



# Maintenance Management Order

**SUBJECT:** Preventive Maintenance (PM) Guidelines for  
the Tray Depalletizer Singulator (TDS)

**DATE:** August 5, 2009

**NO:** MMO-100-09

**TO:** All TDS Sites

**FILE CODE:** TM6

rrep:mm08049ac

MAINTENANCE MANAGEMENT ORDER

MAINTENANCE MANAGEMENT ORDER

This Maintenance Management Order (MMO) provides Preventive Maintenance Guidelines for the Tray Depalletizer Singulator system (TDS).

The work hours indicated in the workload estimate (Attachment 1) are based on a 20-hour operations window and reflect the *maximum* annual work hours 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.

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.



Robert E. Albert  
Manager  
Maintenance Technical Support Center  
Maintenance Policies and Programs

- Attachments:
1. Summary Workload Estimate
  2. Master Checklist: 03-TDS-AA-001-M: Daily
  3. Master Checklist: 03-TDS-AA-002-M: Weekly
  4. Master Checklist: 03-TDS-AA-003-M: Monthly
  5. Master Checklist: 03-TDS-AA-004-M: Quarterly
  6. Master Checklist: 03-TDS-AA-005-M: Semi-Annual
  7. Master Checklist: 03-TDS-AA-006-M: Annual

MAINTENANCE MANAGEMENT ORDER

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**ATTACHMENT 1**

**SUMMARY**

**WORKLOAD ESTIMATE**

**FOR**

**TDS**

**MAINTENANCE MANAGEMENT ORDER**

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**SUMMARY  
WORKLOAD ESTIMATE  
FOR  
TDS**

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)
5	356.57	106.97	463.54	46.35	509.89
6	401.63	120.49	522.12	52.21	574.33
7	446.70	134.01	580.71	58.07	638.78

**NOTES:**

\*Repair estimates based on 30% of servicing.

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

## PM CHECKLIST TIME SUMMARY

Checklist	Checklist Time (per year)
03-TDS-AA-001-M: Daily	<b>13520 minutes for 5 days/week 16224 minutes for 6 days/week 18928 minutes for 7 days/week</b>
03-TDS-AA-002-M: Weekly	<b>5356 minutes</b>
03-TDS-AA-003-M: Monthly	<b>1644 minutes</b>
03-TDS-AA-004-M: Quarterly	<b>588 minutes</b>
03-TDS-AA-005-M: Semi-Annual	<b>114 minutes</b>
<b>03-TDS-AA-006-M: Annual</b>	<b>172 minutes</b>

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**ATTACHMENT 2**

**MASTER CHECKLIST**

03-TDS-AA-001-M

DAILY

Time Total: 52 Minutes

**NOTE**

The FOTH maintenance manual referred to in the checklist was provided to the site at the time of installation/training. Contact MTSC HelpDesk for assistance if FOTH maintenance manual is needed.

**MAINTENANCE MANAGEMENT ORDER**

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U.S. Postal Service		IDENTIFICATION													
<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	T	D	S					A	A	0	0	1
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency Daily				

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)	Weeks

SAFETY STATEMENT

1. **COMPLY WITH ALL SAFETY PRECAUTIONS.** 3 All

**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 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.**

SYSTEM

2. **Power down and lock out power.** Power down the machine and lock out its electrical power as prescribed by the current local lockout instructions providing lockout/restore procedures. 4 All

MAIL SEARCH

3. **Perform a mail search.** Search for mail pieces in and under the machine. 10 7

VACUUM HEAD

4. **Check vacuum cups.** Check for worn or ripped vacuum cups. 15 7
5. **Check vacuum stems.** Check vacuum stems for free movement. 15 7

CLEAN UP

6. **Clean up.** Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor. 2 All

<b>WARNING</b>
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**Be cautious when working around or on equipment when power has been applied.**

MAINTENANCE MANAGEMENT ORDER

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U.S. Postal Service		IDENTIFICATION													
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		0	3	T	D	S					A	A	0	0	1
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency Daily				

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)	Weeks

SYSTEM                      7. **Restore equipment to service.**    Restore    3    All  
 equipment to service as prescribed by the current local procedure providing lockout/restore procedures.

