

TO: KEN SOUCY  
FROM: MICHAEL KEENEY  
DATE: 06/23/93

TOPIC: JUNE 1993 PROGRESS REPORT

o PROCESS DEVELOPMENT/RESEARCH OF NBAR:

The focus panel guns were scheduled to be completed by the end of June, but due to complications in the production of the forging mandrels, will be delayed approximately two weeks. Apparently the initial mandrels were ground incorrect and could not be salvaged.

As an alternative process to the forging operation, the investigation of an ELMASS, Inc. keyway slotting machine has been continuing. As stated in the previous report, ELMASS is very confident in their ability to produce the required geometry. An estimate was submitted by ELMASS stating the required components, prices and projected cycle times. The only concern is the cycle time, ELMASS quoted a 12 minute cycle, but requested sample part blanks to determine the exact cycle time. The blanks will be shipped to ELMASS by July 15.

The first metal scope mounts produced from the rapid prototyping wax models were received on June 23. Although there were minor surface imperfections, the process has proven to be very valuable. PROTEUS, the rapid prototyping service bureau, met with PMI, the investment casting facility, to review the initial pieces and determine processing improvements to address the imperfections. PROTEUS has produced two more wax scope mount assemblies and will ship them to PMI for casting. Unless major complications occur, the two assemblies will be used for the focus panel guns. The metal assemblies are expected by June 30.

An in house approach to rapid prototyping has been used for the development of bolt handles for the focus panel guns. Utilizing investment castable wax, John Remington was able to hand carve two bolt handle samples. The samples have been shipped to PMI for investment casting. The metal bolt handles are also expected by June 30.

o XP-100 WOOD STOCK:

Production has begun the Trial and Pilot assembly. At least thirty guns have been assembled and shot without complications.

o M/7400 M.I.M OPERATING HANDLE/BOLT CARRIER ASSEMBLY:

Frank Ogrodnik and I have reviewed the inspection report of the initial sample lot of operating handles. There was one dimension that should have been verified but was not. Verification will be required.

This project originally incorporated a M.I.M. handle and an improved assembly technique. Apparently, there are some inconsistencies in the machining of the assembly pin clearance slot in the current handle that cause various difficulties at assembly. Upon review of the M.I.M. handles, it was noted that the position of the clearance slot was very consistent. Therefore, a redesign of the assembly should not be required. Ten M.I.M. handles have been given to the Test Lab for endurance evaluation. The previous test request for evaluation of the alternative assembly technique has been placed on hold pending the results of the M.I.M. handles.

o ECM of CENTERFIRE RIFLING:

No further testing has been completed due to other Test Lab obligations.

o REAR SIGHT SLIDE IMPROVEMENT:

No further testing has been completed due to other Test Lab obligations.