MAINTENANCE TECHNICAL SUPPORT CENTER
HEADQUARTERS MAINTENANCE OPERATIONS
UNITED STATES POSTAL SERVICE

Maintenance Management Order

SUBJECT: Operational and Preventive Maintenance Guidelines for the Automated Package Processing System (APPS)

DATE: December 30, 2016

NO: MMO-131-16

FILE CODE: R3

TO: All APPS Sites

mtho:mm15109af

Online Change Record		
Change #	**Date**	**Description of Change**
4	02/18/2021	Added remove or replace covers, panels, doors, and guarding where necessary.
3	05/04/2020	unknown
2	04/01/2020	Removed all references to MMO-025-15 and replaced with references to MS-202.
1	01/18/2017	MSL on task 138 changed to 10

This Maintenance Management Order (MMO) provides updated Operational and Preventive Maintenance Guidelines for the Automated Package Processing System (APPS) and supersedes MMO-018-13, dated February 4, 2013.

The workhours indicated in the workload estimate (Attachment 1) are based on a twenty hour run day and reflect the maximum annual workhours required to maintain the system. Actual workhour requirements and the frequency of tasks are dependent on run time and pieces processed. Therefore, 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.

Preventive Maintenance (PM) guidelines provide maintenance employees with the recommended task based maintenance activities. The Electronic Conditioned Based Maintenance (eCBM) is an abbreviated task list that represents a portion of the PM checklist. The complete master PM checklist must be accessible to all maintenance employees when performing PM and eCBM task based maintenance activities.

WARNING

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

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 and barricade requirements.

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.

Kevin Couch
Manager
Maintenance Technical Support Center
HQ Maintenance Operations

Attachments:

1. Summary of Workload Estimate for APPS System
2. APPS Master Checklist: 03-APPS-AA-001-M: Preventive Maintenance
3. APPS Master Checklist: 09-APPS-AA-001-M: Operational Maintenance (Tourly)
4. APPS Master Checklist: 09-APPS-AA-002-M: Operational Maintenance (Daily)

ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR

APPS SYSTEM

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SUMMARY WORKLOAD ESTIMATE
FOR APPS

System Configurations	Operation	Routine Servicing Per Machine	Repair Time Per Machine	Total Servicing Time Per Machine	Non-Productive Time Per Machine	Operational Maintenance Time Per Machine	Total Time Per Machine
	Days	(Hrs/Yr)	(Hrs/Yr)	(Hrs/Yr)	(Hrs/Yr)	(Hrs/Yr)	(Hrs/Yr)
Single Sided APPS	6	1875	563	2438	244	1538	4220
	7	2188	657	2845	285	1794	4924
Dual Sided APPS Running One Side	6	2079	624	2703	271	1698	4672
	7	2425	728	3153	316	1981	5450
Dual Sided APPS Running Two Sides	6	3127	939	4066	407	2374	6847
	7	3649	1095	4744	475	2769	7988

NOTES:

∗Repair estimates based on 30% of servicing.

∗∗Non–productive time per machine based on 10% of total servicing and repair.

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ATTACHMENT 2

APPS MASTER CHECKLIST

03-APPS-AA-001-M

Time Total: See Attachment 1

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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	**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. Only microfiber cloths or gloves, camel hair brushes, or 99.9% isopropyl alcohol wipes may be used to clean optical equipment. 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 and barricade requirements.**	1	All			
SAFETY STATEMENT	2	**Comply with all SDS information.** **Various products requiring Safety Data Sheets (SDS) may be utilized during the performance of the procedures in this bulletin. Ensure the current SDS for each product used is on file and available to all employees. When reordering such a product, it is suggested that current SDS be requested. Refer to SDS for appropriate personal protective equipment. Dispose of all chemicals in accordance with local waste management policy and procedures.**	1	All			

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
APPS SYSTEM: POWER DOWN	3**	**Power down and lock out power.** **WARNING** **Steps contained in this bulletin require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) for appropriate PPE and barricade requirements.** Perform an orderly shut down of the APPS from the SMS computer. Power down and lock out power as prescribed by the current local lockout instructions providing lockout/restore procedures by an APPS trained employee.	17	All			D
FEED SUBSYSTEM: APCU AND PUN SIDE 1	4**	**Perform mail search on the Feed Subsystem: Unloaders (3) on side one.** 1. Remove covers and panels as necessary. 2. Search for mailpieces. 3. Report conveyor belt damage. 4. Replace all covers and panels. 5. Check that all equipment guards are in place. 6. Return all mail found during mail search to the proper mail path.	3	07			D
FEED SUBSYSTEM: APCU AND PUN SIDE 2	5**	**Perform mail search on the Feed Subsystem: Unloaders (3) on side two.** 1. Remove covers and panels as necessary. 2. Search for mailpieces. 3. Report all visible conveyor belt damage. 4. Replace all covers and panels. 5. Check that all equipment guards are in place. 6. Return all mail found during mail search to the proper mail path.	3	07			D

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	0	3	A	P	P	S					A	A	0	0	1	M
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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.
FSD AND INDUCT SUBSYSTEM: SYSTEM SIDE 1	6**	**Perform mail search of the APPS on side one.** 1. Using the recommended walk sequence as listed below; perform the mail search of the following areas. a. Feed Subsystem: Load Module b. Feed Subsystem: Incline Module c. Singulation Subsystem: Un-Stacker Module d. Singulation Subsystem: Traffic Control Module e. Singulation Subsystem: Delta/Aligner Module f. Singulation Subsystem: Metering Module g. Distribution Subsystem: Data Collection Area h. Distribution Subsystem: Automated Address Recognition Subsystem i. Distribution Subsystem: 90 Degree Incline Curve j. Distribution Subsystem: 90 Degree High Speed Curve k. Distribution Subsystem: Sync Module/Load Belt Conveyors l. Distribution Subsystem: Shoe Sorter Assembly (empty debris from all upper and lower debris pans). m. Distribution Subsystem: Recirculation Module n. Induction Subsystem: Auto Induction Assembly o. Induction Subsystem: Semi-Auto Induction Station 2. For each area list above, remove covers and panels as necessary.	42	07			D

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		3. Search for mailpieces. 4. Report visible conveyor belt damage. 5. Replace all covers and panels. 6. Check that all equipment guards are in place. 7. Return all mail found during mail search to the proper mail path.					
FSD AND INDUCT SUBSYSTEM: SYSTEM SIDE 2	7**	**Perform mail search of the APPS on side two.** 1. Using the recommended walk sequence as listed below; perform the mail search of the following areas. a. Feed Subsystem: Load Module b. Feed Subsystem: Incline Module c. Singulation Subsystem: Un-Stacker Module d. Singulation Subsystem: Traffic Control Module e. Singulation Subsystem: Delta/Aligner Module f. Singulation Subsystem: Metering Module g. Distribution Subsystem: Data Collection Area h. Distribution Subsystem: Automated Address Recognition Subsystem i. Distribution Subsystem: 90 Degree Incline Curve j. Distribution Subsystem: 90 Degree High Speed Curve k. Distribution Subsystem: Sync Module/Load Belt Conveyors l. Distribution Subsystem: Shoe Sorter Assembly (empty debris from all upper and lower debris pans). m. Distribution Subsystem: Recirculation	42	07			D

