

To: Ken Soucy  
From: Edward Ford  
Subject: April Monthly Report

CADD Software Study:

Autodesk is scheduled to present their results of the M/700 synthetic stock benchmark on Wednesday, May 12, 1993. The two hour presentation will consist of a brief overview of the Solution 3000 software, the synthetic stock benchmark results, and a question and answer period.

Design/Develop Improved Test Jack:

An accelerometer was mounted on the M/870 shotgun used during the barrel burst testing (refer to M/870 Barrel Burst Testing) to record accelerations associated with free recoil. These results are the beginning of a series of test results needed to define recoil in order to establish the design parameters for the new test jack.

M/Seven Stainless Synthetic Stock:

The parts list and model drawings were transmitted on May 4, 1993. Ramac numbers are required to complete the transmittal process and to begin part structuring for trial and pilot in June.

The aluminum stock mold is currently being textured and run-off is scheduled for May 20, 1993.

Beebe Rubber Co. currently molds the Model Seven, and M/700 Classic recoil pads. They use an injection molding process because of problems with black contamination in the brown recoil pads when using a compression molding process. Rather than alter the eight cavity injection mold for the run of 6000 black recoil pads with the 3.2" hole spacing, it was decided to alter the old four cavity compression mold. The top half of the mold will have the existing bottom screw hole pin ground off and stamped with an "S" and a new pin will be located at the 3.2" dimension. The bottom half of the mold can not be altered until the tooling for the steel reinforcement spacer is altered to the 3.2" hole dimension. The first 1500 pieces will be run to satisfy the M/Seven Synthetic Special for Jerry's Sport Center. They will require a secondary operation to finish drill the bottom screw hole. After these parts are molded, new tooling will be made for the reinforcement spacer and the bottom half of the die will be altered.

M/870 Barrel Burst Testing:

A M/870 shotgun was suspended from the ceiling of the 200 yd. range and the remote firing mechanism installed. Rather than using strobe photography as described in my previous monthly report Jim Snedeker and I decided to use the new high speed video equipment to photograph the recoil. Two days during the month were spent training with the factory representative on the use of the camera and the video enhancement workstation.

The 4X8 sheet of plywood which was originally covered with black paper and marked with white vertical lines every 6" was removed. The white vertical lines made it difficult for the software to track the gun motion because the target on the muzzle of the gun and the lines were both white. It was replaced with a 4X8 sheet of plywood painted with a flat black paint to reduce reflection and glare.

The 200 yd. range is not wide enough to allow enough distance between the camera and the gun to capture the full length of recoil travel. Jim Hennings ordered a wide angle lens, but this still did not capture the full length of travel. A 3X6 mirror was ordered and installed at a 45 degree angle to the gun allowing the camera to be positioned up range at a distance necessary to capture the full length of travel.

Preliminary testing is complete, the set-up and test procedure finalized, and the data collection format established. The official testing will begin during the week beginning May 9, 1993.

Peerless Proof Box Upgrades:

The Peerless proof box was installed in booth 12 in the production test gallery. The automated doors functioned satisfactorily so the box was turned over to production. This item is complete and will be dropped from future monthly reports.