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ILION RESEARCH DIVISION

MONTHLY PROGRESS REPORT

JULY 1978

MODEL 1100 IMPROVEMENTS

Various methods were tried to provide better feed latch retention with the spring retained design. The .400 inch width (.050 spring load) has worked out the best through standard Plant assembly procedures. Ten (10) of this type have been tried and worked well. Fifty (50) M/870 latches with the .400 inch width for both right and left latch will be run through assembly.

MODEL 1100 WEIGHTED LT-20, 28 and 410 Skeet Guns

All calculations, design and drawing work are complete for the two additional designs requested by Marketing (weight and C.G. matched to large frame 20 and the 410). Both new designs are of all steel construction. Drawings have been sent to the Model Shop. Due date for components has not yet been determined.

MODEL 1100 WATERFOWL GUNS

No Research activity.

XSG

New gas system and locking system components are in the Model Shop.

Experimental elastomer O-rings have been received from an outside vendor. This vendor has been working under contract to us in an effort to improve the longevity and high temperature performance of the O-ring.

Remington Arms Company, Inc.
Ilion Research Division

XSG Continued

The two experimental pistons of Du Pont Vespel SP-1 which failed mechanically during testing have been sent to Du Pont for their evaluation. Per their recommendation a different formulation will be tried.

Preliminary high pressure tests have been performed. An XSG with two barrels was tested as was an 870 used for control purposes. Since the 870 is stronger than the 1100 due to receiver differences, an 1100 will also be shot. Five loads were used, from a measured 29,000 p.s.i. to an extrapolated 50,000+p.s.i. (35, 40, 45, 50 and 55 grains of 700X powder). The 870 showed a barrel bulge at 45 grains and the XSG at 55 grains. Three (3) 870 receivers were damaged (45, 50 and 55 grain loads) and replaced in order to continue testing. The XSG receiver was bulged at the 55 grain level at which time the test was stopped. Also at the 55 grain level the XSG broke a carrier off, blew out the extractor and blew off the fore end. The XSG gas system was left operational for the test.

Future analysis and testing is planned in this area. The results so far are very encouraging.

MODEL 870 ALL GAUGE WOOD COSMETICS

All drawing work is nearing completion for all gauges. Checking and transmittal remain to be done and should be complete by the end of August.

MODEL 3200 SKEET SET

No Research activity.

NYLON 66 IMPROVEMENTS

Two guns complete with the bolt lock and barrel mounted scope mount have been transferred to the Test Lab. These guns will be shot for accuracy and endurance (10,000 rounds each).

Further information is not yet available on scope mount costs.

MODELS 7400-7600

Three improvements have been identified which substantially improve malfunction rates on the 7400. They are longer ejection port, a stronger ejector spring and deletion of the buffer. Fifteen guns, three of each available caliber, will be altered to these conditions and tested for function.

The two endurance guns with a .062 simple corner radius on the barrel extension have gone to 10,000 rounds each with no problems being seen. This change will be transmitted to the Plant upon completion of necessary drawing work.

Two guns with the max/min firing pin condition were shot 7,073 and 5,360 rounds respectively with no damage to the firing pins. A third gun had broken a tip at 2,520 rounds (rather than the previously reported 2,000 rounds). This test is in addition to previously reported dry cycle work in which no pins were broken.

870 COMPETITION TRAP

A list from Production shows a schedule for transmittal dates from September 1, 1978 to January 1, 1979.

Target trigger models are ready for test and will be delivered to the Test Lab this week.

7mm-06 REM.

Drawings were transmitted to the Plant per approval of Operations Committee Minutes of June 13.

MECHANICAL TRAP

Drawings were transmitted to the Plant for hand cocked version per Operations Committee Minutes of June 13.

The solenoid release versions in field test should be returned in September.

MODEL 788 - 22 Hornet

Design work has been started on adding this caliber to the M/788 Rifle.

MODEL 700 FIRE CONTROL

The new sear safety cams are being chrome plated. They will then be assembled into complete fire controls, ready for testing by the first week of August. Additional parts are being made and should be ready by the last week of August. They are needed to give the Test Lab a larger test sample.

BENCH REST BULLETS

Approximately 45,000 6mm Bench Rest bullets have been shipped to the warehouse.

Direct labor has been reduced. Production operations are being run by one man with expected production quantity of 50,000 bullets/month anticipated.

An air supply filter system has been installed to remove oil, water, etc. from the line. As a result, core seat operation problems appear to be alleviated.

PROCESS RESEARCH

Centerfire Rivetless Extractors

Purchasing is still negotiating with the vendor to arrive at some contractual compromise so that work can proceed with procuring trial rivetless extractors for testing.

CBW:T
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