

METHODS AND STANDARDS PROGRESS REPORT - - MARCH 1975Suggestion Plan

Suggestion Plan data for the month of March 1975 are as follows:

	<u>Current Month</u>	<u>Total Year to Date</u>	<u>Total Last Year to Date</u>
Suggestions received	38	100	70
Suggestions in effect	9	26	26
Suggestions withdrawn	21	62	48
Suggestions pending	154	154	104
Cash awards	\$ 507	\$ 1,340	\$ 1,531
Estimated gross savings	\$ 8,350	\$ 16,723	\$ 24,110
Average award per suggestion	\$ 56	\$ 52	\$ 59

Method Studies

The following layouts were completed this month:

1. Provided a layout for moving Dept. 02 from Bldg. 76-2 to Bldg. 46-3. Also provided space in the layout for (3) new machines to be used on the M/1100 improvements for the Action Bar Assembly and Slide Block.
2. Re-arranged equipment in Bldg. 48-3 to provide space for the Hause Special Machine for M/700 Bolt Body.
3. Re-arranged the Micro Bond area in Bldg. 50-4 in compliance with DuPont Safety Inspection.
4. Re-arranged Dept. 14 in Bldg. 50-3 to provide space for a rebuilt Bostomatic machine.
5. Re-arranged equipment in Bldg. 50-1-N to provide space for the new Williams Grinder.
6. Re-arranged equipment in Bldg. 82-1 to provide space for the new M/870 Slide Block Pinning machine.
7. Provided a tentative layout for the new Tri-Carb Furnace in Bldg. 82-1.
8. Re-arranged equipment in Bldg. 49-3 to provide space for the new Almco Spin Finish machine to be used on the M/1100 Action Bar Assembly.
9. Re-arranged equipment in Bldg. 64-4 to provide space for a polishing jack.
10. Re-arranged equipment in Bldg. 86-2-C & 86-4-W to provide space for a new copy lathe.
11. Provided a final layout for the Receiver Broach and Broach Grinding area in Bldg. 60.
12. Completed a layout for moving Accounting, Data Processing and Systems Planning from Bldg. 46-2 to Bldg. 52-4.

A Capacity Study and Methods Review of the Photo Etch Matt Area was made to determine current costs and maximum output.

Three high spot estimates were completed for proposed new Shotgun Barrel manufacturing

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processes using warm formed welded tubing. The proposal to finish ID, turn OD, warm form on present GFM machines and eliminate the New Britain chamber and bore ream operations indicated a potential \$290,770 gross annual savings. This would provide a reduction of \$22,000 in working capital requirements over and above a projected \$150,000 expenditure for equipment.

An economic evaluation was made for two proposals to manufacture rather than purchase M/3200 Front Sights. Neither proposal could be justified on a savings basis.

Economics were developed for cut-checkering M/1100 and M/870 Hi-Grade and M/742-760 BDL Stocks and Fore Ends on a 3-spindle checkering machine based on the anticipated machine cycle time of 150 inches per minute.

An evaluation was completed for a proposal to re-design the M/700 safe. This would add a third position to the Safe to allow the bolt to be unlocked and opened without moving the Safe to the "Fire" position. The economics indicated an annual cost increase of \$4,400 to provide this added safety feature.

Economics have been completed on a proposal to automate the operation for bagging accessories for M/1100-870-742-700 BDL guns. This showed a potential gross annual savings of \$2,330 in operating costs.

Economic evaluations were completed for two proposed improvements to the present steel chip handling system. A fully automatic system cannot be justified but the proposal to handle the chips in large, drop-bottom dump boxes in place of the current bins indicates a potential gross annual labor savings of \$17,500. This would provide a 17.8% return on capital investment of \$54,200.

The job to inspect and pack bullets in R&D was evaluated and a new occupation and rate were established for this work.

Prepared project economics for cut checkering M/870-110 Trap and Skeet guns, M/742-760 BDL's, M/3200 and M/541-S on a 3-spindle M/C machine.

Develop project economics for M/4100-S electric tournament Skeet Trap.

Estimated current costs and unit earnings for M/870 Police gun.

<u>Operating Cost Improvements</u>	<u>Gross Annual Savings</u>
Design improvements certain models - Reduced Warranty repair costs.	\$ 42,000
*New negotiated 1975 price - M/700 and V-1 Walnut Stock blanks.	34,700
M/3200 design and process improvements - Reduced re-work costs at Final Assembly and Test and Target.	26,000
M/1100 Breech Bolt - Revised spin finish process.	8,600
Center Fire Firing Pin - Change to purchased balnk.	8,100
*Salvage (3,000) short Stocks by reglating and fixture adjustments.	7,300
MOH. 600 Stock - Change from Walnut to Birch.	5,100
Methods Reviews by M&S during the month.	5,100
M/3200 Bottom Tang - Build special machine for drilling Oper. #110.	3,100
Receiver conveyor - Change to stainless steel chain - Reduced maintenance.	2,500
Miscellaneous smaller process improvements this month.	2,100
M/870-1100 Breech Bolts - Improved life - New style polish belt.	1,500
M/3200 Stock Fitting - Revised sequence assembling recoil pad.	1,300
M/1100 Magazine Cap - Revised vibratory finish process.	1,200
Program to reconstruct vs replace various tool holders. (Partial Savings).	1,000
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*One-time Savings.	Total this Month \$ 149,600
	Total Year to Date \$ 450,500

