MACHINE LEDGER - Professional Maintenance

Combined Machine Ledger / PM Calendar 2021

SUPPLIER SECTION

Machine name: IPS CYLINDER INSPECTION MACHINE | Model No. | Manufacturer: JENOPTIK

OPERATION COMPLETED | EXTRA CYCLE | BREAKDOWN | PLANNED OPERATION

0218 IPS BENCH TOP ASSEMBLY

IPS CYLINDER

Machine Diagram - Machine and Subassembly Diagram

Subassembly Name	Picture	Number	Name	Manufacturer	Manufacturer's Part No.	NPR Code	Crib Location	Cost of Component	Component classification A, B or C	Activity Frequency (weeks) and Based on Machine Cycle	Maintenance Time (min)	SMP#	TMS#	Machine Static/Dynamic	What	Who	Replacement Year	R-Repairable / C-Consumable
		1 (2)	DIAMOND LOCATING PIN	JENOPTIK	M20201S-0206-007				A									C
		2 (2)	ROUND LOCATING PIN	JENOPTIK	M20201S-0206-012				A									C
		3 (2)	DIAMOND LOCATING PIN	JENOPTIK	M20201S-0205-013				A	As	36.5	P14		Static	Replace	MTMM		C
		4 (2)	ROUND LOCATING PIN	JENOPTIK	M20201S-0205-010				A						CBM			C
		5 (8)	REST BUTTON	JENOPTIK	M20201S-0206-017				A									C
		6 (2)	PROXIMITY SWITCH	BALLUFF	BES/BF.BES M12ME-PSC40B-S04G-003)				A	As	9	P10		Static	Replace	MTMM		C
		7 (12)	SPRING	CENTURY SPRING	70611				A						CBM			C
		8 (4)	COMPACT CYLINDER	FESTO	(ISK08) ADN-25-15-I-P-A				A									C
		9	PHOTOELECTRIC RECEIVER	IFM EFFECTOR	OGE200				B	As	5.5	P-13-13		Static	Inspection	MTMM		C
		10	PHOTOELECTRIC TRANSMITTER	IFM EFFECTOR	OGS200				B	As	5.5	P-13-13		Static	Inspection	MTMM		C
		11 (4)	REST BUTTON	MASTERLINE	M+B-1				A									C
		12 (4)	RETAINING RING	MISUMI	STWN12				A									C

ROOT CAUSE: 1. External influences | 2. Lack of knowledge | 3. Design weakness | 4. Insufficient maintenance | 5. Operating conditions not observed | 6. Basic conditions not observed

Time (Minutes) | EWO or Kaizen Number | Root Cause Number

Total Breakdown Number	TBF (Hrs)	Total # of Breakdowns	Compute TBF (hrs)

KPI — 2014 / 2013

First week in this year that task is to exist	Change Over Date	KAIZEN: indicate kaizen n.	PM=>AM Transfer: (indicate type of AM, and CIL activity n.)	Maintenance type change (TBM/CBM): indicate old type -> new type	Frequency (Update / Change) Date	Frequency old -> new	Maintenance Time: old -> new	Total Cost of Manpower	Total Component Cost
								$0.00	$0.00
								$0.00	$0.00
								#VALUE!	#VALUE!
								$0.00	$0.00
								$0.00	$0.00
								#VALUE!	#VALUE!
								$0.00	$0.00
								#VALUE!	#VALUE!
								$0.00	$0.00
								$0.00	$0.00

Maintenance Evolution — Type of Improvement | Parameter change

COST

Timer / year (in minutes)	Replace time period (years)	Regular	Time +half (1/1/0)	Double Time	Total Timer / year (in minutes)	Total Replace time period (years)	total Regular	total Half Time	total Double Time
		44.79	67.18	89.59					
0.00	N/A	0.00	0.00	0.00	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
0.00	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0.00	0.00	0.00					
0.00	N/A	0.00	0.00	0.00					
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!					
0.00									
0.00									
0.00									
0.00									
0.00									
0.00									
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!					
0.00	N/A	0.00	0.00	0.00					
0.00	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0.00	0.00	0.00					
0.00	N/A	0.00	0.00	0.00					

total cost / component

Do not need to print this section for calculation purposes only

Shutdown Maintenance

PM to AM Transfer

A CLASS COMPONENT — CANNOT RUN WITHOUT THIS

B CLASS COMPONENT — Can still run

C CLASS COMPONENT — No machine impact to functionality

UNIT LEADER RESPONSIBLE FOR UPDATING COMPLETION % WEEKLY

100% | 90% | 80% | 70% | 60% | 50% | 40% | 30% | 20% | 10% | Buy off

Mircostops Week	1	2	3	4	5	6	7	8	9	10	11	12
Mircostops Time												
Mircostops Week	13	14	15	16	17	18	19	20	21	22	23	24
Mircostops Time												
Mircostops Week	25	26	27	28	29	30	31	32	33	34	35	36
Mircostops Time												
Mircostops Week	37	38	39	40	41	42	43	44	45	46	47	48
Mircostops Time												
Mircostops Week	49	50	51	52								
Mircostops Time												

Top Microstop issues

Total Manpower cost: #VALUE!

Total Compont cost: #VALUE!

