

TELEX 3-6-78

DON'T SAY IT—WRITE IT

To E. F. BARRETT

DATE March 3, 1978

FROM C. B. WORKMAN

LIMITED DISTRIBUTION

NOTES FOR MANAGEMENT STAFF MEETING ✓

Model 1100 Improvements

The preliminary test of the spring loaded feed latch retention design was successful. We will determine the maximum spring load that will allow easy assembly before proceeding with further tests of a final design.

Dry cycle tests of the interlocked connector/disconnector system are complete for all six models. Testing of experimental control samples has been delayed because of Test Lab priorities.

Drawing work on the weighted and balanced small gauge skeet guns is ✓ 60% complete. After completion of drawing work we will fabricate ten (10) prototypes per gauge. Transmittal of drawings to the Model Shop will start next week.

Further lots of fire controls with carrier latch retainers are scheduled to go through the Plant Gallery next week.

XSG (Formerly 1100-A) ✓

A 12-20 burst test was run on an XSG version (A2) using integral base wad, 2 3/4 in. magnum, Winchester ammunition. The 12-20 combination was shot twice in the same barrel, producing .027 in. expansion at the 4 1/2 inch position and starting a crack on the right side. The diameter of the barrel at the critical 4 1/2 inch position was found to be .020 undersize before the start of the test. The test will be repeated with a properly dimensioned barrel.

Fabrication work for XSG-3 (A3) prototypes is on schedule.

M/742-760 New Generation ✓

As previously reported, Trial and Pilot guns were breaking firing pins at a low number of rounds. Variables associated with this problem are: firing pin dimensions, surface finish, heat treat and shot peening, breech bolt internal dimensions, retaining pin location, and breech face chamfer. Significant



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M/742-760 New Generation Continued

dimensional or specification problems were found with all variables except for firing pin dimensions. (Firing pins were selected through 100% inspection and only the good ones were used.) Firing pins in both finished and cold headed blank form were sectioned and showed no discontinuities or unusual metallurgy. Microscopic examination of firing pins revealed tool marks in the critical (failure) area and improper shot peening. Research prototype pins were shot peened by an outside vendor and Trial and Pilot pins were shot peened by Remington. The Remington peening operation was of insufficient intensity to leave a residual compressive stress on the surface of the pin. A small batch of Trial and Pilot firing pins was then sent to the outside vendor for peening. These pins performed well in dry cycle testing. Three went to 5,000 cycles without breaking and one broke at 4,350 cycles. Four control samples with Remington shot peen went 1,550 - 250 - 5,000 - and 800 cycles under identical conditions.

Measurements and sectioning of Trial and Pilot breech bolts show that internal hole dimensions are incorrect. The net effect is that the tip of the firing pin contacts the inside of the breech bolt, producing high stress in the tip area. P.E. & C. will change this operation using the body hole to pilot the tip hole for better control of concentricity.

Model 3200 Skeet Set

Some assistance has been provided to P.E. & C. for Trial and Pilot operations. No significant problems have been found.

Nylon 66 Improvements

Design and drawing work for the bolt lock is nearly complete. A 5,000 round test was shot in the Test Lab to determine possible adverse effects of breech bolt modifications. None were found - testing will continue.

Model 6600

Model Shop work on a round barrel, radlused receiver mock-up has been resumed.

Drawing work for a shooting prototype is 60% complete.

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M/870 Competition Trap

Two new gas cylinders are finished and brazed to barrels. They will be finished through the rest of the operations and ready for endurance testing by March 13.

The redesign for holding the fore end to the sleeve has held up well for 1500 rounds. Testing of this part will be continued on the new guns mentioned above.

Work is on schedule on the 4 guns for Marketing field tests.

M/600 Carbine Styling

The M/600 action with the M/700 fire control and bolt handle will be ready by the middle of March. The other 7 models are ready now.

M/700

Three prototypes of a new bolt lock system have been completed and are being fitted to rifles and will be shown to Marketing.

A new sear safety cam and triggers are being made in the Model Shop. They will allow for fixed engagement and overtravel. This will do away with customer adjustment on these two options. There will be a trigger adjusting screw for pounds pull that will allow for adjustment without removing the action from the stock. These parts should be ready by the end of March.

M/541 Hornet

Firing pins, bolt bodies are completed. Bolt heads need the extractor cut. Receiver and recoil lugs and barrel are finished. The stock drawing has been sent to the Model Shop. A single shot prototype is scheduled for March.

CBW:T