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Remington Parker

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March 18, 197[illegible]

TO: R. L. RAMEISTER

FROM: V. Z. SCHMIDT

SUBJECT: FINAL INSPECTION REJECTS AND MODEL 700 ASSEMBLY

Work on both of these projects is presently incomplete. Due to the higher savings potential indicated for the Fire Control Assembly System, and the time involved, I will not be able to continue on these projects at present. The attached report summarizes findings to date.

F.I. Rejects:

To obtain a better breakdown of F.I. rejects, for 23 weeks out of 1973 a summary of F.I. rejects was tallied (they are a tabulation of the weekly Final Inspection Summary). Due to the large number of "Other" rejects (see Tables 3 & 4), an attempt was made to break down this grouping further for the M-700 and the M-1100 by tabulating the daily Gun Inspection Report submitted by each inspector over a certain period of time, converting this data to percentages, and then applying these percentages to the summary "Other" listing.

As in the earlier report covering 1972, wood faults remain the major cause of rejection. Also, the wood reject rate continues to be much lower for the M-870 than for any of the other models. This is in spite of the fact that all the short-stock models have protective boots covering the stock. One reason for this variation would seem to be in the design of the padding for the proofing jacks at gallery - the M/870 jack has a molded padding which affords the stock good protection. It is recommended that the proofing jacks for the other models also be fitted with such molded padding. Aside from reduced marring, use of the protective boot could be discontinued (this alone would save an estimated $20K/yr in labor plus boot replacement costs).

M-700:

The Model 700 has been partially analyzed for in-line assembly. Although the analysis is as yet incomplete, indications are the in-line assembly procedure for the M-700 would not reduce rejects substantially more than if adherence to present standards could (or would) be enforced. Some savings could be realized by incorporating the suggestions noted at the end of the report, but these savings would be the same for either system.

The paramount question of whether the responsibility grouping will "force" assemblers to comply to the standards cannot be answered accurately until the system is put into effect.

A

REM 0085352

LUN 0016686

The in-line or modular approach was considered for the following reasons:

1. Reduce time for assembly
2. Reduce labor skills required
3. Reduce rejects at Gallery and Final Inspection
4. Ease of training

M-700 F.I. Rejects:

Based on 1973 reject rates, the number of rejects for 1974 was projected. This projection is based on 1973 reject breakdown percentages and a reject rate of 23.37% of guns inspected. (Note that between Nov. 17 and Dec. 4, the 1974 version of the M-700 had the reject breakdown indicated, with a reject rate of 30%).

Based on the projected reject rate, Table II is an attempt to estimate in-line savings. These savings reflect the added "cost" that is incurred by not detecting and rejecting bad parts at time of assembly. Example: Stock Marred - the marred has to be corrected anyway, either before or after assembly. The only possible "savings" by rejecting the stock at assembly is in not wasting the Final Inspector's time, except when the mar is so bad as to require complete stock replacement. Then the wood repairer must replace the stock and the gun must be retested - all extra costs incurred by not rejecting the stock before assembly.

Multiplied by an estimated probability of reduction, an estimated savings of $3.3[illegible] is indicated (potential of $6.6[illegible]).

M-700 Gallery Rejects:

A similar analysis was attempted for Gallery Rejects. The estimated savings is $1.[illegible]. (Potential $2.8[illegible]).

Note on "Savings":

Most of the indicated savings could be realized in the present system just by the assembler adhering to the prescribed standards. Also, the present rejection rate is above 20% (at F.I.) and hence a reduction in rejects of the order proposed would not allow a reduction in the 15% reject rate incorporated into the Final Inspector's time. If you will, we are not "paying" the Final Inspector for all the guns he is rejecting (if indeed, the F. I. Gun Inspection reports are accurate) and hence, cannot claim a savings in his time until rejects are reduced below 15%.

Reduction of rejects below 15% is doubtful since cause of rejection is to a large degree a "Value" judgement based on no recognized acceptance standard.

In-Line:

Attempts by Methods & Standards to time balance in-line assembly groupings has thus far proven unfruitful.