Operating Cost Increases

Price increase on steel for certain components effective 1/5/75.	\$ 84,100
Increase in Warranty repair costs for certain models.	82,400
Increase in Village water rates.	36,600
Temporary or extra operations.	20,300
Operations to improve quality.	18,700
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	Total this Month \$ 242,100
	Total Year to Date \$ 1,434,200

Summary - Year to Date

Cost Improvements	\$450,500
" Increases	(1,434,200)
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Net Reduction or (Increase)	( \$983,700)

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	<u>Current Month</u>	<u>Year to Date</u>
New items added	21	63
Anticipated savings	\$ 491,100	\$ 800,800
Items closed out	15	53
Anticipated savings	\$ 170,200	\$ 104,700
Actual reported savings	\$ 534,600	\$ 262,300
Active items being followed	208	
Total anticipated savings (All items on Agenda)	\$ 3,030,400	
Last year's total	\$ 2,248,100	

Cost Improvement Items Anticipated

(This is a partial listing of items being worked on and scheduled for completion).

<u>Code No.</u>		<u>Est. Gross Savings</u>	<u>Estimated Completion Date</u>	<u>% Return on Investment</u>
PB-294	Chemical etch matting on Vent Rib Barrels	\$ 14,300	Aug.'75	39%
PB-251	Adhesive bonded Vent Rib Shotgun Barrel Ass'y.	74,300	Mar.'76	24
WE-61	Provide additional plant well water. (Bal.)	5,900	Apr.'75	21
HD-7	Purchase new Multipress for powder metal parts.	6,600	Apr.'75	C
PBB-116	M/3200 Frame-build special machine, Oper. #83 & 87.	4,900	Apr.'75	16
PBB-121	M/3200 Frame-build special machine, Oper. #290 & #300, & Oper. #30 - Frame Sear Block Assembly.	3,800	July'75	11
PL-22	Warehouse re-arrangement in Bldg. 52.	5,200	Apr.'75	**
PA-125	New Center Fire, Rim Fire Rifle carton with molded inserts.	105,500	Apr.'75	Inf.
PBM-109	Install filter at Screw Machines. Reclaim oil.	4,200	Sept.'75	C
PBM-146	M/3200-make (5) components from formed bar stock.	19,400	June'75	71
PBB-178	M/3200 Ejector-proposed cold headed construction.	10,600	May '75	**
PL-21	Use of storage racks and stock pickers in Warehouse.	16,100	Apr.'75	67
WE-105	Install new windows in Bldg. 50, 82, 84 and 86. Reduce fuel oil usage.	25,500	Apr.'75	M
PBM-127	M/600-700 Bolt Body - replace special machine.	22,000	Apr.'75	99
RM-260	M/3200 Fore End - Combine Oper. #40 & #50 on N/C Router.	4,900	Apr.'75	**
PBB-131	New type coolant to improve tool life. (Bal.)	5,700	May'75	**
PBB-124	M/3200 Firing Pin Housing-purchase N/C drilling machine for Oper. #80, 90 & 100 and Tang Connecting Block, Oper. #105.	6,700	May'75	15

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<u>Code</u> <u>No.</u>		<u>Est.</u> <u>Gross</u> <u>Savings</u>	<u>Estimated</u> <u>Completion</u> <u>Date</u>	<u>%</u> <u>Return</u> <u>Investme</u>
PL-21	M/1100 design improvements - reduce custom repair costs.	\$ 52,200	Dec.'75	***
WE-103	Change from ammonia to nitrogen gas - Bldg. 76 & 80.	5,600	Apr.'75	21
PBB-355	Shotgun Vent Rib Barrels - improve type grinding wheels.	7,600	May'75	**
PE-36	In-plant forging - family Trigger Plates, M/700 Trigger Guard & Floor Plates.	138,200	Mar.'76	32
HD-10	Powder metal - Purchase grinder vs. vendor grind, Part #12819.	62,800	Apr.'75	62
PBM-110	Center Fire Front Sight Ramp - Replace (2) Special machines with (1) Kingsbury machine.	6,600	Dec.'75	12
GA-12	System to separate water from soluble oil before burning. Reduced fuel oil usage. (Bal.)	8,500	Oct.'75	23
PBM-134	M/870 Slide Assembly - Build special machine, Oper. #15 & #20.	20,500	Sept.'75	102
PBM-129	M/1100 Action Bar Sleeve - Build special machine, Oper. #25.	12,800	Aug.'75	12
PM-143	M/700 Long Stock - Press Form Process.	120,200	Dec.'75	52
	<b>Total</b>	<b>\$760,600</b>		

\* - New items added this month.

\*\* - No capital investment.

R - Machine replacement.

C - Increased plant capacity.

M - Plant modernization.

Incentive Wage Plan

"Off Standard" time under the Measured Performance Plan averaged 5.6% for the month of March as compared to 5.2% for the month of February and 5.2% for the month of January.

The Measured Performance Plan variance averaged 2.5% for the month of March, as compared to 2.4% for the month of February and 3.0% for the month of January.