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
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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.
		Module n. Induction Subsystem: Auto Induction Assembly o. Induction Subsystem: Semi-Auto Induction Station 2. For each area list above, remove covers and panels as necessary. 3. Search for mailpieces. 4. Report visible conveyor belt damage. 5. Replace all covers and panels. 6. Check that all equipment guards are in place. 7. Return all mail found during mail search to the proper mail path.					
SORTER SUBSYSTEM: SORTER ASSEMBLY	8**	**Perform mail search on the Sorter Subsystem Sorter Assembly.** 1. Remove covers and panels as necessary. 2. Search for mailpieces. 3. Report carrier train physical damage. 4. Replace all covers and panels. 5. Check that all equipment guards are in place. 6. Return all mail found during mail search to the proper mail path. ***Multiplied By: Carrier Cells**	0.03*	07			D
AARS, DCS AND FASTSCAN: LASERS, CAMERAS, MIRRORS, FASTSCAN SIDE 1	9**	**Clean AARS and Laser optics and Fastscan side one.** **WARNING: PPE must be properly used as required by the current SDS when using alcohol. Alcohol is a flammable liquid. Discard alcohol soaked materials according to local procedures to prevent spontaneous combustion.** **WARNING: Allow sufficient time for lamps to cool before handling Illumination Modules.** **CAUTION: To prevent premature lamp failure,**	30	09	8		

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		allow a minimum of 30 minutes for lamps to cool before cleaning or handling. Do not re-apply power to lamps immediately, allow 30 minutes before power is re-applied. **NOTE:** The recommended implement for dusting off the APPS camera mirrors is a camel hair brush - 3 inches wide with at least 2 inch long bristles would be adequate. Care must be taken not to touch the bristles with anything that can impart oils - such as the skin of your hand. The camel hair brush should also be cleaned off after each use. This can be done with a vacuum cleaner or by brushing it against the corner of a clean surface. If mirror has oil contamination, clean using isopropyl wipes only (Part# MG-824W50 - SDS Sheet 5.1 CDRL040). If required after cleaning with isopropyl alcohol wipes, use Tansen TX404 fine grain optics lint free cloth. 1. Clean AARS camera and laser mirrors, Illumination Module glass, and camera lenses with a microfiber glove or a clean camel hair brush (AARS Tunnel). 2. Clean TLDI Reference Plate with a damp cloth. 3. Clean AARS camera mirror, Illumination Module glass, and camera lens with a microfiber glove or a clean camel hair brush (Semi-Auto Tunnel). 4. Clean Fastscan array with micro fiber gloves.					
AARS, DCS AND FASTSCAN: LASERS, CAMERAS, MIRRORS, FASTSCAN SIDE 2	10**	**Clean AARS and Laser optics and Fastscan side two.** **WARNING: PPE must be properly used as required by the current SDS when using alcohol. Alcohol is a flammable liquid. Discard alcohol soaked materials according to local procedures to prevent spontaneous combustion.** **WARNING: Allow sufficient time for lamps to cool before handling Illumination Modules.**	30	09	8		

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	0	3	A	P	P	S					A	A	0	0	1	M
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					Run Hours	Pieces Fed (000)	Freq.
		CAUTION: To prevent premature lamp failure, allow a minimum of 30 minutes for lamps to cool before cleaning or handling. Do not re-apply power to lamps immediately, allow 30 minutes before power is re-applied. **NOTE:** The recommended implement for dusting off the APPS camera mirrors is a camel hair brush - 3 inches wide with at least 2 inch long bristles would be adequate. Care must be taken not to touch the bristles with anything that can impart oils - such as the skin of your hand. The camel hair brush should also be cleaned off after each use. This can be done with a vacuum cleaner or by brushing it against the corner of a clean surface. If mirror has oil contamination, clean using isopropyl wipes only (Part# MG-824W50 - SDS Sheet 5.1 CDRL040). If required after cleaning with isopropyl alcohol wipes, use Tansen TX404 fine grain optics lint free cloth. 1. Clean AARS camera and laser mirrors, Illumination Module glass, and camera lenses with a microfiber glove or a clean camel hair brush (AARS Tunnel). 2. Clean TLDI Reference Plate with a damp cloth. 3. Clean AARS camera mirror, Illumination Module glass, and camera lens with a microfiber glove or a clean camel hair brush (Semi-Auto Tunnel). 4. Clean Fastscan array with micro fiber gloves.					
FSD AND INDUCT SUBSYSTEM: DAILY CLEANING SIDE 1	11**	**Clean belts, rollers, and photoeyes on side one.** 1. Remove covers and panels as necessary. 2. Remove strings, wrapping materials, and all foreign objects from all belts, rollers, bearing blocks, and photoeyes. 3. Clean all photoeyes with Micro fiber gloves. 4. Clean traffic control conveyor KORE vision sensor photoeyes using a clean damp cloth.	30	07	8		

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		5. Clean the position sensor array between the synchronizing and 45 degree conveyors on all three Auto Induct lanes using a brush. 6. Replace all covers and panels.					
FSD AND INDUCT SUBSYSTEM: DAILY CLEANING SIDE 2	12**	**Clean belts, rollers, and photoeyes on side two.** 1. Remove covers and panels as necessary. 2. Remove strings, wrapping materials, and all foreign objects from all belts, rollers, bearing blocks, and photoeyes. 3. Clean all photoeyes with Micro fiber gloves. 4. Clean traffic control conveyor KORE vision sensor photoeyes using a clean damp cloth. 5. Clean the position sensor array between the synchronizing and 45 degree conveyors on all three Auto Induct lanes using a brush. 6. Replace all covers and panels.	30	07	8		
SORTER SUBSYSTEM: DAILY CLEANING SIDE 1	13	**Clean Sorter Photoeyes on side one.** Remove covers and panels as necessary, and clean all photoeyes with Micro fiber gloves. Check that the photoeyes are not damaged and that the mounting hardware is secure. **NOTE:** Cleaning Primary and Secondary Sorter Encoder photoeyes while the Sort Controller (SC) computer is powered on may result in the APPS losing track of position and subsequent encoder RTFs on startup. The SC should be powered off when this task is performed. If the encoder photoeyes require cleaning during the processing window, reboot the SC prior to attempting to start the machine. 1. Clean Primary and Secondary Sorter Encoder photoeyes. 2. Clean Before-Rework photoeye. 3. Clean Bin 501 chute photoeye. 4. Clean After-Rework photoeye.	15	07	48		

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		5. Clean Recentering photoeyes. 6. Clean Sort Accuracy Improvement System (SAIS) encoder photoeyes. 7. Clean SAIS Imager. 8. Replace all covers and panels.					
SORTER SUBSYSTEM: DAILY CLEANING SIDE 2	14	**Clean Sorter Photoeyes on side two.** Remove covers and panels as necessary and clean all photoeyes with Micro fiber gloves. Check that the photoeyes are not damaged and that the mounting hardware is secure. 1. Clean Before-Rework photoeye. 2. Clean Bin 503 chute photoeye. 3. Clean After-Rework photoeye. 4. Clean Recentering photoeyes. 5. Clean Sort Accuracy Improvement System (SAIS) encoder photoeyes. 6. Clean SAIS Imager. 7. Replace all covers and panels.	10	07	48		
APPS SYSTEM: PERIODIC CLEANING SIDE 1	15	**System vacuum cleaning schedule, side one.** Using a HEPA vacuum, clean equipment frame and mail transport hardware on the following schedule: **NOTE:** Computer cabinets, imaging optics, and imaging electronics are not included in this task. 1. Remove guarding as necessary to gain access to the following: 2. Saturday: Unloaders and Recirculation Conveyors Rx-1-1 thru Rx-2-3 3. Sunday: Load Conveyor(s), Incline Conveyor(s), Dosing Conveyor(s), Unstacker Conveyors (Fx-1-1 thru Sx-1-7) 4. Monday: Traffic Control conveyor(s), Delta Aligner Conveyors, Metering Conveyors (Sx-2-1 thru Sx-5-4)	30	07			D

