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MONTHLY REPORT - MARCH 1993: OVER/UNDER SHOTGUN

All three guns of the latest design completed their 50,000 round endurance test with no major problems. All of the rounds fired were 3" magnums, and all through the top barrel, this being the max. stress condition that the guns will experience. Premature ejector failure, in one case as low as 2,800 rounds, is cause for concern. To this end, the test lab has built a dry cycle machine to test ejector durability. So far the best results are from a set of ejectors that included compothane buffers, which had more than double the endurance life of the unbuffered ejectors. The fore-end escutcheon and screw are also being redesigned to increase thread engagement to prevent loosening.

Work on the Field Service Manual has been delayed so that an Inspection Manual can be written. This will include all metal and wood fit and finish specifications, as well as function test and lubrication requirements.

The safety switch will be redesigned to reduce the surface area in contact with the frame top tang. Unless the radius on the tang has been maintained during the polishing operation, the current safety switch design has a tendency to remove the blueing from the tang surface that it reciprocates over.

The flat headed side plate screws will be replaced by oval headed screws. In addition to improved appearance, they also have deeper screwdriver slots, which reduces the possibility that they will get marred during installation. The screws will also have a vibratite patch applied to the threads, as will all the other small screws that have been loosening up during endurance testing.

Five guns from the first production lot have been selected by the Test Lab and trial and pilot testing has begun. Already some problems caused by out-of-spec parts have been noted. Screws are still loosening up and will have to be loctited in addition to the vibratite thread patch. This loosening problem might also be partially jack related. The shooting jacks are constantly being destroyed by the severity of this 3" magnum load test.

- We are working on the first sample of five Trial & Pilot Guns for the O/U with the information learned on the sample to date being forwarded to Design and Process Engineering for improvements to the process.
- We are testing modifications to the Sporting Clays forends.
- We have an O/U dry cycle test under way to improve the life of ejectors.
- We have successfully completed an accuracy test and a high pressure abusive test of some proposed centerfire fluted barrel designs.
- We are shooting some model 1187's for bolt velocities and endurance. These are the design changes related to the proposed M/1187 European shotgun. We are shooting the guns with a variety of ammunition types available in the European market to be sure they function as intended.
- We are still trying to catch up on some of the paper work for previously done testing and expect to submit draft reports for review in the near future.

#### PROJECTS:

- Passive Bullet Traps
 

B. Firman is investigating whether we may have a recycling vendor who might want to reclaim the lead in our bullet trap fluid as we need to clean and replenish the "water/coolant/cutting fluid" mixture in the trap's holding tanks. If this is possible, then one more possible source of hazardous waste (as small as it is) can be eliminated.
- Test Lab Instrumentation
 

The new Tektronix Model 2520 multi-channel analog/digital storage scope training we had scheduled for on 25 March has been rescheduled for 21 April.
- High Speed Video System
 

The first components of the new high speed video system have arrived on plant. The instructor for the system is scheduled to be on plant next Wednesday and Thursday to help us assemble and properly use the equipment. The list is growing daily of requests to use the equipment. I will also extend an invitation to our process engineering friends to request the use of this equipment when needed to work on process problems where this technology is appropriate so that the plant gets the maximum benefit from this investment.