

SUBJECT: Induction Station Novasort Preventive Maintenance

DATE: December 18, 2013

NO: MMO-114-13

TO: All Novasort TMS Sites

FILE CODE: TM

tpor:mm13048ad

This Maintenance Management Order (MMO) provides Operational and Preventive Maintenance Guidelines for the Induction Station Novasort System. This bulletin applies to Acronym IDUCT, Class Code CA.

The workhours indicated in the workload estimate (Attachment 1) reflect the *maximum* annual workhours required to maintain each system. Management may modify task frequencies to address local conditions.

The minimum maintenance skill level required to perform each task is included in the Minimum Skill Level column of each checklist. This does not preclude higher level employees from performing any of this work.

WARNING

Various products requiring Material Safety Data Sheets (MSDS) may be utilized during the performance of the procedures in this bulletin. Ensure the current MSDS for each product used is on file and available to all employees. When reordering such a product, it is suggested that current MSDS be requested. Refer to MSDS for appropriate personal protective equipment.

WARNING

The use of compressed or blown air is prohibited. An alternative cleaning method such as a HEPA filtered vacuum cleaner, a damp rag, lint-free cloth, or brush must be used in place of compressed or blown air.

WARNING

Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.

For questions or comments concerning this bulletin contact the MTSC HelpDesk, either online at **MTSC>HELPDESK>Create/Update Tickets** or call (800) 366-4123.

obebl

Robert E. Albert Manager Maintenance Technical Support Center HQ Maintenance Operations

- Attachments
 - 1. Summary of Workload Estimate For Siemens TMS Induction Unit
 - Siemens TMS Induction Unit Master Checklist 03-INDUCT-CA-001-M – Monthly PM
 - 3. Siemens TMS Induction Unit Master Checklist 03-INDUCT-CA-002-M – Quarterly PM
 - 4. Siemens TMS Induction Unit Master Checklist 03-INDUCT-CA-003-M –BI-Annual PM

ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR SIEMENS TMS INDUCTION UNIT

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Operation	Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Routine Servicing + Repair Time (hrs/yr)	Non- productive Time** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
Monthly	11.80	3.54	15.34	1.53	16.87
Monthly Quarterly	11.80 2.67	3.54 0.80	15.34 3.47	1.53 0.35	16.87 3.82
Quarterly	2.67	0.80	3.47	0.35	3.82
Quarterly	2.67	0.80	3.47	0.35	3.82

SUMMARY WORKLOAD ESTIMATE FOR SIEMENS TMS INDUCTION UNIT

NOTES:

*Repair estimates based on 30% of servicing.

**Based on 10% of total servicing and repair.

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ATTACHMENT 2

SIEMENS TMS INDUCTION UNIT

MASTER CHECKLIST

03-INDUCT-CA-001-M

MONTHLY

Time Total: 59 minutes

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Maintenance Checklist		WORK EQUIPMENT CODE ACRONYM 0 3 I D U C T										ASS DE	N	UMBE	ĒR	TYPE
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Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANANGEMENT SYSTEM	Equi	0 3 I D U C T Equipment Model INDUCTION UNIT								n Filer m13	name 048ad	-	Occurr	ence MON	NTH	_Y

Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	S
Component			Req (min)	Lev	Run Hours	Pieces Fed (000)	Freq.

CAFETY	4		2	A 11		
SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint- free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.	3	All		
	2.	Lockout Power. Place appropriate PLC control panel "AUTO/MANUAL" switch in the "MANUAL" position. Lockout electrical power by placing the PLC disconnect lever in the "OFF" position and install a LOCKOUT/TAGOUT device.	2	All		

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Component	No	((h all current sa		ns)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
ACCESS	3.	Remove	Convey	or Access F	Panels		3	7			
PANELS	0.	Remove t	the conve	eyor side ac TAL key if	cess panel	s /	Ū				
BELT	4.	Clean Be	lt Conve	vor.			8	7			
CONVEYOR		1. Cheo for d Disca	ck the tra irt build u rd or dis	nsfer belt a p and clear WARNING spose of cl ccordance	h if necessa	nry. Daked					
		2. Usin dam belt d drive and d	p rag, lint conveyor belt, idle drive pull	A filtered va t-free cloth, framework er rollers (pu eys.	or brush, c and associ ılleys), gea	lean the ated r motor					
			e off any o or case.	excess oil /	grime from	the gear					
ROLLER CONVEYOR	5.	Disca mater local j 2. Usin dam roller drive and 3. Wipe	ck the col clean if n rd or dis ials in ac procedur g a HEP/ p rag, lint r conveyo belt, idle drive pull	WARNING WARNING Spose of cl ccordance res. A filtered va t-free cloth, or framewor er rollers (pu	hemical so with MSD cuum clear or brush, c k and asso illeys), gea	baked S and her, a lean the ciated r motor	8	7			

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Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANANGEMENT SYSTEM	Equ	Equipment Model INDUCTION UNIT									^{name} 048ad		00			NTH	LY
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Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	S
Component			Req (min)	Lev	Run Hours	Pieces Fed (000)	Freq.

