



Maintenance Management Order

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.



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

- Attachments
1. Summary of Workload Estimate For Siemens TMS Induction Unit
 2. 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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**SUMMARY
WORKLOAD ESTIMATE
FOR SIEMENS TMS INDUCTION UNIT**

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
Quarterly	2.67	0.80	3.47	0.35	3.82
Bi-Annual	1.13	0.34	1.47	0.14	1.62
Totals	15.60	4.68	20.28	2.03	22.31

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

U.S. Postal Service Maintenance Checklist	IDENTIFICATION												
	WORK CODE		EQUIPMENT ACRONYM					CLASS CODE		NUMBER			TYPE
	0	3	I	D	U	C	T		C	A	0	0	1
Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANAGEMENT SYSTEM		Equipment Model INDUCTION UNIT					Bulletin Filename mm13048ad			Occurrence MONTHLY			

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

SAFETY STATEMENT	1.	<p>COMPLY WITH ALL SAFETY PRECAUTIONS.</p> <p>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.</p> <p>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</p> <p>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.</p> <p>WARNING FOR EWP/PPE:</p> <p>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.</p>	3	All			
	2.	<p>Lockout Power.</p> <p>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.</p>	2	All			

U.S. Postal Service Maintenance Checklist	IDENTIFICATION												
	WORK CODE		EQUIPMENT ACRONYM					CLASS CODE		NUMBER			TYPE
	0	3	I	D	U	C	T		C	A	0	0	1
Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANANGMENT SYSTEM		Equipment Model INDUCTION UNIT					Bulletin Filename mm13048ad			Occurrence MONTHLY			

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
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ACCESS PANELS	3.	Remove Conveyor Access Panels. Remove the conveyor side access panels / covers using a RITTAL key if necessary.	3	7			
BELT CONVEYOR	4.	Clean Belt Conveyor. 1. Check the transfer belt and wearing plates for dirt build up and clean if necessary. <div style="border: 1px solid black; padding: 2px; text-align: center;">WARNING</div> Discard or dispose of chemical soaked materials in accordance with MSDS and local procedures. 2. Using a HEPA filtered vacuum cleaner, a damp rag, lint-free cloth, or brush, clean the belt conveyor framework and associated drive belt, idler rollers (pulleys), gear motor and drive pulleys. 3. Wipe off any excess oil / grime from the gear motor case.	8	7			
ROLLER CONVEYOR	5.	Clean Roller Conveyor. 1. Check the conveyor rollers for dirt build up and clean if necessary. <div style="border: 1px solid black; padding: 2px; text-align: center;">WARNING</div> Discard or dispose of chemical soaked materials in accordance with MSDS and local procedures. 2. Using a HEPA filtered vacuum cleaner, a damp rag, lint-free cloth, or brush, clean the roller conveyor framework and associated drive belt, idler rollers (pulleys), gear motor and drive pulleys. 3. Wipe off any excess oil / grime from the gear motor case.	8	7			

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	0	3	I	D	U	C	T		C	A	0	0	1
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INDUCITON BELT 2	6.	<p>Clean Induction Belt 2.</p> <ol style="list-style-type: none"> 1. Check the transfer belt and wearing plates for dirt build up and clean if necessary. <p style="text-align: center;">WARNING</p> <p>Discard or dispose of chemical soaked materials in accordance with MSDS and local procedures.</p> <ol style="list-style-type: none"> 2. 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. 3. Wipe off any excess oil / grime from the gear motor case. 	8	7			
INDUCTION BELT 1	6.	<p>Clean Induction Belt 1.</p> <ol style="list-style-type: none"> 1. Check the transfer belt and wearing plates for dirt build up and clean if necessary. <p style="text-align: center;">WARNING</p> <p>Discard or dispose of chemical soaked materials in accordance with MSDS and local procedures.</p> <ol style="list-style-type: none"> 2. 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. 3. Wipe off any excess oil / grime from the gear motor case. 	8	7			
PHOTO SENSOR AND REFLECTORS	8.	<p>Check Photo Sensors And Reflectors.</p> <ol style="list-style-type: none"> 1. Check the sensor exterior for physical damage. 2. Check the mounting connections for tightness. If loose, align the photo sensor/reflector. 3. Check the electrical connections for tightness. 4. Report discrepancies to supervisor. 	3	7			

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	9.	Clean Photo Sensors And Reflectors 1. Wipe the photo sensor window with a damp rag to remove dust and dirt. 2. Wipe the reflector with a damp rag to remove dust and dirt.	3	7			
ACCESS PANELS	10.	Replace Conveyor Access Panels. Replace the conveyor side access panels / covers.	3	7			
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">WARNING</div> Be cautious when working around or on equipment when power has been applied.					
	11.	Restore Equipment To Service. 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.	2	All			
INDUCITON UNIT	12.	Run Induction Unit. <div style="text-align: center;"> <div style="border: 1px solid black; padding: 2px; display: inline-block;">WARNING</div> </div> 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. 1. 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. 3. Listen for any unusual noise generated by conveyor operation. 4. Report discrepancies to supervisor.	5	7			
CLEAN-UP	13.	Clean-Up. Ensure all tools, lubricants, rags, ect., are removed from the work area. Report all deficiencies to your supervisor.	3	All			