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	0	3	A	P	P	S					A	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
		5. Tuesday: Data Collection Subsystem(s) (DCx-1-1 thru DCx-2-2) 6. Wednesday: 90-Degree Incline Conveyor(s), 90-Degree High Speed Conveyor(s), Sync Conveyors and Load Belt Conveyor (Tx-1-1 thru Dx-2-1) 7. Thursday: Auto and Semi-Auto Inductions(s), Semi-Auto Roller Conveyors 8. Friday: Shoe Sorter 9. Replace any removed guarding					
APPS SYSTEM: PERIODIC CLEANING SIDE 2	16	**System vacuum cleaning schedule, side two.** Using a HEPA vacuum, clean equipment frame and mail transport hardware on the following schedule: **NOTE:** Computer cabinets, imaging optics, and imaging electronics are not included in this task. 1. Remove guarding as necessary to gain access to the following 2. Saturday: Unloaders and Recirculation Conveyors Rx-1-1 thru Rx-2-3 3. Sunday: Load Conveyor(s), Incline Conveyor(s), Dosing Conveyor(s), Unstacker Conveyors (Fx-1-1 thru Sx-1-7) 4. Monday: Traffic Control conveyor(s), Delta Aligner Conveyors, Metering Conveyors (Sx-2-1 thru Sx-5-4) 5. Tuesday: Data Collection Subsystem(s) (DCx-1-1 thru DCx-2-2) 6. Wednesday: 90-Degree Incline Conveyor(s), 90-Degree High Speed Conveyor(s), Sync Conveyors and Load Belt Conveyor (Tx-1-1 thru Dx-2-1) 7. Thursday: Auto and Semi-Auto Inductions(s), Semi-Auto Roller Conveyors 8. Friday: Shoe Sorter	30	07			D

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		9. Replace any removed guarding					
SORTER SUBSYSTEM: PERIODIC CLEANING	17	**Sorter vacuum cleaning.** Using a HEPA vacuum, clean sorter monorail sides, top of power rails, frame members and cabling. Remove and reinstall guarding as necessary to gain access to sorter components. ***Multiplied By: Carrier Cells**	0.6*	07			1
CANVAS TENTS & WIREWAY: PERIODIC CLEANING SIDE 1	18	**Vacuum Tent Enclosures and SMCC Wireway on side one.** **WARNING: Vacuuming of the tent tops will require access using a powered lift or ladder as access permits. Follow local safety policies and procedures for lift or ladder use.** **NOTE:** When vacuuming top of Semi-Auto and AARS tents also vacuum the exposed portion of the Illumination Module. 1. Using a HEPA vacuum, clean the elevated wireway from the SMCC to the Sorter. Remove any debris and report any visible signs of damage to appropriate personnel for scheduling of corrective action. 2. Using a HEPA vacuum, clean the top and sides (as necessary) of the following canvas tent enclosures: a. AARS Tunnel b. Semi-Auto Tunnel c. SAI Imager Tent	70	07			26
CANVAS TENTS: PERIODIC CLEANING SIDE 2	19	**Vacuum Tent Enclosures on side two.** **WARNING: Vacuuming of the tent tops will require access using a powered lift or ladder as access permits. Follow local safety policies and procedures for lift or ladder use.** **NOTE:** When vacuuming top of Semi-Auto and AARS tents also vacuum the exposed portion of the Illumination Module. Using a HEPA vacuum, clean the top and sides (as necessary) of the following canvas tent	60	07			26

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	0	3	A	P	P	S					A	A	0	0	1	M

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					Run Hours	Pieces Fed (000)	Freq.
		enclosures: 1. AARS Tunnel 2. Semi-Auto Tunnel 3. SAI Imager Tent					
FEED SUBSYSTEM: SAFETY BARRIERS SIDE 1	20**	**Check safety barriers on side one.** Unloaders thru Shoe Sorter and Recirculation Conveyor. 1. Verify unloader guarding is securely anchored to floor. 2. Check for missing, loose, or damaged safety barriers (Lexan panels, wire mesh screens, gates, etc.). 3. Correct issue or generate corrective work order and notify Supervisor as necessary.	2	07			1
FEED SUBSYSTEM: SAFETY BARRIERS SIDE 2	21**	**Check safety barriers on side two.** Unloaders thru Shoe Sorter and Recirculation Conveyor. 1. Verify unloader guarding is securely anchored to floor. 2. Check for missing, loose, or damaged safety barriers (Lexan panels, wire mesh screens, gates, etc.). 3. Correct issue or generate corrective work order and notify Supervisor as necessary.	2	07			1
FEED SUBSYSTEM: APCU AND PUN SIDE 1	22	**Check APCU and PUN condition (3) on side one.** 1. Check for damaged or missing container stops. 2. Check hydraulic cylinders for broken or leaking fittings and hoses, or leaking seals. 3. Check condition of hoses and fittings. Check for leaks. Observe for damage caused by foot traffic, falling parcels, or abrasion by moving parts which could cause a future leak to	9	09	140	600	

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	0	3	A	P	P	S					A	A	0	0	1	M
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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.
		occur. 4. Check Unloader frame for damage or loose floor anchors. Check for cracks and metal fatigue at pivot points and near welds. Verify clevis pin retaining hardware is in place and secure. 5. Check hydraulic fluid level using sight glass while unit is in the lowered position. Add fluid if required. Use CITGO A/W Hydraulic Oil 32. 6. Check fluid for evidence of water contamination (cloudy), discoloration from overheating, unusual odor, and/or excessive particulates (examine sample on blotter). 7. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: APCU AND PUN SIDE 2	23	**Check APCU and PUN condition (3) on side two.** 1. Check for damaged or missing container stops. 2. Check hydraulic cylinders for broken or leaking fittings and hoses, or leaking seals. 3. Check hoses and fittings for damage caused by foot traffic, falling parcels, or abrasion by moving parts which could cause a future leak to occur. 4. Check Unloader frame for damage or loose floor anchors. Check for cracks and metal fatigue at pivot points and near welds. Verify clevis pin retaining hardware is in place and secure. 5. Check hydraulic fluid level using sight glass while unit is in the lowered position. Add fluid if required. Use CITGO A/W Hydraulic Oil 32. 6. Check fluid for evidence of water contamination (cloudy), discoloration from overheating, unusual odor, and/or excessive particulates (examine sample on blotter). 7. Generate corrective work order and notify Supervisor as necessary.	9	09	140	600	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
FEED SUBSYSTEM: PUN RAILS AND ROLLERS SIDE 1	24	**Check PUN Rail and Roller Condition side one.** 1. Check for damaged, seized, or missing rollers. 2. Check rails for damage (verify they are not rough due to failed rollers, gouged, bent, or cracked). 3. Note any deficiencies and report them to supervisor. ***Multiplied By: PUN Side 1.**	1*	09	140	600	
FEED SUBSYSTEM: PUN RAILS AND ROLLERS SIDE 2	25	**Check PUN rail and roller condition side two.** 1. Check for damaged, seized, or missing rollers. 2. Check rails for damage (verify they are not rough due to failed rollers, gouged, bent, or cracked). 3. Note any deficiencies and report them to supervisor. ***Multiplied By: PUN Side 2.**	1*	09	140	600	
FEED SUBSYSTEM: APCU AND PUN HYDRAULIC UNITS SIDE 1	26	**Check breather/fill caps side one (3).** Check reservoir cap for clogged breather/fill cap holes. If the vent holes are plugged, clean or replace the cap as necessary. Correct issue or generate corrective work order and notify Supervisor as necessary.	3	07	3600	16200	
FEED SUBSYSTEM: APCU AND PUN HYDRAULIC UNITS SIDE 2	27	**Check breather/fill caps side two (3).** Check reservoir cap for clogged breather/fill cap holes. If the vent holes are plugged, clean or replace the cap as necessary. Correct issue or generate corrective work order and notify Supervisor as necessary.	3	07	3600	16200	
FEED SUBSYSTEM: APCU AND PUN HYDRAULIC UNITS SIDE 1	28	**Change Unloader hydraulic fluid (3) on side one.** Remove old hydraulic fluid and replace with new hydraulic fluid. Use 15 gallons of CITGO A/W Hydraulic Oil 32.	60	07	21600	97200	

