

To: T. C. Douglas

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From: A. R. Baszczuk  
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#### APRIL PROGRESS REPORT

##### SHOT CHARGER DEVELOPMENT

Three quotes for the Duplex Loader steel shot charger were received last month. A final review of the design revealed a potential strength problem in one detail requiring a few minor changes. The related drawings are now being updated and will be re-quoted. A purchase order for the prototype is expected to be released by mid May.

##### ROTARY CAM BODY FORMER - 410 & 28 GA.

I would like to acknowledge and express my thanks for the help and cooperation of the Production, Maintenance and Ballistics sections in our effort to meet the development schedule.

Over 200M smooth and 35M corrugated R/C 410 shells with brass caps were processed thru AH&P the week of 4/12. An attempt to machine load 15M corrugated Target shells 4/24 for field tests was halted when reloading tests revealed lower performance than the current 3pc. product.

- Minor battery-cup leaks appeared on 2 of 5 R/C shells after 3 reloads. This was caused by primer seal damage during stripping from the re-size die in the MEC JR. handloader. Seal damage to the softer and thicker basewad in the current 3pc. shells is less critical. Additional tests on Powsness-Warren and MEC Grabber handloaders (now on order) are expected to begin 5/3/93.
- Mouth deterioration of the R/C shells was slightly worse than the control shells preventing more than 5 acceptable recrimps. New skiving cutters to produce a slightly thicker mouth are expected to be available for testing 5/6/93.

Approximately 500 rounds were field tested at the Lonoke Gun Club and compared to current product with no perceivable difference in performance. New packaging for the smooth body RTL-410 product is expected to be available the week of 5/17. Production has agreed to try to make the Loader available when we are ready.

Approximately 250M 28 GA. smooth bodies were run thru Rotary

Cam the week of 4/12/93. The AH&P machine was made available 4/21 and roughly 5m bodies were assembled. About 100 samples were machine loaded for preliminary testing. Ballistics, ambient and cold (-20F) tests were satisfactory but hot (+150F) tests produced 2 of 10 primer set-backs. Reloading tests are scheduled to begin the week of 5/3 using both MEC and P-W handloaders currently on order. Information from these tests will aid in determining solutions to the primer set-back problem.

Three field reports regarding reloadability of once fired R/C 410 hulls were received. Two indicated no problems in either shooting or reloading performance. One felt the current product recrimped better.

#### BRASS CAPS - 410

Flare tests showed no difference in ductility of brass caps produced using standard carbide and both .0005 and .001 undersize steel forming punches. A material evaluation by American Interplex Corp., an outside lab, indicates the brass strip used for these caps was not correct. Their tests indicate the material to be CDA 268 not CDA 260 per our specifications. Also, that the grain size is .090 mm, twice the desired (.045mm) size in our material specifications. Samples of the material will be sent to the supplier for their re-evaluation.