MAINTENANCE TECHNICAL SUPPORT CENTER / MAINTENANCE POLICIES & PROGRAMS ENGINEERING / UNITED STATES POSTAL SERVICE

Maintenance Management Order

SUBJECT: Preventive Maintenance Servicing Guidelines for Lockheed Martin (LM) Tray Management Systems (TMS) Tray Transport Power Roller (TT) Conveyor Curve

TO: All Lockheed Martin Tray Transport System Sites

DATE: August 17, 2010

NO: MMO-082-10

FILE CODE: TM05

rorn:mm09076ae

This Maintenance Management Order (MMO) provides Preventive Maintenance Servicing Guidelines for LM TMS TT Conveyor Curve. The acronym is TT. The class code is BA.

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.

The workhours represented in this MMO reflect the maximum workhours required to maintain the equipment. Given local conditions, management may modify task frequencies.

Maintenance Managers are to use these preventive maintenance guidelines when preparing the route sheets for local maintenance personnel. It is the responsibility of each Maintenance Manager to ensure all WARNINGS, CAUTIONS, and NOTES are included with each applicable task as part of the preparation of any local route sheets.

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.

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

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Attachments:

1. Summary of Workload Estimate
2. LM TMS TT Conveyor Curve: Master Checklist: 03-TT-BA-001-M: Monthly
3. LM TMS TT Conveyor Curve: Master Checklist: 03-TT-BA-002-M:Semi-Annual

ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR

LM TMS TT CONVEYOR CURVE

SUMMARY
WORKLOAD ESTIMATE

Floor Level Module And 1-4 Zone Elevated Module

Days	Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Total Servicing & Repair Time (hrs/yr)	Nonproductive Time ** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
5 Day	2.20	0.66	2.86	0.29	3.15
6 day	2.20	0.66	2.86	0.29	3.15
7 day	2.20	0.66	2.86	0.29	3.15

5-8 Zone Elevated Module

Days	Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Total Servicing & Repair Time (hrs/yr)	Nonproductive Time ** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
5 Day	2.23	0.67	2.90	0.29	3.19
6 day	2.23	0.67	2.90	0.29	3.19
7 day	2.23	0.67	2.90	0.29	3.19

NOTES:
∗Repair estimates based on 30% of servicing.
∗∗Based on 10% of total servicing and repair.

ATTACHMENT 2

LM TMS TT CONVEYOR CURVE

MASTER CHECKLIST

03-TT-BA-001-M

MONTHLY

Time Totals: 10 Minutes per module

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	T	T							B	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Frequency
LM TMS TT	Conveyor Curve	MM09076AE	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)	Time Period
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 shut down and lock out 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, a damp cloth, lint-free cloth, or brush, must be used in place of compressed or blown air. Report safety deficiencies to your supervisor immediately upon detection.** **WARNING** **Be cautious when working around or on equipment when power has been applied.**	2	All			
CONVEYOR	2.	**Check conveyor operation** 1. With the conveyor on-line, run a couple of heavy trays or tubs approximately 50 pounds around the curve. 2. Check for sluggish movement of trays through the curve. If sluggish movement is present, check for broken or slipping O-rings. If any of these conditions exist, notify supervisor. 3. Observe conveyor speed. It should be in the range of 120 – 135 FPM. Zones running too fast should be adjusted to within range. If zones are too slow, check for slipping belts, replace belts and or adjust speed as required.	2	9			

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	T	T							B	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Frequency
LM TMS TT	Conveyor Curve	MM09076AE	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)	Time Period
IDLER ROLLERS DRIVE ROLLER	3.	**Check drive rollers, idler rollers, and O-rings.** 1. On the Cell Control PC, enter login ID and Password. 2. On the TMS Main Menu, select Cell Controller. 3. On the CELL STATUS screen, select the Cell Offline button. 4. Select the Conveyor button. 5. On the CONVEYOR MANAGEMENT screen, select the Device Id(s) (and select the zone(s) if applicable) for the conveyor being checked. 6. Select the Force Output button. The conveyor (zone(s)) selected should now be operating. 7. Check drive and idler rollers for attached debris. 8. Check for noise. If roller is excessively noisy, notify supervisor. 9. Check fastening nuts for movement. If the fastening nuts rotate when the drive roller starts and stops, power down the affected conveyor segment and lock out its electrical power and retighten the nuts to 35 to 37 foot-pounds. 10. If no cleaning or adjustments are needed, skip to step 13. Power down and lock out power as prescribed by the current local lockout/restore procedures. 11. Remove any dirt/debris found. If required, clean roller with soap and water. **WARNING** **Be cautious when working around or on equipment when power has been applied.** 12. Restore the equipment to service as prescribed by the current local lockout/restore procedures.	5	9			

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	T	T							B	A	0	0	1	M
Equipment Nomenclature: LM TMS TT	Equipment Model: Conveyor Curve										Bulletin Filename: MM09076AE					Frequency: 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)	Time Period
		13. After completing all checks, select OK on the Conveyor Management screen to stop the selected rollers. 14. On the CONVEYOR MANAGEMENT screen, select Cell Status button. 15. On the CELL STATUS screen, select Cell Online button. 16. Select Exit button. 17. On the TMS Main Menu, select Log Off button.					
CLEAN UP	4.	**Clean up.** Ensure all tools, lubricants, rags, etc., are removed from the work area. Notify supervisor of any deficiencies.	1	All			

ATTACHMENT 3

LM TMS TT CONVEYOR CURVE

MASTER CHECKLIST

03-TT-BA-002-M

SEMI-ANNUAL

Time Totals:

6 minutes per floor level module
6 minutes per 1-4 zone elevated module
7 minutes per 5-8 zone elevated module

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	T	T							B	A	0	0	2	M
Equipment Nomenclature: LM TMS TT	Equipment Model: Conveyor Curve										Bulletin Filename: MM09076AE					Frequency: Semi-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	Thresholds: Pieces Fed (000)	Thresholds: Time Period
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 shut down and lock out 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, a damp cloth, lint-free cloth, or brush, must be used in place of compressed or blown air. Report safety deficiencies to your supervisor immediately upon detection.**	2	All			
POWER DOWN	2.	**Power down and lockout power.** Power down the machine and lock out its electrical power as prescribed by the current local lockout/restore procedures.	1	9			
PHOTO EYES	3.	**Clean photo eyes and reflectors.** Using a clean, dry cloth, clean dust and dirt from the photoeyes and reflectors. ***** Minute per floor level module ****** Minute per 1-4 zone elevated module *** Minutes per 5-8 zone elevated module	* 1 **1 ***2	9			
		WARNING **Be cautious when working around or on equipment when power has been applied.**					
RETURN TO SERVICE	4.	**Restore equipment to service.** Restore equipment to service as prescribed by the current local lockout/restore procedures.	1	9			
CLEAN UP	5.	**Clean up.** Ensure all tools, lubricants, rags, etc., are removed from the work area. Notify supervisor of any deficiencies.	1	All			