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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.
		Replace oil filter.					
FEED SUBSYSTEM: APCU AND PUN HYDRAULIC UNITS SIDE 2	29	**Change Unloader hydraulic fluid (3) on side two.** Remove old hydraulic fluid and replace with new hydraulic fluid. Use 15 gallons of CITGO A/W Hydraulic Oil 32. Replace oil filter.	60	07	21600	97200	
FEED SUBSYSTEM: LOAD CONVEYOR SIDE 1	30	**Check F-1-1 belting condition side one.** 1. Remove side guarding on one side of the conveyor. 2. Check conveyor belt for damage such as cracks or holes in the belt slats. 3. Check belt tension by observing belt sag under conveyor. Recommended sag limit is approximately 30 mm above bottom of aluminum side frame. If belt is hanging below aluminum side frame of conveyor, belt must be adjusted so as not to hang below the side frame. If the belt cannot be adjusted, slats must be removed to achieve proper tension. 4. Measure the overall length of forty belt slats in inches. If the length exceeds 83 inches the entire belt and all sprockets should be scheduled for replacement. Mixing new belt sections with worn sections will cause uneven wear and shorten belt and sprocket life. 5. Check conveyor bed for breakage. 6. Replace guarding. 7. Correct issue or generate work order and notify Supervisor as necessary. **NOTE:** When performing corrective maintenance as a result of this check to remove slats to shorten belt, the drive sprockets must be checked for wear. Excessive pin and slat pin hole wear may indicate belt section or entire belt replacement may be necessary. Additional information on belt evaluation, ordering and sprocket configuration can be found in the	4	07	1440	6500	

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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.
		APPS Load Belt Inspection Maintenance Management Order.					
FEED SUBSYSTEM: LOAD CONVEYOR SIDE 2	31	**Check F-1-1 belting condition side two.** 1. Remove side guarding on one side of the conveyor. 2. Check conveyor belt for damage such as cracks or holes in the belt slats. 3. Check belt tension by observing belt sag under conveyor. Recommended sag limit is approximately 30 mm above bottom of aluminum side frame. If belt is hanging below aluminum side frame of conveyor, belt must be adjusted so as not to hang below the side frame. If the belt cannot be adjusted, slats must be removed to achieve proper tension. 4. Measure the overall length of forty belt slats in inches. If the length exceeds 83 inches the entire belt and all sprockets should be scheduled for replacement. Mixing new belt sections with worn sections will cause uneven wear and shorten belt and sprocket life. 5. Check conveyor bed for breakage. 6. Replace guarding. 7. Correct issue or generate work order and notify Supervisor as necessary. **NOTE**: When performing corrective maintenance as a result of this check to remove slats to shorten belt, the drive sprockets must be checked for wear. Excessive pin and slat pin hole wear may indicate belt section or entire belt replacement may be necessary. Additional information on belt evaluation, ordering and sprocket configuration can be found in the APPS Load Belt Inspection Maintenance Management Order.	4	07	1440	6500	
FEED SUBSYSTEM: LOAD CONVEYOR	32	**Check F-1-1 gearbox condition on side one.** 1. Remove side guarding sufficient to access	4	07	480	2160	

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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.
SIDE 1		gearbox. 2. Check gearbox for leaks. 3. Check motor power cable connectors for looseness or visible damage. 4. Check cabling running beneath conveyor for visible signs of damage such as cuts, abrasions, or discoloration. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: LOAD CONVEYOR SIDE 2	33	**Check F-1-1 gearbox condition on side two.** 1. Remove side guarding sufficient to access gearbox. 2. Check gearbox for leaks. 3. Check motor power cable connectors for looseness or visible damage. 4. Check cabling running beneath conveyor for visible signs of damage such as cuts, abrasions, or discoloration. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.	4	07	480	2160	
FEED SUBSYSTEM: INCLINE CONVEYOR SIDE 1	34	**Check F-1-2 gearbox condition on side one.** 1. Remove side guarding sufficient to access gearbox. 2. Check gearbox for leaks. 3. Check motor power cable connectors for looseness or visible damage. 4. Check for brake dust around F-1-2 drive motor brake that may indicate excessive brake wear. 5. Check cabling running beneath conveyor for visible signs of damage such as cuts, abrasions, or discoloration.	4	09	480	2160	

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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.
		6. Check conveyor bed for breakage. 7. Check conveyor belt where it passes over drive pulley, looking for debris wrapped around drive pulley underneath belt. 8. Replace guarding. 9. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: INCLINE CONVEYOR SIDE 2	35	**Check F-1-2 gearbox condition on side two.** 1. Remove side guarding sufficient to access gearbox. 2. Check gearbox for leaks. 3. Check motor power cable for looseness or visible damage. 4. Check for brake dust around F-1-2 drive motor brake that may indicate excessive brake wear. 5. Check cabling running beneath conveyor for visible signs of damage such as cuts, abrasions, or discoloration. 6. Check conveyor bed for breakage. 7. Check conveyor belt where it passes over drive pulley, looking for debris wrapped around drive pulley underneath belt. 8. Replace guarding. 9. Generate corrective work order and notify Supervisor as necessary.	4	09	480	2160	
FEED SUBSYSTEM: LOAD AND INCLINE CONVEYORS SIDE 1	36	**Clean and lube drive chains (2) on side one.** 1. Remove guarding for Load Conveyor F-1-1 and Incline Conveyor F-1-2 drive chains. 2. Clean and check chain, sprockets, and tensioner for misalignment or excessive wear such as missing or narrowed teeth. Replace tensioner if it is damaged, such as missing teeth or does not have enough spring to take up slack in chain.	20	09	600	2700	

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	0	3	A	P	P	S					A	A	0	0	1	M
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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.
		3. Lubricate Load Conveyor F-1-1 and Incline Conveyor F-1-2 triplex drive chains (Febis K68 or equivalent chain oil). 4. Replace guarding. 5. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: LOAD AND INCLINE CONVEYORS SIDE 2	37	**Clean and lube drive chains (2) on side two.** 1. Remove guarding for Load Conveyor F-1-1 and Incline Conveyor F-1-2 drive chains. 2. Clean and check chain, sprockets, and tensioner for misalignment or excessive wear such as missing or narrowed teeth. Replace tensioner if it is damaged, such as missing teeth or does not have enough spring to take up slack in chain. 3. Lubricate Load Conveyor F-1-1 and Incline Conveyor F-1-2 triplex drive chains (Febis K68 or equivalent chain oil). 4. Replace guarding. 5. Generate corrective work order and notify Supervisor as necessary.	20	09	600	2700	
FEED SUBSYSTEM: DOSING AND UNSTACKER CONVEYOR MOTORS (S-1-1 THRU S-1-7 BELTS) SIDE 1	38	**Check motor and gearbox condition on side one.** 1. Remove side guarding sufficient to access gearbox. 2. Check gearbox for leaks. 3. Check motor power cable connectors for looseness or visible damage. 4. Check cabling running beneath conveyor for visible signs of damage such as cuts, abrasions, or discoloration. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.	15	07	480	2160	

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	0	3	A	P	P	S					A	A	0	0	1	M
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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.
FEED SUBSYSTEM: DOSING AND UNSTACKER CONVEYOR MOTORS (S-1-1 THRU S-1-7 BELTS) SIDE 2	39	**Check motor and gearbox condition on side two.** 1. Remove side guarding sufficient to access gearbox. 2. Check gearbox for leaks. 3. Check motor power cable for looseness or visible damage. 4. Check cabling running beneath conveyor for signs of damage such as cuts, abrasions, or discoloration. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.	15	07	480	2160	
FEED SUBSYSTEM: DOSING AND UNSTACKER CONVEYORS (7 BELTS) SIDE 1	40	**Check belt brush condition on side one.** **NOTE:** Decline belt brushes are adjusted with a gap for debris to fall through and should just touch the full width of the bottom of the belt under the downstream belt's pulley. Incline belt brushes should fill the gap between belts and should just touch the full width of both belts. See the MS-202 Vol B. Singulation Alignment & Adjustment section for illustrations. Check belt brush condition for obvious damage and proper adjustment. Remove any trapped debris. Correct issues or generate corrective work order and notify Supervisor as necessary.	2	07	20	90	
FEED SUBSYSTEM: DOSING AND UNSTACKER CONVEYORS (7 BELTS) SIDE 2	41	**Check belt brush condition on side two.** **NOTE:** Decline belt brushes are adjusted with a gap for debris to fall through and should just touch the full width of the bottom of the belt under the downstream belt's pulley. Incline belt brushes should fill the gap between belts and should just touch the full width of both belts. See the MS-202 Vol B. Singulation Alignment & Adjustment section for illustrations. Check belt brush condition for obvious damage	2	07	20	90	