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Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency Daily				

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)	Weeks

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**MAINTENANCE MANAGEMENT ORDER**

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**ATTACHMENT 3**

**MASTER CHECKLIST**

03-TDS-AA-002-M

WEEKLY

Time Total: 103 Minutes

**NOTE**

The FOTH maintenance manual referred to in the checklist was provided to the site at the time of installation/training. Contact MTSC HelpDesk for assistance if FOTH maintenance manual is needed.

**MAINTENANCE MANAGEMENT ORDER**

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U.S. Postal Service <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	T	D	S				A	A	0	0	2	M
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model					Bulletin Filename MM08049AC			Frequency Weekly				

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)	Weeks

SAFETY STATEMENT

1. **COMPLY WITH ALL SAFETY PRECAUTIONS.** 3 All

**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 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**

**Be cautious when working around or on equipment when power has been applied.**

MAIN CONTROL ENCLOSURE (EC-1)

2. **Check air conditioner.** Clean air conditioner air filter and check that the fans are operating. 5 9

PALLET LIFT

3. **Check the pallet lift.** Check that the pallet lift moves freely. 5 9

4. **Check transfer area guard switch.** Check that the transfer area guard switch operates. 5 9

SYSTEM

5. **Power down and lock out power.** Power down the machine and lock out its electrical power source as prescribed by the current local lockout/restore procedures. 4 All

MAINTENANCE MANAGEMENT ORDER

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<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER		TYPE	
		0	3	T	D	S					A	A	0	0	2
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency Weekly				

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)	Weeks

**WARNING**

**Wear proper hand protection to avoid cuts, scrapes, and other hand injuries when handling and checking cables.**

**MAINTENANCE MANAGEMENT ORDER**

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- |                |     |   |    |   |
|----------------|-----|---|----|---|
| PALLET LIFT    | 6.  | <b>Check lift cable.</b> Check entire length of pallet lift cable for wear, fraying, cracks, flat spots, broken wires, nicks, cuts, or obstructions. Check cable winding on pallet lift cable winding drum. | 12 | 9 |
|                | 7.  | <b>Check lift cable connections.</b> Check that all pallet lift cable connections at the pallet lift are tight and that the ferrules on the winding drum are securely held to the drum.                     | 8  | 9 |
|                | 8.  | <b>Check winding drum.</b> Check the pallet lift cable winding drum for excessive wear, and that all connections to the shaft and the cable anchors are tight and secure.                                   | 10 | 9 |
|                | 9.  | <b>Check winding drum sensing idler.</b> Check that the pallet lift cable tension sensing idlers are on the pallet lift cable.  | 2  | 9 |
| PALLET STACKER | 10. | <b>Check drive chain tension.</b> Check the tension of the pallet stacker drive chain. Refer to the mechanical setup section of the FOTH maintenance manual.  | 25 | 9 |
| PUSHER         | 11. | <b>Check pusher chain tension.</b> Check the tension of the pusher chain. Refer to the mechanical setup section of the FOTH maintenance manual.   | 5  | 9 |
| TRANSFER SHEET | 12. | <b>Check timing belt.</b> Check the transfer sheet timing belt for cracks or uneven wear.   | 5  | 9 |
|                | 13. | <b>Check timing belt tension.</b> Check the tension of the transfer sheet timing belt. Refer to the mechanical setup section of the FOTH maintenance manual.  | 5  | 9 |
| PNEUMATICS     | 14. | <b>Check lubricator.</b> Check the lubricator oil level. Add oil as needed.   | 2  | 9 |
|                | 15. | <b>Check line filter.</b> Check the line filter water level and drain.  | 2  | 9 |

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Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency Weekly				

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)	Weeks

CLEAN UP                      16. **Clean Up.** Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor.                      2                      All

**WARNING**

**Be cautious when working around or on equipment when power has been applied.**

SYSTEM                      17. **Restore equipment to service.** Restore equipment to service as prescribed by the current local procedure providing lockout/restore procedures.                      3                      All

MAINTENANCE MANAGEMENT ORDER

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**ATTACHMENT 4**

**MASTER CHECKLIST**

03-TDS-AA-003-M

MONTHLY

Time Total: 137 Minutes

**NOTE**

The FOTH maintenance manual referred to in the checklist was provided to the site at the time of installation/training. Contact MTSC HelpDesk for assistance if FOTH maintenance manual is needed.

