

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE

Remington
REMINGTON*PETERS*
PETERSxc: C. B. Workman
~~J. S. Martin~~
F. E. Martin
E. R. Owens

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" _____

April 8, 1981 *file*

To: T. L. Capeletti
From: J. W. Bower *job*
Re: M/700 Bolt Lock - Manufacturing Costs

In October, 1980, Industrial Engineering issued a report on the cost of the M/700 Bolt Lock based on a PE & C estimate. Because of the seemingly high cost to manufacture this feature, the Research Process Development Group was asked to review. Exhibit I shows a comparison of costs based on estimates prepared by PE & C, Research, and a hypothetical best case.

The major difference between the Research and PE & C estimate is the labor cost to make the extra cuts in the Bolt Plug. PE & C estimated two special machines, the Research estimate provides for 1 machine, and, therefore, less labor input. This \$.21 difference is multiplied when labor variance, industrial relations, and overhead are added to it.

The "best case" condition assumes that the pin hole in the Bolt Latch can be moved so that the powder metal blank can be made to include the hole. This \$.11 savings in the direct cost to drill the hole is again multiplied by the various overhead accounts.

Two other approaches are possible. If a high strength plastic could be substituted for powder metal in the Bolt Latch, it may be possible to reduce the total cost of the feature by an additional \$.20 below the "best case". Finally, the possibility of an investment cast Bolt Plug could be investigated. It would be necessary to eliminate all of the added cuts in the investment cast blank, however, to show any significant savings.

JWB:ws
Firearms Research Division
Attach.

Exhibit 1

M/700 BOLT LOCKMANUFACTURING COSTS

	<u>PE&C</u>	<u>R&D</u>	<u>BEST CASE</u>
Standard Material			
Bolt Latch	.17	.15	.15
Detent Plunger	.02	.02	.02
Detent Plunger Spr.	.01	.01	.01
Detent Retaining Pin	<u>.01</u>	<u>.01</u>	<u>.01</u>
Total	.21	.19	.19
Material Variance (12.2%)	.03	.02	.02
Standard Labor			
Bolt Latch	.12	.12	.01
Bolt Plug	.38	.17	.17
Bolt Assembly	.05	.03	.03
Firing Pin Assembly	.09	.07	.07
Final Assembly	<u>.01</u>	<u>.01</u>	<u>.01</u>
Total	.65	.40	.29
Labor Variance (38.6%)	.25	.15	.11
Industrial Relations (47.9%)	.43	.26	.19
Misc. Direct Exp (3.8%)	.06	.04	.03
Depreciation (7.5% Capital)	.13	.07	.07
Manufacturing Overhead (10%)	.18	.12	.09
Plant Overhead (17.5%)	<u>.34</u>	<u>.22</u>	<u>.17</u>
Price/Gun	\$ 2.28	\$ 1.47	\$ 1.16