600 FIRE CONTROL

New fire controls adjustable for pounds pull, fixed trigger and sear engagement, and fixed trigger overtravel are in the Test Lab.

Test Lab models will be ready by November 15 of bolt locks that will allow the rifle to be unloaded with the safety in the "ON SAFE" position.

MODEL 6600

Inspection of parts, assembly and testing of prototypes should take place by mid-December, with shooting tests following in January.

MODEL 600 CARBINE

Marketing has reviewed the 9 models prepared by Research. We are now in the process of reducing the number of rifles and consolidating features in preparation for a focus panel. One new stock will be made in walnut.

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MODEL 788

Cosmetics

Marketing has approved a stock design. Measurements are being taken to make a drawing. Two actions have been assembled for Marketing's review.

22 Hornet

A magazine box design has been completed and sent to our vendor for time and costs required to fabricate. Work has started on a receiver and barrel chambered for this caliber.

30-30 Caliber

The parts list and some drawings needing updating have been completed and are being furnished to Process Engineering for cost estimates to add this caliber to the line.

MECHANICAL TRAP

Production is obtaining quotes on parts to produce the hand cocked model. A final draft of the manual has been received and is being circulated for approvals from Legal, Marketing and Field Service.

BENCH REST BULLETS

Approximately 62,000 6mm benchrest bullets have been shipped to the warehouse.

New labor and material standards have been established by Industrial Engineering to update increased material and direct labor costs.

Fixed costs have been re-evaluated and adjustments made to allocated space and depreciation charges. Equipment and floor space not utilized for 6mm bullet manufacturing have been reallocated.

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PROCESS RESEARCH

ASEA Manipulator

Our unit is now operational and several programming tests have been run. It appears to be more accurate and have more strength than specified. A standard gripping mechanism, received with the machine, will be fixed up to run some loading tests during November. A simulated loading of the Ajax upsetter will be tried. Sweden has modified the receiver gripper and are requesting that we try it out. It does not appear too substantial. Apparently production is unhappy with the Devine automatic polishing machines as they produce too many repairs. If we could obtain one or both of these, some preliminary polishing tests could be run, prior to ordering production type equipment. A visit will be made to Norton Polishing Belt Plant on October 30 to review the necessary parameters for automatic polishing.

Barrel Drill Line

Two lots of assembly prints have been received from the vendor. The floor plans have produced many questions and the vendor will be visited November 1 and 2 to finalize the floor plan. The prospective chip system vendor will also be present so that this can be finalized as it must be ordered during November, so it can be installed during April-May 1979.

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PROCESS RESEARCH Continued

Rivetless Centerfire Extractor

Quotes have been received from H&P on the small and magnum sizes:

|        | <u>Current Price</u> | <u>New Quote</u> |
|--------|----------------------|------------------|
| Small  | .71                  | .13              |
| Magnum | .73                  | .13              |

He is expected to requote on the regular size to reflect the latest slight dimensional changes. Prototype samples of all three could be obtained in 3 months.

CBWorkman:T  
10-26-78