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U.S. Postal Service		IDENTIFICATION													
<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	T	D	S					A	A	0	0	3
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			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)	Weeks

SAFETY STATEMENT

- |    |   |   |     |
|----|---|---|-----|
| 1. | <p><b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b><br/>                 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.</p> | 3 | All |
|----|---|---|-----|

**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.

SYSTEM

- |    |   |   |     |
|----|---|---|-----|
| 2. | <p><b>Power down and lock out power.</b> Power down the machine and lock out its electrical power source as prescribed by the current local lockout/restore procedures.</p> | 4 | All |
|----|---|---|-----|

**WARNING**

Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.

PALLET LIFT

- |    |   |    |   |
|----|---|----|---|
| 3. | <p><b>Clean the machine.</b> Use a HEPA vacuum and damp rags to clean the entire machine, including CS-1, EC-1, and CC-1.</p>   | 60 | 7 |
| 4. | <p><b>Grease idler pulley.</b> Wipe grease fitting. Grease pallet lift idler pulley. Use 1 to 3 pumps of Chevron Auto LC EP #2 grease, Mobility AW-2 or equivalent.</p>                   | 10 | 7 |
| 5. | <p><b>Grease pillow block bearings.</b> Wipe grease fitting. Grease pallet lift pillow block bearings. Use 1 to 3 pumps of Chevron Auto LC EP #2 grease, Mobility AW-2 or equivalent.</p> | 10 | 7 |

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U.S. Postal Service <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	T	D	S			A	A	0	0	3	M	
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model					Bulletin Filename MM08049AC			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)	Weeks

**WARNING**

**Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.**

**MAINTENANCE MANAGEMENT ORDER**

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	6.	<b>Grease 4-bolt flange bearings.</b> Wipe grease fitting. Grease the pallet lift 4-bolt flange bearings. Use 1 to 3 pumps of Chevron Auto LC EP #2 grease, Mobility AW-2 or equivalent.	10	7	
TRANSFER SHEET	7.	<b>Grease 4-bolt flange bearings.</b> Wipe grease fitting. Grease the transfer sheet 4-bolt flange bearings. Use 1 to 3 pumps of Chevron Auto LC EP #2 grease, Mobility AW-2 or equivalent.	5	7	
	8.	<b>Check guide blocks.</b> Check the transfer sheet guide blocks for wear.	5	9	
SINGULATION ASSEMBLY	9.	<b>Grease pillow block bearings.</b> Wipe grease fitting. Grease the singulation assembly pillow block bearings. Use 1 to 3 pumps of Chevron Auto LC EP #2 grease, Mobility AW-2, or equivalent.	15	7	
VACUUM BLOWER	10.	<b>Check inlet silencer.</b> Check vacuum blower inlet internal silencer for blockage.	5	9	
	11.	<b>Check Wye fitting cap.</b> Check the vacuum blower Wye fitting cap and clean out any metal or debris.	5	9	
CLEAN UP	12.	<b>Clean up.</b> Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor.	2	All	

**WARNING**

**Be cautious when working around or on equipment when power has been applied.**

SYSTEM	13.	<b>Restore equipment to service.</b> Restore equipment to service as prescribed by the current local procedure providing lockout/restore procedures.	3	All	
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U.S. Postal Service		IDENTIFICATION													
<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	T	D	S					A	A	0	0	3
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			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)	Weeks

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**MAINTENANCE MANAGEMENT ORDER**

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**ATTACHMENT 5**

**MASTER CHECKLIST**

03-TDS-AA-004-M

QUARTERLY

Time Total: 147 Minutes

**NOTE**

The FOTH maintenance manual referred to in the checklist was provided to the site at the time of installation/training. Contact MTSC HelpDesk for assistance if FOTH maintenance manual is needed.

**MAINTENANCE MANAGEMENT ORDER**

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U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	T	D	S					A	A	0	0	4
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency 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)	Weeks

SAFETY STATEMENT

- |    |   |   |     |
|----|---|---|-----|
| 1. | <p><b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b><br/>                 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.</p> | 3 | All |
|----|---|---|-----|

**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**

Be cautious when working around or on equipment when power has been applied.

