

MONTHLY PROGRESS REPORT - June 1980

6-19-80
JWBrooks:T

BOLT ACTION CARBINE

*objective
statement
needed*

Five models are being assembled with a new bolt lock ~~design~~ and powder metal latches for the ~~new~~ floor plate ~~design~~. They will be function tested with one gun continuing on for endurance testing.

Accuracy testing ⁵~~ing~~ on prototype models in all calibers gave averages below 2.7 inches for three 5-shot groups.

Seventeen (17) rifles in 7mm-08 caliber have been assembled, ~~and~~ tested, and ~~have been~~ sent to personnel designated by Marketing for field testing, ~~along with 7mm-08 ammunition.~~

A model with a M700 contour barrel has been prepared and shown to Marketing. They have requested that this contour be used on the final design, ~~model~~.

Preliminary cost estimates have been discussed with Marketing. They have requested Research to look at alternate designs to reduce costs if possible. Eleven items ^{are being reviewed} ~~have been discussed~~ with Process Engineering and Industrial Engineering, ~~for cost review.~~

MODEL 870 COMPETITION TRAP SHOTGUN

(need opening statement - see March Report)
Design modification testing is continuing on the locking block and vent rib on this model.

Two standard locking blocks that were barrel shotpeened and two of a new design with increased cross sectional area below the locking notch have been endurance tested to 25,000 rounds without any cracks. Testing ~~has started~~ *is in progress* on a standard locking block that has directed shotpeening in the notch area. It has 10,000 rounds on it to date. Further testing is scheduled.

Vent ribs continue to break and posts come loose. Decreasing the bore diameter from an overbore to the standard bore did not reduce the problem. Investigation of the brazing process indicates good production manufacturing control. ~~Initial strain gauge~~ *measurements* of the vent rib during shooting has been started. Competition Trap barrels with the present piston recoil system have been compared with the Model 1100 barrel and its recoil system. Initial results indicate over twice as ~~high stress~~ *much strain* on the Competition Trap vent rib as on the Model 1100 vent rib when the recoil system returns to battery.

A piston with a buffer will be tested to see how much the stress level ~~can~~ *will* be reduced on the Competition Trap barrel. (*)

Two systems are being evaluated to retain the barrel in the receiver. One system uses the standard Model 870 magazine cap and guide ring fastened to the barrel ahead of the gas cylinder. This system works satisfactorily. The second system uses a positive locking detent system mounted on the barrel retaining sleeve. A model of this system ~~has been satisfactorily tested for 500 rounds~~ *will be tested*.

Prints of ~~both systems~~ have been furnished to Process Engineering for their evaluation and cost review.

Model 870 Competition Trap Shotgun Continued

Work is being done on dry cycle equipment to simulate the stress level encountered when the piston returns to battery. Endurance testing with this device ^{should} ~~will increase cycle time~~ ^{number} ~~reducing~~ overall testing time and ~~reducing~~ the ~~amount~~ of live rounds ~~required~~ required.