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					Run Hours	Pieces Fed (000)	Freq.
		and proper adjustment. Remove any trapped debris. Correct issues or generate corrective work order and notify Supervisor as necessary.					
SINGULATION SUBSYSTEM: TRAFFIC CONTROL CONVEYORS (S-2-1 THRU S-2-6) SIDE 1	42	**Check TCM belting condition on side one.** 1. Remove side guarding sufficient to access motors and drive belts. 2. Check strip belts (18) for damage, lacing separation, debris, fraying, or signs of impending breakage. 3. Check lower drive belts (6) and pulleys for damage, debris, fraying, or signs of impending breakage. 4. Check motor mounts for cracks. 5. Reinstall side guarding. 6. Generate corrective work order and notify Supervisor as necessary.	7	09	140	600	
SINGULATION SUBSYSTEM: TRAFFIC CONTROL CONVEYORS (S-2-1 THRU S-2-6) SIDE 2	43	**Check TCM belting condition on side two.** 1. Remove side guarding sufficient to access motors and drive belts. 2. Check strip belts (18) for damage, lacing separation, debris, fraying, or signs of impending breakage. 3. Check lower drive belts (6) and pulleys for damage, debris, fraying, or signs of impending breakage. 4. Check motor mounts for cracks. 5. Reinstall side guarding. 6. Generate corrective work order and notify Supervisor as necessary.	7	09	140	600	
SINGULATION SUBSYSTEM: DELTA WING ALIGNER CONVEYOR SIDE 1	44	**Check belting and gearbox condition on side one.** 1. Remove side guard to access underside of Delta Wing conveyors. 2. Check center belt condition for damage,	5	09	140	600	

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					Run Hours	Pieces Fed (000)	Freq.
		lacing separation, debris, fraying, or signs of impending breakage. 3. Check vertical belt condition for damage, debris, fraying, or signs of impending breakage. 4. Check condition of conveyor bed roller drive belts (3) for damage, lacing separation, debris, fraying, or signs of impending breakage. 5. Check gearboxes (vertical and center conveyor, and 3 each roller conveyor bed) for leaks. 6. Reinstall guarding. 7. Generate corrective work order and notify Supervisor as necessary.					
SINGULATION SUBSYSTEM: DELTA WING ALIGNER CONVEYOR SIDE 2	45	**Check belting and gearbox condition on side two.** 1. Remove side guard to access underside of Delta Wing conveyors. 2. Check center belt condition for damage, lacing separation, debris, fraying, or signs of impending breakage. 3. Check vertical belt condition for damage, debris, fraying, or signs of impending breakage. 4. Check condition of conveyor bed roller drive belts (3) for damage, lacing separation, debris, fraying, or signs of impending breakage. 5. Check gearboxes (vertical and center conveyor, and 3 each roller conveyor bed) for leaks. 6. Reinstall guarding. 7. Generate corrective work order and notify Supervisor as necessary.	5	09	140	600	
SINGULATION SUBSYSTEM:	46	**Check motor condition on side one.** 1. Remove side guarding sufficient to access	1	07	720	3200	

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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.
METERING CONVEYOR MOTORS (S-5-1 THRU S-5-4) SIDE 1		motors. 2. Check motor power cable connectors for looseness or visible damage such as chafing, discoloration, or signs of melting. 3. Check cabling running beneath conveyor for visible signs of damage such as cuts, abrasions, or discoloration. 4. Check motor for signs of damage such as discoloration or emitting debris. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.					
SINGULATION SUBSYSTEM: METERING CONVEYOR MOTORS (S-5-1 THRU S-5-4) SIDE 2	47	**Check motor condition on side two.** 1. Remove side guarding sufficient to access motors. 2. Check motor power cable connectors for looseness or visible damage such as chafing, discoloration, or signs of melting. 3. Check cabling running beneath conveyor for visible signs of damage such as cuts, abrasions, or discoloration. 4. Check motor for signs of damage such as discoloration or emitting debris. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.	1	07	720	3200	
SINGULATION SUBSYSTEM: POLY CHAIN DRIVE BELTS SIDE 1	48	**Check drive belt and sprocket condition on side one.** Check condition of poly chain belts and sprockets on the following conveyors for pulleys with sharp edges, or belts with tears, missing teeth, or improper tension: 1. Remove guarding as necessary 2. Dosing and Unstacker Conveyers S-1-1 thru S-1-7 (7), 6 to 7 lbs. at 0.25".	12	09	7200	35000	

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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.
		3. Delta Wing Aligner Vertical Belt S-4-2 (1), 5 to 6 lbs. at 0.25". 4. Metering Conveyors S-5-1 thru S-5-4 (4), 4 to 5 lbs. at 0.25". 5. Replace any removed guarding 6. Generate corrective work order and notify Supervisor as necessary.					
SINGULATION SUBSYSTEM: POLY CHAIN DRIVE BELTS SIDE 2	49	**Check drive belt and sprocket condition on side two.** Check condition of poly chain belts and sprockets on the following conveyors for pulleys with sharp edges, or belts with tears, missing teeth, or improper tension: 1. Remove guarding as necessary 2. Dosing and Unstacker Conveyers S-1-1 thru S-1-7 (7), 6 to 7 lbs. at 0.25". 3. Delta Wing Aligner Vertical Belt S-4-2 (1), 5 to 6 lbs. at 0.25". 4. Metering Conveyors S-5-1 thru S-5-4 (4), 4 to 5 lbs. at 0.25". 5. Replace any removed guarding 6. Generate corrective work order and notify Supervisor as necessary.	12	09	7200	35000	
DISTRIBUTION SUBSYSTEM: R-1-1 CONVEYOR	50	**Check R-1-1 motor and gearbox on side one.** 1. Remove side guarding sufficient to access gearbox. 2. Check gearbox for leaks. 3. Inspect motor power cable for looseness or damage. 4. Inspect cabling running beneath conveyor for signs of damage. 5. Inspect belt and bearings for signs of accelerated wear (emitting debris) or damage. 6. Replace guarding. 7. Generate corrective work order and notify	6	09	300	1350	

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					Run Hours	Pieces Fed (000)	Freq.
		Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: R-1-1 CONVEYOR	51	**Check R-1-1 motor and gearbox on side two.** 1. Remove side guarding sufficient to access gearbox. 2. Check gearbox for leaks. 3. Inspect motor power cable for looseness or damage. 4. Inspect cabling running beneath conveyor for signs of damage. 5. Inspect belt and bearings for signs of accelerated wear (emitting debris) or damage. 6. Replace guarding. 7. Generate corrective work order and notify Supervisor as necessary.	6	09	300	1350	
DISTRIBUTION SUBSYSTEM: R-2-3 CONVEYOR SIDE 1	52	**Check R-2-3 motor and gearbox on side one.** 1. Remove side guarding sufficient to access gearbox. Check gearbox for leaks. 2. Inspect motor power cable for looseness or damage. 3. Inspect cabling running beneath conveyor for signs of damage. 4. Inspect belt and bearings for signs of accelerated wear (emitting debris) or damage. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.	6	09	600	2700	
DISTRIBUTION SUBSYSTEM: R-2-3 CONVEYOR SIDE 2	53	**Check R-2-3 motor and gearbox on side two.** 1. Remove side guarding sufficient to access gearbox. Check gearbox for leaks. 2. Inspect motor power cable for looseness or damage. 3. Inspect cabling running beneath conveyor for signs of damage. 4. Inspect belt and bearings for signs of	6	09	600	2700	