SYSTEM

- |    |   |   |     |
|----|---|---|-----|
| 2. | <p><b>Conduct ultrasound scan.</b> Use an ultrasonic test instrument to check for air and vacuum leaks.</p>   | 5 | 9   |
| 3. | <p><b>Power down and lock out power.</b> Power down the machine and lock out its electrical power source as prescribed by the current local lockout/restore procedures.</p> | 4 | All |

**WARNING**

Wear proper hand protection to avoid cuts, scrapes, and other hand injuries when handling and checking cables.

PALLET STACKER

- |    |  |    |   |
|----|--|----|---|
| 4. | <p><input type="checkbox"/> <b>Check drive chain.</b> Check the pallet stacker drive chain for wear. Refer to the mechanical setup section of the FOTH maintenance manual.</p> | 55 | 9 |
|----|--|----|---|

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		0	3	T	D	S					A	A	0	0
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency 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)	Weeks

- |  |  |    |   |
|--|--|----|---|
|  | 5. <input type="checkbox"/> <b>Check lifting fork bearing slides.</b> Check the pallet stacker lifting fork bearing slides for wear. Refer to the mechanical setup section of the FOTH maintenance manual. | 10 | 9 |
|--|--|----|---|

**WARNING**

**Wear proper hand protection to avoid cuts, scrapes, and other hand injuries when handling and checking cables.**

- |          |  |    |     |
|----------|--|----|-----|
| PUSHER   | 6. <b>Check chain.</b> Check the pusher chain for wear. Refer to the mechanical setup section of the FOTH maintenance manual.  | 55 | 9   |
|          | 7. <b>Check chain guide block.</b> Check the pusher chain guide block for wear, pusher angle deflection or binding. Check that the chain pins are straight and perpendicular to the chain. Refer to the mechanical setup section of the FOTH maintenance manual. | 5  | 9   |
|          | 8. <b>Check idler sprocket.</b> Check the pusher idler sprocket for alignment, lateral movement, worn bearings, or excessive noise. Refer to the mechanical setup section of the FOTH maintenance manual.  | 5  | 9   |
| CLEAN UP | 9. <b>Clean up.</b> Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor.  | 2  | All |

**WARNING**

**Be cautious when working around or on equipment when power has been applied.**

- |        |  |   |     |
|--------|--|---|-----|
| SYSTEM | 10. <b>Restore equipment to service.</b> Restore equipment to service as prescribed by the current local procedure providing lockout/restore procedures. | 3 | All |
|--------|--|---|-----|

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Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency Quarterly				

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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**ATTACHMENT 6**

**MASTER CHECKLIST**

03-TDS-AA-005-M

SEMI-ANNUAL

Time Total: 57 Minutes

**NOTE**

The FOTH maintenance manual referred to in the checklist was provided to the site at the time of installation/training. Contact MTSC HelpDesk for assistance if FOTH maintenance manual is needed.

**MAINTENANCE MANAGEMENT ORDER**

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		0	3	T	D	S					A	A	0	0	5
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			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	Pieces Fed (000)	Weeks

- |                  |    |  |   |     |
|------------------|----|--|---|-----|
| SAFETY STATEMENT | 1. | <p><b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b> 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.</p> <p><b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b> 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> | 3 | All |
| SYSTEM           | 2. | <p><b>Power down and lock out power.</b> Power down the machine and lock out its electrical power source as prescribed by the current local lockout/restore procedures.</p>  | 4 | All |

**WARNING**

Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.

- |                |    |   |    |   |
|----------------|----|---|----|---|
| PALLET STACKER | 3. | <p><b>Lubricate drive chain.</b> Lubricate the pallet stacker drive chain. Brush with a light coat of 30W oil.</p>  | 15 | 9 |
|                | 4. | <p><b>Check idler sprocket.</b> Check the pallet stacker drive chain idler sprocket for tooth wear and alignment. Refer to the mechanical setup section of the FOTH maintenance manual.</p> | 10 | 9 |
| PUSHER         | 5. | <p><b>Lubricate drive chain.</b> Lubricate the pusher drive chain. Brush with a light coat of 30W oil.</p>  | 15 | 9 |

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<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	T	D	S					A	A	0	0	5
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			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	Pieces Fed (000)	Weeks

