



Maintenance Management Order

SUBJECT: Operational and Preventive Maintenance
Guidelines for Packaging Recovery System
(PRS)

DATE: May 19, 2008

NO: MMO-052-08

TO: All Automated Flat Sorter Machine 100-
Automatic Induction Offices

FILE CODE: H8E

cdav: mm07080ac

MAINTENANCE MANAGEMENT ORDER

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This Maintenance Management Order (MMO) provides Operational and Preventive Maintenance Guidelines for the Packaging Recovery System (PRS).

The PRS operational maintenance includes steps that should be followed every time a bale is made. The number of bales made per day will depend on the number of machines supported by each PRS. The operational workload estimate is based on 1 bale per tour. However, the operational maintenance frequencies should be modified by local management to better complement the number of machines each PRS supports.

The workhours indicated in the workload estimate (Attachment 1) are based on a 20-hour operations window and reflect the *maximum* annual workhours required to maintain each system. Actual workhour requirements and the frequency of tasks are dependent on run time and pieces processed. PM workhour requirements will vary day-to-day based on site specific machine utilization. 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.

Maintenance Managers are to use these preventive maintenance guidelines when preparing 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.

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



Earl J. Jones
Manager
Maintenance Technical Support Center
Maintenance Policies and Programs

- Attachments:
1. Summary of Workload Estimate
 2. PRS Master Checklist: 03-PRS-AA-001-M: Daily
 3. PRS Master Checklist: 03-PRS-AA-002-M: Weekly
 4. PRS Master Checklist: 03-PRS-AA-003-M: Monthly
 5. PRS Master Checklist: 09-PRS-AA-001-M: Operational Maintenance

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ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR

PACKAGING RECOVERY SYSTEM

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**SUMMARY
WORKLOAD ESTIMATE
FOR PRS**

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)	Operational Maintenance + Total Servicing		
						1 Tour (hrs/yr)***	2 Tours (hrs/yr)***	3 Tours (hrs/yr)***
5	263	79	343	17	360	412	464	516
6	305	92	397	20	417	479	542	604
7	347	104	451	23	474	547	620	692

NOTES

*Repair estimates based on 30% of servicing.

**Based on 5% of routine servicing and repair.

*** See Operational Maintenance table.

Operational Maintenance

Operation	1 Tour	2 Tours	3 Tours
5 day/week	52 hrs	104 hrs	156 hrs
6 day/week	62 hrs	125 hrs	187 hrs
7 day/week	73 hrs	146 hrs	218 hrs

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ATTACHMENT 2

PRS MASTER CHECKLIST

03-PRS-AA-001-M

DAILY

Time Total: 48 Minutes

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U.S. Postal Service		IDENTIFICATION													
Maintenance Checklist		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	P	R	S					A	A	0	0	1
Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			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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SAFETY STATEMENT	1.	<p>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.</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>	5	All			
MACHINE	2.	<p>Power down and lock out power. Power down and lock out the machine as prescribed by the current local lockout instructions providing lockout/restore procedures.</p>	2	All			
PRS COMPACTOR	3.	<p>General. Open all outer doors on the PRS compactor section to perform the following:</p> <ol style="list-style-type: none"> 1. Remove all trash from front, side, rear, and beneath compactor. 2. Remove all trash and debris from around the top and bottom belt rollers. Remove strapping material from rollers. 3. Check the hopper for obstructions and remove all existing trash and debris. 	15	7			
	4.	<p>Conveyor belt drive chains and sprockets.</p> <ol style="list-style-type: none"> 1. Check main and top conveyor belt drive chain for the following, and report to supervisor if any of these conditions are found: <ol style="list-style-type: none"> a. Damaged chain links. b. Kinked chain links. c. Rust. 	3	7			

U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
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	0	3	P	R	S				A	A	0	0	1	M
Equipment Nomenclature Packaging Recovery System		Equipment Model					Bulletin Filename MM07080AC			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		
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2. Check main and top conveyor belt idler gear for the following, and report to supervisor if any of these conditions are found:
 - a. Worn or missing sprocket teeth.
 - b. Worn key and/or missing sprocket set screws.

PRS COMPACTOR AND SEPARATOR

- | | | | |
|----|--|-----------|---|
| 5. | Front chute plate. Check the front chute plate to ensure there is a belt gap of 3/8" to 1/2" between the front chute plate and the belt. | 2
MIN | 7 |
| 6. | Perforated plates. There are 2 perforated plates. One plate is above and behind the fan and can be seen through the upper fan door. The second plate is above the inlet duct in the hopper section, and can be seen through the hopper access door. Open the upper fan and hopper access doors and perform the following: <ol style="list-style-type: none"> 1. Remove all trash and debris from perforated plates. 2. Check perforated plate condition for separation (i.e. broken weldments) and report to supervisor if this condition is found. | 10
MIN | 7 |

WARNING

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

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|---------------------|---|----------|-----|
| MACHINE | 7. Restore PRS to service. Restore power to the PRS system as prescribed by the local lockout procedure. Observe all indicators during power-up for correct operation. | 2
MIN | All |
| PRS COMPACTOR BELTS | 8. Operate top and main compactor belts. Check the compactor belts for evidence of belt separation and wearing of white pyramid texture on belt. | 3
MIN | 7 |
| PRESSURE GAUGE | 9. Static pressure. Check static pressure gauge to ensure that the pressure does not exceed .4" WC. | 1
MIN | 7 |
| CLEAN UP | 10. Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor. | 5
MIN | All |

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Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			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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ATTACHMENT 3

PRS MASTER CHECKLIST

03-PRS-AA-002-M

WEEKLY

Time Total: 46 Minutes

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Maintenance Checklist		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	P	R	S					A	A	0	0	2
Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			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.** 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.