INDUCITON	6.	Clean Induction Belt 2.	8	7		
BELT 2		 Check the transfer belt and wearing plates for dirt build up and clean if necessary. WARNING 				
		Discard or dispose of chemical soaked materials in accordance with MSDS and local procedures.				
		 Using a HEPA filtered vacuum cleaner, a damp rag, lint-free cloth, or brush, clean the induction belt framework and associated drive belt, idler rollers (pulleys), gear motor and drive pulleys. 				
		 Wipe off any excess oil / grime from the gear motor case. 				
INDUCTION	6.	Clean Induction Belt 1.	8	7		
BELT 1		 Check the transfer belt and wearing plates for dirt build up and clean if necessary. 				
		WARNING				
		Discard or dispose of chemical soaked materials in accordance with MSDS and local procedures.				
		 Using a vacuum and/or low-pressure compressed air, clean the induction belt framework and associated drive belt, idler rollers (pulleys), gear motor and drive pulleys. 				
		Wipe off any excess oil / grime from the gear motor case.				
PHOTO SENSOR	8.	Check Photo Sensors And Reflectors.	3	7		
AND REFLECTORS		 Check the sensor exterior for physical damage. 				
		 Check the mounting connections for tightness. If loose, align the photo sensor/reflector. 				
		 Check the electrical connections for tightness. 				
		4. Report discrepancies to supervisor.				

MMO-114-13

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	9.	Clean Ph	noto Sens	sors And Ref	lectors		3	7			
				o sensor wine dust and dirt		a damp					
			e the refle ove dust a	ector with a da and dirt.	amp rag t	0					
400500	40	Dest	0								
ACCESS PANELS	10.	-	-	or Access Pa		,	3	7			
FANLES		Replace t covers.	the conve	yor side acce	ess panels	s /					
		_		WARNING							
			ment w	hen working /hen powei		or on been					
	11.	Restore	Equipme	nt To Servic	e.		2	All			
		LOCKOU disconne	IT/TAGOU ct lever in rol panel	oower by rem JT device and the "ON" pos "AUTO/MANI	d placing sition. Pla	the PLC ace the					
INDUCITON	12.	Run Indu	uction Un	it.			5	7			
UNIT				WARNING]						
		jewelr get ca	ry, ties, o aught in	 loose fitt or other artic the machin moving parts 	les that o e. Keep	could hair					
				n unit and visi s for proper b							
		2. Cheo for d	ck all four	sections of the sections of the sections of the section of the sec	ne inducti	ion unit					
			en for any /eyor opei	unusual nois ration.	e genera	ted by					
		4. Rep	ort discre	pancies to su	pervisor.						
CLEAN-UP	13.	Clean-Up	Э.				3	All			
		removed	from the v	bricants, rags work area. Re r supervisor.		9					
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Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	s
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Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	s
Component			Req (min)	Lev	Run Hours	Pieces Fed (000)	Freq.

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ATTACHMENT 3

SIEMENS TMS INDUCTION UNIT

MASTER CHECKLIST

03-INDUCT-CA-002-M

QUARTERLY

Time Total: 40 minutes

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MANAGÈMENT SYSTEM																	

Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	s
Component	No		Req (min)	Lev	Run Hours	Pieces Fed (000)	Freq.

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SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint- free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.	3	AII		
	2.	Lockout Power. Place appropriate PLC control panel "AUTO/MANUAL" switch in the "MANUAL" position. Lockout electrical power by placing the PLC disconnect lever in the "OFF" position and install a LOCKOUT/TAGOUT device.	2	All		

MMO-114-13

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MANANGEMENT SYSTEM																		

Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	S
			Req (min)	Lev	Run Hours	Pieces Fed (000)	Freq.
BELT	3.	Check Belt Tensions.	10	7			
TENSIONS		1. Remove the appropriate access panels / covers.					
		 Visually check all transfer belts and drive belts for proper tensioning. Check for signs of slippage. 					
		 Tension the belts, if necessary, by referring to the appropriate maintenance documentation. 					
		4. Report discrepancies to supervisor.					
TRANSFER	4.	Inspect Condition Of Transfer Belts.	15	7			
BELTS		 Inspect the following belts for cuts, frays, tears, and signs of excessive wear: 					
		a. Belt conveyor transfer belt.					
		b. Induction belt 2 transfer belt.					
		c. Induction belt 1 transfer belts.					
		 Replace if necessary, by referring to the appropriate maintenance documentation. 					
		2. Reinstall the access panels / covers.					
		WARNING					
		Be cautious when working around or on equipment when power has been applied.					
	5.	Restore Equipment To Service.	2	All			
		Restore electrical power by removing your LOCKOUT/TAGOUT device and placing the PLC disconnect lever in the "ON" position. Place the PLC control panel "AUTO/MANUAL" switch in the "AUTO" position.					