6. **Check idler sprocket.** Check the pusher drive chain idler sprocket for tooth wear and alignment. Refer to the mechanical setup section of the FOTH maintenance manual. 5 9

CLEAN UP

7. **Clean up.** Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor. 2 All

**WARNING**

**Be cautious when working around or on equipment when power has been applied.**

SYSTEM

8. **Restore equipment to service.** Restore equipment to service as prescribed by the current local procedure providing lockout/restore procedures. 3 All

MAINTENANCE MANAGEMENT ORDER

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U.S. Postal Service		IDENTIFICATION													
<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	T	D	S					A	A	0	0	5
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			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	Pieces Fed (000)	Weeks

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**MAINTENANCE MANAGEMENT ORDER**

**MAINTENANCE MANAGEMENT ORDER**

**ATTACHMENT 7**

**MASTER CHECKLIST**

03-TDS-AA-006-M

ANNUAL

Time Total: 172 Minutes

**NOTE**

The FOTH maintenance manual referred to in the checklist was provided to the site at the time of installation/training. Contact MTSC HelpDesk for assistance if FOTH maintenance manual is needed.

**MAINTENANCE MANAGEMENT ORDER**

**MAINTENANCE MANAGEMENT ORDER**

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	T	D	S				A	A	0	0	6	M
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model					Bulletin Filename MM08049AC			Frequency 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)	Weeks

SAFETY STATEMENT      1      **COMPLY WITH ALL SAFETY PRECAUTIONS.**      3      All

**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 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**

**Be cautious when working around or on equipment when power has been applied.**

HMI CONTROL STATION (CS-1)      2      **Conduct thermal scan.** Use a thermal imaging camera to conduct a thermal scan of the HMI Control Station (CS-1). Look for anomalies indicating a high resistance connection or other problem.      5      9

MAIN CONTROL ENCLOSURE (EC-1)      3      **Conduct thermal scan.** Use a thermal imaging camera to conduct a thermal scan of the Main Control Enclosure (EC-1). Look for anomalies indicating a high resistance connection or other problem.      5      9

PALLET STACKER CONTROL ENCLOSURE (CC-1)      4      **Conduct thermal scan.** Use a thermal imaging camera to conduct a thermal scan of the Pallet Stacker Control Enclosure (CC-1). Look for anomalies indicating a high resistance connection or other problem.      5      9

MAINTENANCE MANAGEMENT ORDER

MAINTENANCE MANAGEMENT ORDER

U.S. Postal Service		IDENTIFICATION													
<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	T	D	S					A	A	0	0	6
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency 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)	Weeks

SYSTEM	5	<b>Power down and lock out power.</b> Power down the machine and lock out its electrical power source as prescribed by the current local lockout/restore procedures.	4	All
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**WARNING**

**Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.**

PALLET LIFT	6	<b>Drain and refill main gear box.</b> Clean area around drain. Drain and refill the pallet lift main gear box. Use Chevron Hipersyn 460 synthetic oil, Mobil SHC634, or equivalent.	60	7
	7	<b>Drain and refill in-line gear box.</b> Clean area around drain. Drain and refill the pallet lift in-line gear box. Use Chevron Ultragear 320, TPT Grade 6E Mineral Oil.	60	7
SINGULATION ASSEMBLY	8	<b>Check urethane belts.</b> Check the singulation assembly urethane belts for wear and/or damage.	5	9
	9	<b>Check air cylinders.</b> Check the singulation assembly air cylinders for wear and/or damage.	15	9
	10	<b>Check guide block tracking.</b> Check the tracking of the singulation assembly urethane guide blocks. Refer to the mechanical setup section of the FOTH maintenance manual.	5	9
CLEAN UP	11	<b>Clean up.</b> Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to your supervisor.	2	All

**WARNING**

**Be cautious when working around or on equipment when power has been applied.**

MAINTENANCE MANAGEMENT ORDER

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U.S. Postal Service		IDENTIFICATION													
<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	T	D	S					A	A	0	0	6
Equipment Nomenclature Tray Depalletizer Singulator		Equipment Model						Bulletin Filename MM08049AC			Frequency 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)	Weeks

SYSTEM	12	<b>Restore equipment to service.</b> Restore equipment to service as prescribed by the current local procedure providing lockout/restore procedures.	3	All
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MAINTENANCE MANAGEMENT ORDER

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