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ATTACHMENT 3

SIEMENS TMS INDUCTION UNIT

MASTER CHECKLIST

03-INDUCT-CA-002-M

QUARTERLY

Time Total: 40 minutes

U.S. Postal Service Maintenance Checklist	IDENTIFICATION												
	WORK CODE		EQUIPMENT ACRONYM					CLASS CODE		NUMBER			TYPE
	0	3	I	D	U	C	T		C	A	0	0	3
Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANAGEMENT SYSTEM		Equipment Model INDUCTION UNIT					Bulletin Filename mm13048ad			Occurrence QUARTERLY			

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

SAFETY STATEMENT	1.	<p>COMPLY WITH ALL SAFETY PRECAUTIONS.</p> <p>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.</p> <p>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</p> <p>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.</p> <p>WARNING FOR EWP/PPE:</p> <p>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.</p>	3	All			
	2.	<p>Lockout Power.</p> <p>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.</p>	2	All			

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	WORK CODE		EQUIPMENT ACRONYM					CLASS CODE		NUMBER			TYPE	
	0	3	I	D	U	C	T			C	A	0	0	3
Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANAGEMENT SYSTEM		Equipment Model INDUCTION UNIT					Bulletin Filename mm13048ad			Occurrence QUARTERLY				

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

BELT TENSIONS	3.	<p>Check Belt Tensions.</p> <ol style="list-style-type: none"> 1. Remove the appropriate access panels / covers. 2. Visually check all transfer belts and drive belts for proper tensioning. Check for signs of slippage. 3. Tension the belts, if necessary, by referring to the appropriate maintenance documentation. 4. Report discrepancies to supervisor. 	10	7			
TRANSFER BELTS	4.	<p>Inspect Condition Of Transfer Belts.</p> <ol style="list-style-type: none"> 1. Inspect the following belts for cuts, frays, tears, and signs of excessive wear: <ol style="list-style-type: none"> a. Belt conveyor transfer belt. b. Induction belt 2 transfer belt. c. Induction belt 1 transfer belts. d. Replace if necessary, by referring to the appropriate maintenance documentation. 2. Reinstall the access panels / covers. 	15	7			
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">WARNING</div> <p>Be cautious when working around or on equipment when power has been applied.</p>					
	5.	<p>Restore Equipment To Service.</p> <p>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.</p>	2	All			

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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
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INDUCTION UNIT	6.	<p>Run Induction Unit.</p> <div style="border: 1px solid black; padding: 2px; text-align: center; margin: 5px 0;">WARNING</div> <p>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.</p> <ol style="list-style-type: none"> 1. 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. 3. Listen for any unusual noise generated by conveyor operation. 4. Report discrepancies to supervisor. 	5	7			
CLEAN-UP	7.	<p>Clean-Up.</p> <p>Ensure all tools, lubricants, rags, ect., are removed from the work area. Report all deficiencies to your supervisor.</p>	3	All			

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.

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ATTACHMENT 4

SIEMENS TMS INDUCITON UNIT

MASTER CHECKLIST

03-INDUCT-CA-003-M

BI-ANNUAL

Time Total: 135 minutes

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	I	D	U	C	T			C	A	0	0	3
Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANAGEMENT SYSTEM		Equipment Model INDUCTION UNIT					Bulletin Filename mm13048ad			Occurrence BI-ANNUAL				

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

SAFETY STATEMENT	1.	<p>COMPLY WITH ALL SAFETY PRECAUTIONS.</p> <p>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.</p> <p>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</p> <p>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.</p> <p>WARNING FOR EWP/PPE:</p> <p>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.</p>	3	All			
	2.	<p>Lockout Power.</p> <p>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.</p>	2	All			

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	0	3	I	D	U	C	T			C	A	0	0	3
Equipment Nomenclature SIEMENS (PHASE IIIA) TRAY MANAGEMENT SYSTEM		Equipment Model INDUCTION UNIT					Bulletin Filename mm13048ad			Occurrence BI-ANNUAL				

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

INDUCTION UNIT GEAR MOTOR OIL	3.	<p>Change Induction Unit Gear Motor Oil For All Motors.</p> <div style="border: 1px solid black; padding: 2px; text-align: center; width: fit-content; margin: 0 auto;">WARNING</div> <p>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.</p> <p>Supplies needed:</p> <ul style="list-style-type: none"> • Mobil Gear 630 (mineral oil), or equivalent • Mobil Glygoyle 30 (synthetic oil) , or equivalent <div style="border: 1px solid black; padding: 2px; text-align: center; width: fit-content; margin: 0 auto;">CAUTION</div> <p>Do not mix synthetic lubricant with mineral based lubricant.</p> <ol style="list-style-type: none"> 1. Remove the appropriate access panels / covers. 2. Remove the top vent plug on top of the gear box. 3. Remove the bottom drain plug and drain the gear oil into an approved container. 4. Replace the bottom drain plug. 5. Remove the fill level plug. 6. Fill gear box with Mobil Gear 630 (mineral oil), Mobil Glygoyle 30 (synthetic oil), or equivalent. 7. Replace the fill level plug. 8. Replace the top vent plug. 9. Repeat the above procedures for all four gear boxes. 10. Reinstall the access panels / covers. 	120	7			
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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
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		WARNING Be cautious when working around or on equipment when power has been applied.					
	4.	Restore Equipment To Service. 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.	2	All			
INDUCTION UNIT	5.	Run Induction 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. 1. 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. 3. Listen for any unusual noise generated by conveyor operation. 4. Report discrepancies to supervisor.	5	7			
CLEAN-UP	6.	Clean-Up. Ensure all tools, lubricants, rags, ect., are removed from the work area. Report all deficiencies to your supervisor.	3	All			