14 STEPS OF A PREVENTIVE MAINTENANCE OPTIMIZATION PROCESS (PMO)

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WORLD CLASS MAINTENANCE Inc.

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14 STEPS OF A PMO PROCESS

Step 1: Establish a baseline using current metrics or data from maintenance and production/operations.

Asset	PM Compliance "20% Rule"	Schedule Compliance	EM/Urgent Labor Hrs.	Maintenance Rework	Less than 6 Minute Stops
Chipper	56%	56%	232	32	14
Extruder	67%	75%	321	8	22
Septet	25%	34%	98	45	38
Crimper	88%	88%	74	12	23
Baler	45%	34%	129	38	18
Strapper	100%	100%	13	7	2

Step 2: Identify which asset/functional area the PM Optimization will be executed.
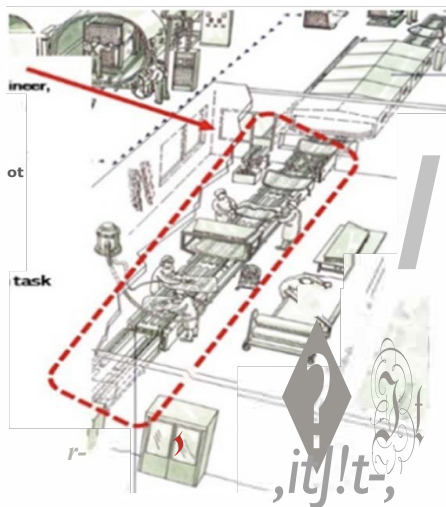
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Step 3: Identifying a cross-functional team (Operator. 2 Maintenance Tech, Reliability Engineer. Maintenance Planner. etc.).

Step 4: Establish expectations from everyone engaged in this process.

Step 5: Define the end goal of this process.

Step 6: Define roles and responsibilities for all members of the PMO Team.

Preventive Maintenance
"Roles and Responsibilities"

Task Position ➡	Maint Mgr.	Rel Engr.	Maint Sup.	Maint Techs	Maint Planner	Prod Mgr.	Plant Mgr.
Create / Manage Asset Criticality	C	R	C	I	I	C	A
ID all Components	A	R	C	R	C	R	I
ID how each Component will Fail	A	R	C	R	R	C	
Write Repeatable PM Procedures	A	R	C	R	C	C	
Measure / Monitor PM Effectiveness	A	R	C	C	R	C	I
Modify PMs	A	R	R	R	C	C	I
Manage Maintenance Dashboard (Leading / Lagging KPIs)	A	R	R	I	C	I	I

Responsibilit	"the Doer"	(could be more than one)
Accountable	"the Buck stops here"	(One person only)
Consulted	"two-way communication"	(in the Loop)
Informed	"one-way communication"	(kept in the picture)

Step 7: Define how you'll measure if the PM Optimization process has been effective or not.

Preventive Maintenance Scorecard

100%	16	↑	↑	0
PM Compliance	Breaks to Schedule	Maintenance Cost	Emer/Urgent Labor Hrs	PMs Evaluated

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Step 8: Present copies of PMs to all parties.

PM Procedure Example

Step 9: Review equipment history for the past 30. 60. and 180 days. This includes:

- Root Causes of critical breakdowns
- PM Labor Hours vs. EM/Urgent Labor Hours.
- PM Compliance vs OEE
- Rework

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Step 10: **Review current PMs and PdMs for these reasons:**

- **PM procedure may need to be rewritten**
- **Training may be required**
- **PM frequency may be inaccurate and need adjustment**
- **Checking if equipment is in "maintainable condition"**

Step 11: **Rewrite PMs or write new PMs (ensure they are repeatable)**

Step 12: **Monitor and measure to ensure new PMs are effective and adjust as needed.**

Step 13: **Post results for all to see.**

Reliability Dashboard by Asset - Gypsy Paper

Line Assets	# Failures	Production Losses	EM/Urgent Labor Hrs.	PM Compliance Using 10% Rule
Board Infeed	12	32	47	100%
Press Unit	0	0	14	100%
Total	12	31	61	100%

Maintenance Scorecard				
	Best practice	**10/12/2020**	**YTD**	
Maintenance Schedule Performance	>70%	62%	67%	
Maintenance Break In Work	<15%	38%	33%	
PM/PDM Work Scheduled	> 30%	18%	35%	
PM/PDM Compliance	>80%	36%	67%	
Notification Entered from PM/PdM find	1 for every 6 inspections	2	3	
Equipment Not Available	Weekly	0	1.45	
P1 Notifications	Weekly	12	11.43	
Core Shift Mechanic	Weekly	4	3.95	
Polymer Shift Mechanic	Weekly	9	6.22	
No Information P1's (Still open)	Weekly	0	1.55	
		Shift & Core worked on 1 P1 together		

Step 14: Once concept has been proven move to the next asset/area.

PM Optimization Results Example:

PM Task Action Recommendation	# of Tasks	% of Tasks	Man-Hours Represented
Non-Value Added (Delete)	1,640	8.2%	6,661
Reassign to Operator Care	1,380	6.9%	5,605
Reassign to Lube Route	2,856	14.3%	11,600
Replace with PdM	6,437	32.2%	28,222
Reengineer	5,200	26.0%	26,221
No Modifications Required	2,487	12.4%	8,987
Totals	20,000	100.0%	87,296

Join me May 17-19, 2022 for "Maintenance Excellence for Maintenance Excellence for Maintenance Supervisors LIVE in Asheville, NC
(PM Optimization is taught in this workshop)

Interested? Send your request to rsmith@worldclassmaintenance.org

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for
Maintenance Supervisors

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Interested? Email Ricky Smith CMRP for a brochure or more information, rsmith@worldclassmaintenance.org

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