A & B only on Mach Ledger

SUPPLIER SECTION

MACHINE LEDGER - Professional Maintenance	Machine name	Model No.	Manufacturer
	IPS CYLNDER INSPECTION MACHINE		JENOPTIK

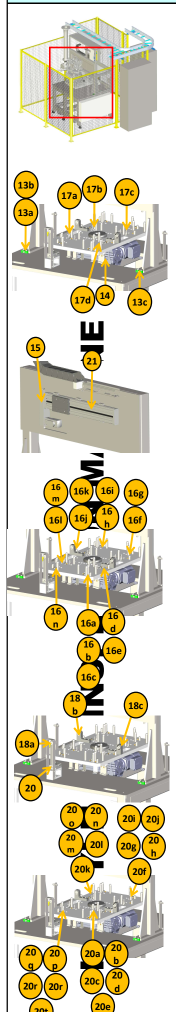
ROOT CAUSE

Combined Machine Ledger / PM Calendar 2021

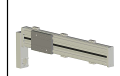
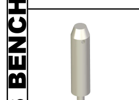
OPERATION COMPLETED / EXTRA CYCLE / BREAKDOWN / PLANNED OPERATION

KPI | **Maintenance Evolution** | **COST** | **total cost / component**

Machine Diagram - Machine and Subassembly Diagram



Subassembly Name: **OP218 IPS BENCH TOP ASSEMBLY**

Picture	Number	Name	Manufacturer	Manufacturer's Part No.	NPM Code	Crib Location	Cost of Component	Component classification A - B - C	Activity Frequency (weeks) and Based on Machine Cycle	Maintenance Time (min)	SMP#	TMS#	Machine Static/Dynamic	What	Who	Replacement Year	C -Consumable R-Repairable
	13 (3)	ADJUSTMENT BLOCK	MISUMI	CMAJ20				B									C
	14	ROTARY INDEX TABLE	MOTION INDEX DRIVES	RT200				A	As	21	P-15		Static	Inspection	MTMM		C
									As	10.5	P-16		Static	Oil Change	MTMM		
														CILR			
	15	SLIDE ASSEMBLY	SHALTZ	SAI20056				A									C
	16 (16)	AIR FITTING	SMC	KQ2S06-M6A				A									C
	17 (4)	FLANGED BALL BUSHING	THK	LMIH12 UU				A									C
	18 (3)	RFID READ-WRITE HEAD	TURCK	TN-M30-H1147				A									C
	19 (20)	ROUGH GUIDE	MISUMI	RGPTN25-90-E12-A20				A									C
	20	MAGNETIC SWITCH	FESTO	574337				A									C
	21	600mm SLIDE ASSEMBLY-SHALTZ 556819	FESTO	EGC-HD-125-600-BS-10P-0H-GK				A									C
	22																
	23																
	24																

Root cause columns: 1. External influences | 2. Lack of Knowledge | 3. Design weakness | 4.Insufficient maintenance | 5. Operating conditions not observed | 6. Basic conditions not observed

Each component row (13–24) has the rows: Time (Minutes) / EWO or Kaizen Number / Root Cause Number

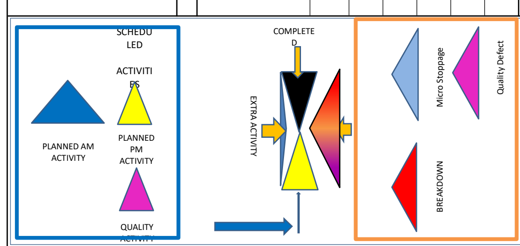
Month	January					February				March					April				May				June					July				August				September					October				November				December			
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Date	30	6	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22

Number	Total Breakdown Number (2014)	TBF (hrs) (2014)	Total # of Breakdowns (2013)	Compont TBF (hrs) (2013)	First week in this year that task is to start.	Change Configuration Date	KAIZEN: indicate kaizen n.	PM=>AM Transfer : (indicate type of AM and CIL activity n.)	Maintenance type change (TBM/CBM): indicate old type --> new type	Frequency Update / Change Date	Frequency: old -> new	Maintenance Time: old -> new	Total Cost of Manpower	Total Component Cost
13													$0.00	$0.00
14													#VALUE!	#VALUE!
15													$0.00	$0.00
16													$0.00	$0.00
17													$0.00	$0.00
18													$0.00	$0.00
19													$0.00	$0.00
20													$0.00	$0.00
21													$0.00	$0.00
22													$0.00	$0.00
23													$0.00	$0.00
24													$0.00	$0.00

Type of Improvement | Parameter change

Number	Time / year (in minutes)	Replace time period (years)	Regular 44.79	Time +half 67.18	Double Time 89.59	Total Time / year (in minutes) #VALUE!	Total Replace time period (years) 0.00	total Regular #VALUE!	total Time +half #VALUE!	total Double Time #VALUE!
13	0.00	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A	0.00	0.00	0.00					
14	#VALUE!	N/A								#VALUE!
	#VALUE!	N/A								
15	0.00									0.00
	0.00									
16	0.00									0.00
	0.00									
17	0.00								0.00	0.00
	0.00									
18									0.00	0.00
19									0.00	0.00
20									0.00	0.00
21									0.00	0.00
22									0.00	0.00
23	0.00	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A	0.00	0.00	0.00					
24	0.00	N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	N/A	0.00	0.00	0.00					

Do not need to print this section for calculation purposes only



Shutdown Maintenance	(light blue)
PM to AM Transfer	(blue)
A CLASS COMPONENT	CANNOT RUN WITHOUT THIS
B CLASS COMPONENT	Can still run
C CLASS COMPONENT	No machine impact to functionality

UNIT LEADER RESPONSIBLE FOR UPDATING COMPLETION % WEEKLY

100% / 90% / 80% / 70% / 60% / 50% / 40% / 30% / 20% / 10% / Buy off

Mircostops Week	1	2	3	4	5	6	7	8	9	10	11	12
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Mircostops Time												

Top Microstop issues			Total Manpower cost	#VALUE!
			Total Compont cost	#VALUE!

A & B only on Mach Ledger