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					Run Hours	Pieces Fed (000)	Freq.
		accelerated wear (emitting debris) or damage. 5. Replace guarding. 6. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: CABLES, WIRING, CONNECTORS, AND TERMINATIONS SIDE 1	54	**Check cables and wiring on side one.** Check the physical condition of all externally accessible cables, wiring, connectors, and terminations in the Feed Subsystem for looseness or visible signs of damage such as cuts, abrasions, or discoloration. Generate corrective work order and notify Supervisor as necessary. 1. FSD-UNL-DCC 1 thru 3 (3) 2. FSD-DCC-1 3. FSD-MCC 4. FSD-DCC-2 thru 5 (4) 5. DDSS 6. FSD-DCC-6 7. FSD-DCC-E-STOP-JBOX (at downstream end of AARS tunnel) 8. FSD-DCC-6 JBOX (inboard side of C-2-1 conveyor) 9. FSD-DCC-7 and FSD-DCC 8	27	07	7200	35000	
FEED SUBSYSTEM: CABLES, WIRING, CONNECTORS, AND TERMINATIONS SIDE 2	55	**Check cables and wiring on side two.** Check the physical condition of all externally accessible cables, wiring, connectors, and terminations in the Feed Subsystem for looseness or visible signs of damage such as cuts, abrasions, or discoloration. Generate corrective work order and notify Supervisor as necessary. 1. FSD-UNL-DCC 1 thru 3 (3) 2. FSD-DCC-1 3. FSD-MCC 4. FSD-DCC-2 thru 5 (4)	27	07	7200	35000	

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					Run Hours	Pieces Fed (000)	Freq.
		5. DDSS 6. FSD-DCC-6 7. FSD-DCC-E-STOP-JBOX (at downstream end of AARS tunnel) 8. FSD-DCC-6 JBOX (inboard side of C-2-1 conveyor) 9. FSD-DCC-7 and FSD-DCC-8					
FEED SUBSYSTEM: LEXAN PANELS SIDE 1	56	**Clean Lexan panels on side one.** F-1-1 thru Shoe Sorter. 1. Remove all Lexan panels 2. Clean both sides of all Lexan panels using paper towels and a mild multi-purpose cleaner. Wipe the area protected by the panels as necessary. 3. Resecure all Lexan panels	45	07	6000	28800	
FEED SUBSYSTEM: LEXAN PANELS SIDE 2	57	**Clean Lexan panels on side two.** F-1-1 thru Shoe Sorter. 1. Remove all Lexan panels 2. Clean both sides of all Lexan panels using paper towels and a mild multi-purpose cleaner. Wipe the area protected by the panels as necessary. 3. Resecure all Lexan panels	45	07	6000	28800	
AARS/DCS TUNNEL: DCS BELTS SIDE 1	58	**Check belting and roller condition side one.** Check belt condition on the following conveyors for wear, damage, and stretching: 1. AARS DCX 1-1 2. AARS DCX 1-2 3. AARS DCX 1-3 4. AARS DCX 2-1 5. AARS DCX 2-2 6. Generate corrective work order and notify	1	09	140	600	

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					Run Hours	Pieces Fed (000)	Freq.
		Supervisor as necessary. Schedule belt for repairs if there are any holes greater than 1” in diameter or if seam separation occurs. Trim off any fraying belt edges and correct tracking problems as necessary.					
AARS/DCS TUNNEL: DCS BELTS SIDE 2	59	**Check belting and roller condition side two.** Check belt condition on the following conveyors for wear, damage, and stretching: 1. AARS DCX 1-1 2. AARS DCX 1-2 3. AARS DCX 1-3 4. AARS DCX 2-1 5. AARS DCX 2-2 6. Generate corrective work order and notify Supervisor as necessary. Schedule belt for repairs if there are any holes greater than 1” in diameter or if seam separation occurs. Trim off any fraying belt edges and correct tracking problems as necessary.	1	09	140	600	
AARS/DCS TUNNEL: DCX 1-2 METTLER SCALE CONVEYOR SIDE 1	60	**Check Scale Conveyor gearbox condition on side one.** Check gearbox for leaks. Generate corrective work order and notify Supervisor as necessary.	1	07	600	2700	
AARS/DCS TUNNEL: DCX 1-2 METTLER SCALE CONVEYOR SIDE 2	61	**Check Scale Conveyor gearbox condition on side two.** Check gearbox for leaks. Generate corrective work order and notify Supervisor as necessary.	1	07	600	2700	
AARS/DCS TUNNEL: POLY CHAIN BELTS SIDE 1	62	**Check drive belt condition on side one.** Check condition of poly chain belts on the following conveyors for pulleys with sharp edges, or belts with tears, missing teeth, or improper tension:	4	09	7200	35000	

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		1. Remove guarding as necessary 2. AARS DCX 1-1 - 6 to 7 lbs. at .3125" 3. AARS DCX 1-2 - 5 to 7 lbs. at .25" to .5" 4. AARS DCX 1-3 - 6 to 7 lbs. at .3125" 5. AARS DCX 2-2 - 10.5 to 12 lbs. at .75" 6. Replace any removed guarding 7. Generate corrective work order and notify Supervisor as necessary.					
AARS/DCS TUNNEL: POLY CHAIN DRIVE BELTS SIDE 2	63	**Check drive belt condition on side two.** Check condition of poly chain belts on the following conveyors for pulleys with sharp edges, or belts with tears, missing teeth, or improper tension: 1. Remove guarding as necessary 2. AARS DCX 1-1 - 6 to 7 lbs. at .3125" 3. AARS DCX 1-2 - 5 to 7 lbs. at .25" to .5" 4. AARS DCX 1-3 - 6 to 7 lbs. at .3125" 5. AARS DCX 2-2 - 10.5 to 12 lbs. at .75" 6. Replace any removed guarding 7. Generate corrective work order and notify Supervisor as necessary.	4	09	7200	35000	
IMAGE AARS: CABLES, WIRING, CONNECTORS, AND TERMINATIONS SIDE 1	64	**Check AARS cables and wiring on side one.** Check the physical integrity of all externally accessible cables, wiring, connectors, and terminations in the Image AARS Subsystem (Tunnel and Semi-auto). 1. Illumination Module cabling (5) 2. Camera cabling (5) 3. Generate corrective work order and notify Supervisor as necessary.	5	09	7200	35000	
IMAGE AARS: CABLES, WIRING, CONNECTORS,	65	**Check AARS cables and wiring on side two.** Check the physical integrity of all externally accessible cables, wiring, connectors, and	5	09	7200	35000	

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Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
AND TERMINATIONS SIDE 2		terminations in the Image AARS Subsystem (Tunnel and Semi-auto). 1. Illumination Module cabling (5) 2. Camera cabling (5) 3. Generate corrective work order and notify Supervisor as necessary.					
INDUCTION SUBSYSTEM: SAFETY BARRIERS SIDE 1	66**	**Check Induct safety barriers on side one.** Check for missing, loose, or damaged safety barriers (Lexan panels, wire mesh screens, gates, etc.). Generate corrective work order and notify Supervisor as necessary.	2	07			1
INDUCTION SUBSYSTEM: SAFETY BARRIERS SIDE 2	67**	**Check Induct safety barriers on side two.** Check for missing, loose, or damaged safety barriers (Lexan panels, wire mesh screens, gates, etc.). Generate corrective work order and notify Supervisor as necessary.	2	07			1
DISTRIBUTION SUBSYSTEM: SHOE SORTER SIDE 1	68	**Check debris catch pans on side one.** 1. Remove shoe sorter side covers on one side and check debris catch pans under shoe sorter conveyor for: a. Excessive debris or oil. b. Missing or damaged sound absorption material or missing panels. 2. Remove debris. 3. Replace all shoe sorter side covers 4. Generate corrective work order and notify Supervisor as necessary.	26	07	140	600	
DISTRIBUTION SUBSYSTEM: SHOE SORTER SIDE 2	69	**Check debris catch pans on side two.** 1. Remove shoe sorter side covers on one side and check debris catch pans under shoe sorter conveyor for: a. Excessive debris or oil	26	07	140	600	