Other Problems include:

1. No two operations require the same amount of time, leading to a line

In-line - Cont'd

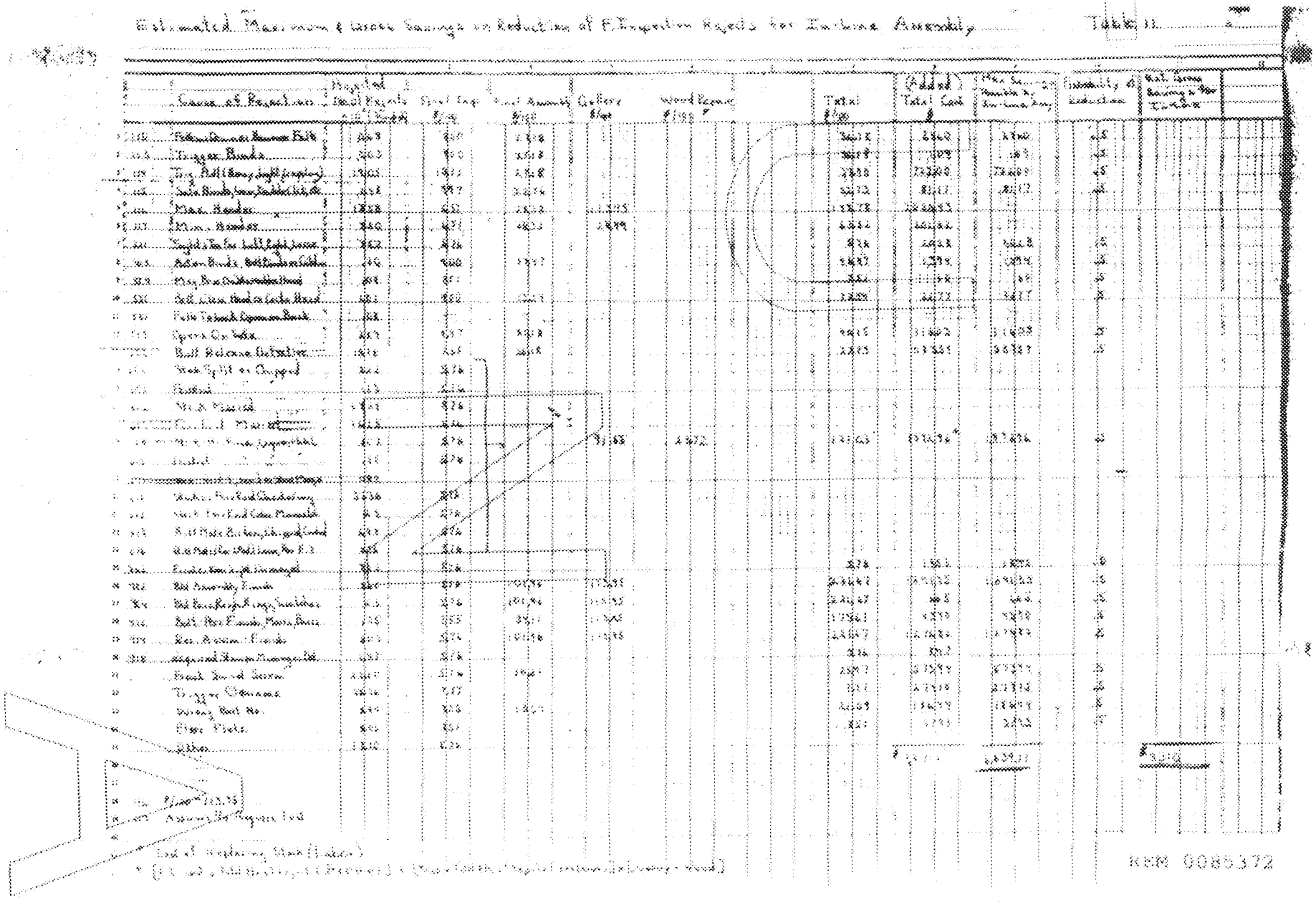
inbalance. While this inbalance can be minimized, certain of the standards do not reflect current assembly procedures. Timing balance can only realistically be attempted after review of the M-70C Final Assembly Procedures. (Scheduled for 1974).

2. The reduction in labor skills would in this case lead to minimal savings since many of the assembly operations performed now by a Final Assembler are already set up in the Standards as sub-assembly operations. (Hence may only reduce the "Variance" of the department).

Labor Saving Devices:

Attached are descriptions of some methods to facilitate assembly and possibly reduce rejects.

VES:ms



KEM 0085372

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