MACHINE

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

PRS COMPACTOR

3. **Open the compactor doors.** Check the compactor rollers for the following and remove any build-up of material:
1. Bundle strapping.
 2. Strings.
 3. Debris.
 4. Plastic wrap, etc.

If the removal of any build-up of the material requires that the compactor top and bottom belts be removed, report the condition to a supervisor and schedule corrective maintenance.

WARNING

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Maintenance Checklist		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	P	R	S				A	A	0	0	2	M
Equipment Nomenclature Package Recovery System		Equipment Model						Bulletin Filename MM07080AC			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

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|-------------------------|----|--|----------|-----|
| MACHINE | 4. | Restore PRS to service. Restore power to the PRS system as prescribed by the local lockout procedure. Observe all indicators during power up for correct operation. | 2
MIN | ALL |
| PRS | 5. | Check for belt slippage and tracking. Manually cycle the top and main compactor belts. Check for belt slippage and tracking alignment. If either belt is slipping on the rollers, or the belts are tracking to the right or left against the compactor frame, report the condition to a supervisor and schedule corrective maintenance. | 2
MIN | 7 |
| PRS PNEUMATICS
PANEL | 6. | Main belt air pressure. Verify that the main belt air pressure regulator is set to 70 ± 5 PSI. | 1
MIN | 7 |
| | 7. | PRS main air pressure. Verify that the main air pressure regulator is set to 70 ± 5 PSI. | 1
MIN | 7 |
| | 8. | Pneumatics panel. Check pneumatics panel hoses for cuts, frays, or worn hoses. Check for air leaks utilizing the air borne ultrasound equipment. | 3
MIN | 9 |

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		0	3	P	R	S					A	A	0	0	2
Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			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

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ATTACHMENT 4

PRS MASTER CHECKLIST

03-PRS-AA-003-M

MONTHLY

Time Total: 78 Minutes

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U.S. Postal Service		IDENTIFICATION													
Maintenance Checklist		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	P	R	S					A	A	0	0	3
Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			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

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MACHINE

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

PRS

3. **Check the entire PRS unit for damage.** This includes all doors, hinges, latches, external E-Stops, and interlocks.

4. **Check all limit and photoelectric switches for loose mounting hardware.**

1. Upper and lower chute photocells.
2. Compactor photocells and reflectors.
3. Top conveyor down limit switch.
4. Bale done limit switch.

PRS COMPACTOR

5. **Open right side access door.** Check drive chain to ensure it is parallel with the compactor frame.

PRS SEPARATOR

6. **Replace separator air filters (2 to 4 filters depending on PRS size).**

PNEUMATICS PANEL

7. **Empty the air/water separator filter and replace as necessary.** If the filter is clogged and cannot be sufficiently cleaned, replace the filter.

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		0	3	P	R	S					A	A	0	0	3
Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			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

8. **Check all cylinder couplings for loose fasteners.** 1 7
MIN

WARNING

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

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|---------------------|---|----------|-----|
| MACHINE | 9. Restore PRS to service. Restore power to the PRS system as prescribed by the local lockout procedure. Observe all indicators during power up for correct operation. | 2
MIN | ALL |
| ELECTRICAL PANEL | 10. Check electrical panel for cut, frayed, or worn electrical cables. Utilize thermal imaging to identify hot spots on electrical panel. | 3
MIN | 9 |
| PRS EMERGENCY STOPS | 11. PRS emergency stops (5 total).
1. Start the PRS.
2. Actuate the E-Stop switch on the control panel.
3. Observe that the PRS stops.
4. Observe that the lamp inside the E-Stop switch illuminates.
5. Observe that red lights on the light stacks illuminate.
6. Reset E-Stop switch. | 5
MIN | 9 |
| PRS INTERLOCKS | 12. Start the PRS and test each interlock switch by opening all outer doors. Ensure that the PRS operation stops as each interlock is tripped. | 5
MIN | 9 |

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		0	3	P	R	S					A	A	0	0	3
Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			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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ATTACHMENT 5

PRS MASTER CHECKLIST

09-PRS-AA-001-M

Operational Maintenance

Time Total: 12 Minutes

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U.S. Postal Service Maintenance Checklist	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	9	P	R	S				A	A	0	0	1	M
Equipment Nomenclature Packaging Recovery System		Equipment Model						Bulletin Filename MM07080AC			Frequency Tour			

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.** 5 All MIN

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.

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WARNING

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Per Bale Procedures

- 2. Front chute plate.** Clear any jams from underneath front chute plate. 1 7 Per Bale MIN
- 3. Compactor.** Empty trash and debris from catch pan and surrounding area. Leaving trash and debris in the machine will cause it to be drawn back into the belts and can cause premature belt and roller failure. 3 7 Per Bale MIN
- 4. Compactor rollers.** Check rollers for trash build-up. Look for lumps from the top or build-up of trash from the side view and remove as necessary. 3 7 Per Bale MIN

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