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		b. Missing or damaged sound absorption material or missing panels. 2. Remove debris. 3. Replace all shoe sorter side covers 4. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: SHOE SORTER SIDE 1	70	**Clean Shoe Sorter Rails on side one.** Cleaning the rails will prolong slat weldment wheel life. Do not use solvent based cleaners which could result in degradation of wheel urethane. 1. Open all side doors on both sides of Shoe Sorter. 2. Use a mild detergent and a rag; clean the upper and lower rails to remove oil, dirt, and debris. 3. Verify wedges between rail sections are not loose. 4. Check vertical and horizontal weldment wheels for damage such as wheels with damaged rubber, flat spots, or not perpendicular to the rolling surface, or which have loose hardware. Make notes of wheels which are damaged or impregnated with metal (shiny metallic appearance) and schedule needed repairs. 5. Replace all shoe sorter side covers 6. Generate corrective work order and notify Supervisor as necessary.	180	09	1800	8200	
DISTRIBUTION SUBSYSTEM: SHOE SORTER SIDE 2	71	**Clean Shoe Sorter Rails on side two.** Cleaning the rails will prolong slat weldment wheel life. Do not use solvent based cleaners which could result in degradation of wheel urethane. 1. Open all side doors on both sides of Shoe Sorter. 2. Use a mild detergent and a rag, to clean the upper and lower rails to remove oil, dirt, and debris.	180	09	1800	8200	

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
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Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
		3. Verify wedges between rail sections are not loose. 4. Check vertical and horizontal weldment wheels for damage such as wheels with damaged rubber, flat spots, or not perpendicular to the rolling surface, or which have loose hardware. Make notes of wheels which are damaged or impregnated with metal (shiny metallic appearance) and schedule needed repairs. 5. Replace all shoe sorter side covers 6. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER ALIGNMENTS SIDE 1	72**	**Check Shoe Sorter alignments on side one.** Misadjusted or worn items which contact carriage assembly pins will cause pin damage. Inspect the following items for alignment, wear or damage: 1. Remove guarding as necessary 2. Diverters SOL1, SOL2, SOL3, and SOL4. a. Pins should pass directly through these divert points with no contact when the diverter is not activated. b. Inspect gate arm, linkage, and stops for wear or damage. 3. Inspect Divert Rail bars for damage. 4. Inspect Receiver Blocks at the end of divert rails (4 small, 4 large). Channels milled into receiver blocks should be smooth. Large Receiver blocks should be replaced if wear "notches" from pin contact exceeds 1/4". 5. Verify the Pin Guide, Tail Shaft Assy (white nylon ring inside of tail sprocket) is secure and not damaged. 6. Verify that sprocket attachment bolts on the outer face of the sprockets are tight (torque value is 120 in/lbs.). 7. Replace any removed guarding	20	09	600	2700	

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		8. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER ALIGNMENTS SIDE 2	73**	**Check Shoe Sorter alignments on side two.** Misadjusted or worn items which contact carriage assembly pins will cause pin damage. Inspect the following items for alignment, wear, or damage: 1. Remove guarding as necessary 2. Diverters SOL1, SOL2, SOL3, and SOL4. a. Pins should pass directly through these divert points with no contact when the diverter is not activated. b. Inspect gate arm, linkage, and stops for wear or damage. 3. Inspect Divert Rail bars for damage. 4. Inspect Receiver Blocks at the end of divert rails (4 small, 4 large). Channels milled into receiver blocks should be smooth. Large Receiver Blocks should be replaced if wear "notches" from pin contact exceeds 1/4". 5. Verify the Pin Guide, Tail Shaft Assy (white nylon ring inside of tail sprocket) is secure and not damaged. 6. Verify that sprocket attachment bolts on the outer face of the sprockets are tight (torque value is 120 in/lbs.). 7. Replace any removed guarding 8. Generate corrective work order and notify Supervisor as necessary.	20	09	600	2700	
DISTRIBUTION SUBSYSTEM: SHOE SORTER WELDMENTS SIDE 1	74**	**Weldment Inspection and Lubrication.** **WARNING: Before performing any activities requiring equipment to be powered on and covers/panels open, you must don appropriate PPE. Refer to the current Electrical Work Plan (EWP) MMO for appropriate EWP PPE requirements.** When performing the following tasks, locate the weldments to be serviced at the bottom of the	202	09	1800	8200	

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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.
		shoe sorter from the sprocket to just before Induct Lane This will allow for both sides to be serviced simultaneously. The shoe sorter may be advanced manually by hand while locked out or may be moved by jogging the Shoe Sorter using the VFD Parameter Tool. Only advance the shoe sorter in the forward direction. **WARNING: 480 VAC Power will need to be applied to the machine for a short period of time while jogging the Shoe Sorter to access the next section of weldments using the instructions located the MS-202 Vol. B Section 4.2 titled Conveyor Manual Operation. Using the VFD Parameter Tool does not require computer systems to be powered up, but will require any E-Stop condition to be reset to restore 480 VAC to the DCC 8 enclosure. Lock out the machine when performing the following tasks.** Tools required: 12” Adjustable combination square Small Pry Bar (12”-16”) Grease gun with Needle Tip (Lincoln P/N 83278) All Purpose Grease (Castrol Tribol BRB-572 or equivalent) 1. Remove guarding as necessary 2. Position the desired section of the Shoe Sorter in the accessible area. 3. If the Shoe Sorter is required to be jogged, perform the following substeps: a. Don PPE. b. Turn FSD1-DCC-8 disconnect switch to Off position. c. Open enclosure FSD1-DCC-8 and connect cable from VFD Parameter Tool					

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		to the correct VFD per instructions located in the MS-202, Vol B, Section 4.2 titled Conveyor Manual Operation. d. Close the FSD1-DCC-8 enclosure. e. Turn FSD1-DCC-8 disconnect switch to On position. f. Doff PPE. g. Jog the Shoe Sorter to the desired location using the VFD Parameter Tool. 4. Either lock out the entire APPS or secure the FSD1-DCC-8 disconnect in accordance with local lockout procedures to prevent motion of the Shoe Sorter. 5. Perform the following measurement to determine the amount of fork play. a. Place the flat of the combination square on top of the slat wheel. b. On the side of the wheel axle opposite the fork opening (trailing side) extend the scale downward, (behind the wheel) to rest firmly on the Shoe Sorter rail. c. Note the height of the top of the trailing weldment on the scale. Then, using the pry bar, lift the trailing weldment to the point the lower fork touches the wheel axle. If the wheel is lifted off of the rail, excessive force is being applied. Record the distance of lift (amount of fork play). d. Measurements greater than one-eighth inch indicate the weldment should be scheduled for replacement. 6. Closely inspect the U shaped relief cut of the weldment for signs of fatigue or cracking. Cracked weldments should be scheduled for replacement. Newer weldments are being manufactured with this U notch filled with weld.					