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Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	s
Component	No		Req (min)	Lev	Run Hours	Pieces Fed (000)	Freq.

	6.	Run Induction Unit.	5	7		
UNIT		WARNING				
		Do not wear loose fitting clothing, jewelry, ties, or other articles that could get caught in the machine. Keep hair away from all moving parts and belts.				
		 Start induction unit and visually check all induction belts for proper belt tracking. 				
		2. Check all four sections of the induction unit for drive and/or transfer belt slippage due to improper belt tension.				
		 Listen for any unusual noise generated by conveyor operation. 				
		4. Report discrepancies to supervisor.				
CLEAN-UP	7.	Clean-Up.	3	All		
		Ensure all tools, lubricants, rags, ect., are removed from the work area. Report all deficiencies to your supervisor.				

MMO-114-13

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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill		Threshold	s
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ATTACHMENT 4

SIEMENS TMS INDUCITON UNIT

MASTER CHECKLIST

03-INDUCT-CA-003-M

BI-ANNUAL

Time Total: 135 minutes

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Component	No	(Comply with all current safety precautions)	Time	Skill				
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SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS.	3	All			
STATEWIENT		Disconnect power and apply lockouts when					
		required by this instruction. Refer to current local lockout procedures to properly					
		shutdown and lockout this machine. Open					
		equipment and inspect dust conditions.					
		Check for suspicious dust or unusual debris.					
		If any unusual substance is found notify supervisor prior to proceeding with any					
		further action on the equipment.					
		THE USE OF COMPRESSED OR BLOWN AIR					
		IS PROHIBITED.					
		When cleaning is required, an alternative					
		cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used					
		in place of compressed or blown air. A lint-					
		free cloth or brush may be used on optical					
		equipment only when other cleaning methods					
		cannot be used. Report safety deficiencies to your supervisor immediately upon detection.					
		WARNING FOR EWP/PPE:					
		Steps contained in this bulletin may require					
		the use of Personal Protective Equipment					
		(PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE					
		requirements.					
	2.	Lockout Power.	2	All			
		Place appropriate PLC control panel					
		"AUTO/MANUAL" switch in the "MANUAL"					
		position. Lockout electrical power by placing the PLC disconnect lever in the "OFF" position and					
		install a LOCKOUT/TAGOUT device.					
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MMO-114-13

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Part or Component	Item No	((Statement and I th all current safe		ıs)	Est. Time	Min. Skill		IS		
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INDUCTION UNIT	3.		Inductio	on Unit Gear	For All	120	7					
GEAR MOTOR OIL		Motors.		(
				WARNING	i							
		in ac Safet produ federa when	Handling of oil and waste oil should be in accordance with the MSDS (Material Safety Data Sheet) for that specific product. In addition all local, state, and federal regulations should be observed when storing and disposing of oil and associated waste.									
		Supplies	needed:	:								
		• Mobi	I Gear 6	30 (mineral o	il), or equiv							
			l Glygoy valent	le 30 (synthe	tic oil) , or							
				CAUTION synthetic d lubricant.								
		-		appropriate a								
		COVE										
			 box. Remove the bottom drain plug and drain the gear oil into an approved container. Replace the bottom drain plug. 									
		4. Rep										
		5. Rem										
		oil),		with Mobil G lygoyle 30 (sy								
		7. Rep	lace the	fill level plug								
		8. Rep	lace the	top vent plug								
			eat the a boxes.	above proced	ures for all	four						
		10. Reir	istall the	access pane								

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			utious v													
		equipment when power has been														
		applie	applied.													
	4.	4. Restore Equipment To Service.								2	All					
		Restore electrical power by removing your														
		LOCKOL	DUT/TAGOUT device and placing the PLC													
			ect lever in the "ON" position. Place the													
		PLC control panel "AUTO/MANUAL" switch in the														
		"AUTO" position.														
INDUCTION	CTION 5. Run Induction Unit.									5	7					
UNIT			[WAR	NING	;										
		Do r	not wea	ar loos	⊆ fi	tting	പപ	thi	na							
		jewelry, ties, or other articles that could get caught in the machine. Keep hair														
		away from all moving parts and belts.														
		1. Start induction unit and visually check all														
			iction bel													
		2. Che	eck all four sections of the induction unit													
		for drive and/or transfer belt slippage due to improper belt tension.							lue to							
			•													
		3. Listen for any unusual noise generated by conveyor operation.														
4. Report discrepancies to supervisor.																
CLEAN-UP	6.	Clean-U	p.							3	All				1	
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		removed						č								
		deficienc					un									
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