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F. H. Lacey

ILION RESEARCH DIVISION
MONTHLY PROGRESS REPORT

APRIL 1978

MODEL 1100 IMPROVEMENTS

Analysis of dry cycle test on interlocked disconnecter - left connector will be complete the first week in May. Parts for live fire endurance test are being heat treated and test should start in mid-May.

Feed latches with a spring loaded retention design have worked well in testing. A method for assembling these latches into the receiver is being devised. A sample run of 300 parts has been started by the vendor.

MODEL 1100 WEIGHTED LT-20, 28 & 410

All design, drawing and model making work is complete except for the 410 magazine spring retainer. Live fire testing on one LT-20 and one 28 Ga. gun is under way. The LT-20 is at 6,000 rounds and the 28 Ga. is at 3,500. No problems have been experienced yet.

MODEL 1100 WATERFOWL GUNS

All drawings for the 12 Ga. version of this gun will be transmitted by 4-28-78. The 20 Ga. design will be complete by mid-May.

XSG

The first prototype XSG-A3 is nearly complete. Two parts are still in heat treat.

Total gun weight turned out to be 7 lb. 4.5 oz. for a vent rib 26" field gun and 7 lb. 0.5 oz. for the plain barrel version.

Remington Arms Company, Inc.

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MODEL 870 ALL GA. WOOD COSMETICS

Six new checkering patterns have been designed and executed and turned over to Marketing for a market research study.

MODELS 7400 - 7600

Research has produced two new firing pin designs. To solve the primer blanking problem tip diameter was reduced to .049 on one design and .055 on the other, the firing pin spring was redesigned to absorb 50% less energy (and thus increase firing pin inertia) and the exit hole in breech bolts was radiused by a metal removal technique instead of a punch. Tip strength was increased by shortening the tip to approximately half of its former length in order to reduce the cantilever effect.

Testing is now under way on these designs. Both have so far sustained 130 proof rounds each with no blanking or breakage. The proof ammunition being used is the highest pressure of all lots available (77 C.U.P.). Standard 742s proofed in the Plant gallery with this ammunition show a 5% blanking rate (5 of 100 guns monitored). Endurance testing on two additional guns is also complete. One pin went 4489 rounds and the other 3498 rounds. No tips or bodies were broken. The failure was at the "hat" section at the rear of the pin. This is considered to be an excellent failure mode since it does not present a safety problem upon failure. Indent on closing was checked after failure and was 0.0 on both guns. Indent on closing with the pin intact was 0.00 (no discernible mark under 40x magnification) and indent level on firing was increased

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MODELS 7400 - 7600 Continued

approximately .004, which now puts us within Remington specs.

After conclusion of endurance testing we will reach a decision as to which tip design to use, .049 or .055. The .055 tip has an advantage in that it should be slightly stronger but the .049 tip gives more leeway for out of tolerance parts.

Parts for additional testing including firing pins, spring and breech bolts are now being fabricated.

NYLON 66 IMPROVEMENTS

Problems have been experienced by our stamping vendor in forming the receiver cover to accept the new bolt lock device. Alternative methods are being evaluated.

Two new designs for a barrel mounted scope mount have been completed. One is of stamped construction and the other will be either machined or investment cast. Both designs are being evaluated for cost.

MODEL 870 COMPETITION

One gun has had 50,000 rounds of endurance testing with satisfactory results. Four guns have been furnished to Marketing for field testing.

MODEL 600 CARBINE STYLING

Nine rifles with various styles and one current M/600 were furnished to Marketing for panel tests.

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MODEL 541 - 22 HORNET

All the parts for a single shot rifle are ready except a bolt head. It requires a milling cut because of a redesign of the ejector. The model should be assembled the first week in May.

MODEL 700

Three prototype bolt lock systems have been assembled on rifles. They have been delivered to Marketing for comment and for a panel group test.

A new trigger and sear safety cam are being completed in the Model Shop. They will be ready by the end of April.

BENCH REST BULLETS

Fifty two thousand, 6mm - 68 gr. bench rest bullets have been shipped to the warehouse.

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4-26-78