

To: T. C. Douglas

June 1, 1993

From: A. R. Baszczuk

*MB*  
MAY PROGRESS REPORT

**SHOT CHARGER DEVELOPMENT**

Design revisions to the Duplex Loader steel shot charger are complete. A purchase order for the prototype is expected to be released by mid June.

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

Machine loading of the 200M R/C 410 shells processed thru AH&P in April has been cancelled because of reloadability concerns. Extensive tests using both MEC and Ponsness-Warren Hand Loaders indicate reloadability comparable to our current 3pc. shell but not as good as the Winchester AA shell. Three major concerns are; sticking on the MEC primer seat pin, occasional body-burn-thru after three reloads and some body buckling beginning after five reloads. Also, slightly more force is required for re-priming with Winchester primers and re-sizing. The heavier tapered walls and thicker bridge in the Winchester hull provide better reloadability and durability. However, this restricts its shotload capacity to 219g preventing first fire performance obtainable with 227g Remington Target shells. All effort in development of the R/C shells has been towards equal or better performance to our current product. Tests indicate that this was accomplished in both first firing and reloadability. At Marketing's request, design changes are now being made to improve reloadability. Sample product with a thicker bridge section was produced at R/C and hand assembled using newly designed seal-preparation and main cavity punches. Preliminary testing indicates this has eliminated the MEC sticking problem and reduced primer seating force. A comparison of the head cavity section, using 2585 powder medium, shows .8 grain ( $\frac{4.5}{5.4}$ %) less internal head volume than the previous R/C or current 3pc. designs. Ballistic tests are not complete. Rotary Cam extrusion and pre-head punches are now being modified to produce .001 thicker walled bodies. These are expected to be tested the first week of June to determine effect on body-burn-thru and buckling.

Reloading tests of R/C 28 GA. using both MEC and Ponsness-Warren Loaders are in progress. Additional hot (+150F) tests using both regular and max. head space/oversized chamber M/1100's produced approximately 20% primer set-backs. The cause is under investigation. All other tests were good.

**BRASS CAPS - 410**

A new supply of .0185 thick brass for 410 caps is expected to be available by mid July. This material was ordered .0005 thinner than previous stock for improved drawing performance.