

**ILION RESEARCH DIVISION**

**MONTHLY REPORT**

**APRIL 1963**

**FIREARMS**

**MODEL 1100 - SHOTGUN**

**12 Gauge**

Some difficulty in production with fails to blow back has been virtually eliminated by splitting the piston, which does an effective job of sealing the gas system around the magazine tube. Reject rate caused by this malfunction has been drastically reduced.

**3" Magnum**

Proper orifice dimension in combination with the new split piston has been established and released to production. The most efficient combination of ammunition to be used in the 3" Magnum is the spread from the short magnum to the 3 - 1 7/8 load. The 3" Magnum is not required to accommodate the 3 3/4 - 1 1/4 express load.

**16 & 20 Gauge**

A model utilizing production parts for each gauge has been assembled and is in test. These models accommodate the paper shells, but some difficulty has been encountered in failures to blow back with the plastic loads. Investigation is under way to determine the cause.

**MODEL 870**

The first model of a recoil reduced mechanism is being designed and constructed and planned for test this month.

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**MODEL 760 - LEVER ACTION**

Cost evaluations and design of this model are continuing and an investigation to develop a new trigger plate of aluminum is under way. This process will also apply to the lever for this model.

**MODEL 800**

There is no design activity at present; however, an alteration has been made to the rib mold to accommodate the changes in contour of the barrel, and parts are being molded. It is felt that any changes necessary to the mold can be accommodated before production is ready for this model.

**MODEL XP-100 PISTOL**

An experimental model of this pistol utilizing 75ST alloy for the receiver is being tested. This material is adequately strong and reduces the weight by approximately one pound.

**MODEL XP-100A**

Re-investigation is under way to evaluate lighter weight materials and better processing together with lower cost before a redesign is initiated.

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**RIM FIRE PROGRAM**

The investigation is continuing with emphasis on reducing cost of the M/514.

We expect to hear from a Weyerhaeuser Company within a month as to their product cost for the stock for this model.

The longer range design investigation for other models is continuing. It is believed a more concrete program will be established before the next Operations Committee meeting.

**PLASTICS RESEARCH**

Main effort on this work is to establish processes on parts for the molds that have been recently acquired from the vendor. In addition, experimental work has been started to include wood finishes and pressed forming of stocks.