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		7. Lubricate the fork contact points using the needle tipped grease gun. Apply grease (1cc) inside the upper and lower fork tips where they contact the upstream weldment. 8. Check weldment wheels for damage such as flat spots, gouges or if the wheel is impregnated with metal. Damaged or impregnated wheels should be scheduled for replacement. 9. Verify the slat end caps are tight against slats. If improper bolts (40 mm long) have been used, the bolts may be tight and still allow end-cap movement. End cap to slat bolts (3) should be 30 mm long and installed with a lock washer. 10. Verify that end cap to weldment bolts (2) have Nylock nuts installed (M6 Grade 8.8 Nylock). Unless weldment wear or damage indicates the possibility of imminent failure, corrective repairs should be scheduled for completion. Severely cracked weldments (greater than 1/8") or severely damaged wheels should be replaced immediately. **NOTE:** When replacing weldments, be sure to install BUSHING, DAMPER, PSN 9330-10-000-0488 and pre-grease the inner and side surfaces of the weldment fork. 11. If the Shoe Sorter was jogged using the VFD Parameter Tool, perform the following substeps: a. Don PPE. b. Turn FSD1-DCC-8 disconnect switch to the Off position. c. Open enclosure FSD1-DCC-8 and disconnect the VFD Parameter tool cable from the VFD. d. Close the FSD1-DCC-8 enclosure. e. Turn FSD1-DCC-8 disconnect switch to					

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		the ON position. f. Doff PPE. 12. Replace any removed guarding					
DISTRIBUTION SUBSYSTEM: SHOE SORTER WELDMENTS SIDE 2	75**	**Weldment Inspection and Lubrication.** **WARNING: Before performing any activities requiring equipment to be powered on and covers/panels open, you must don appropriate PPE. Refer to the current Electrical Work Plan (EWP) MMO for appropriate EWP PPE requirements.** When performing the following tasks, locate the weldments to be serviced at the bottom of the shoe sorter from the sprocket to just before Induct Lane This will allow for both sides to be serviced simultaneously. The shoe sorter may be advanced manually by hand while locked out or may be moved by jogging the Shoe Sorter using the VFD Parameter Tool. Only advance the shoe sorter in the forward direction. **WARNING: 480 VAC Power will need to be applied to the machine for a short period of time while jogging the Shoe Sorter to access the next section of weldments using the instructions located in the MS-202 Vol. B Section 4.2 titled Conveyor Manual Operation. Using the VFD Parameter Tool does not require computer systems to be powered up, but will require any E-Stop condition to be reset to restore 480 VAC to the DCC 8 enclosure. Lock out the machine when performing the following tasks.** Tools required: 12” Adjustable combination square Small Pry Bar (12”-16”) Grease gun with Needle Tip (Lincoln P/N 83278) All Purpose Grease (Castrol Tribol BRB-572 or	202	09	1800	8200	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		equivalent) 1. Remove guarding as necessary 2. Position the desired section of the Shoe Sorter in the accessible area. 3. If the Shoe Sorter is required to be jogged, perform the following substeps. a. Don PPE. b. Turn FSD2-DCC-8 disconnect switch to Off position. c. Open enclosure FSD2-DCC-8 and connect cable from VFD Parameter Tool to the correct VFD per instructions located in the MS-202, Vol B, Section 4.2 titled Conveyor Manual Operation. d. Close the FSD2-DCC-8 enclosure. e. Turn FSD2-DCC-8 disconnect switch to On position. f. Doff PPE. g. Jog the Shoe Sorter to the desired location using the VFD Parameter Tool. 4. Either lock out the entire APPS or secure the FSD2-DCC-8 disconnect in accordance with local lockout procedures to prevent motion of the Shoe Sorter. Perform the following measurement to determine the amount of fork play. a. Place the flat of the combination square on top of the slat wheel. b. On the side of the wheel axle opposite the fork opening (trailing side) extend the scale downward, (behind the wheel) to rest firmly on the Shoe Sorter rail. c. Note the height of the top of the trailing weldment on the scale. Then, using the pry bar, lift the trailing weldment to the point the lower fork touches the wheel axle. If the wheel is lifted off of the rail,					

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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					Run Hours	Pieces Fed (000)	Freq.
		excessive force is being applied. Record the distance of lift (amount of fork play). d. Measurements greater than one-eighth inch indicate the weldment should be scheduled for replacement. 5. Closely inspect the U shaped relief cut of the weldment for signs of fatigue or cracking. Cracked weldments should be scheduled for replacement. Newer weldments are being manufactured with this U notch filled with weld. 6. Lubricate the fork contact points using the needle tipped grease gun. Apply grease (1cc) inside the upper and lower fork tips where they contact the upstream weldment. 7. Check weldment wheels for damage such as flat spots, gouges or if the wheel is impregnated with metal. Damaged or impregnated wheels should be scheduled for replacement. 8. Verify the slat end caps are tight against slats. If improper bolts (40 mm long) have been used, the bolts may be tight and still allow end-cap movement. End cap to slat bolts (3) should be 30 mm long and installed with a lock washer. 9. Verify that end cap to weldment bolts (2) have Nylock nuts installed (M6 Grade 8.8 Nylock). Unless weldment wear or damage indicates the possibility of imminent failure, corrective repairs should be scheduled for completion. Severely cracked weldments (greater than 1/8”) or severely damaged wheels should be replaced immediately. **NOTE:** When replacing weldments, be sure to install BUSHING, DAMPER, PSN 9330-10-000-0488 and pre-grease the inner and side surfaces of the weldment fork. 10. If the Shoe Sorter was jogged using the VFD					

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					Run Hours	Pieces Fed (000)	Freq.
		Parameter Tool, perform the following substeps: a. Don PPE. b. Turn FSD2-DCC-8 disconnect switch to the Off position. c. Open enclosure FSD2-DCC-8 and disconnect the VFD Parameter tool cable from the VFD. d. Close the FSD2-DCC-8 enclosure. e. Turn FSD2-DCC-8 disconnect switch to the ON position. f. Doff PPE. 11. Replace any removed guarding					
DISTRIBUTION SUBSYSTEM: SHOE SORTER SIDE 1	76**	**Check Shoe Sorter condition on side one.** 1. Remove guarding as necessary 2. Verify all frame hardware is tight. 3. Check overflow debris brush for obvious damage and adjustment so that the brush barely touches the slats for its entire length. 4. Check chain oiler reservoir and manifold for leaks. 5. Check chain oiler reservoir oil level. Add lubricant if reservoir is low. Replenish with Exxon Mobil FEBIS K68, Shell Tonna V 68 or Mobil Vactra #2. 6. Replace any removed guarding 7. Generate corrective work order and notify Supervisor as necessary.	12	09	600	2700	
DISTRIBUTION SUBSYSTEM: SHOE SORTER SIDE 2	77**	**Check Shoe Sorter condition on side two.** 1. Remove guarding as necessary 2. Verify all frame hardware is tight. 3. Check overflow debris brush for obvious damage and adjustment so that the brush barely touches the slats for its entire length.	12	09	600	2700	

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
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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.
		4. Check chain oiler reservoir and manifold for leaks. 5. Check chain oiler reservoir oil level. Add lubricant if reservoir is low. Replenish with Exxon Mobil FEBIS K68, Shell Tonna V 68 or Mobil Vactra #2. 6. Replace any removed guarding 7. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER CHAIN SIDE 1	78**	**Check Chain Tension and Delta on side one.** 1. Remove guarding as necessary 2. Check chain tension at tail shaft/sprocket assembly. The vertical spring plate should be at the edge of, but not visible from the top viewing hole (3-3/16 inches from edge of box). Adjust as necessary. 3. Measure side-to-side chain length delta. If chain tension adjustments were just made, the shoe sorter must be run for 5 minutes prior to taking the following measurement. a. Measure from the tail shaft center dimple to the inboard edge of the guarded adjustment frame box on each side (within +/- 1/16”) on each side. Measurements should be taken from the center of the shaft to the end of the box opposite the tension adjustment assembly (towards the input end of the Shoe Sorter). b. Compare measurements from each side. If the delta is greater than 1/2” there may be a problem with the chain oiler on the shorter side. Take action to investigate and correct. If either measurement is less than 5.5 inches full chain replacement should be scheduled. c. If correcting oiler issues does not decrease this side-to-side difference by the next scheduled measurement or the delta is greater than 5/8” chain,	5	09	500	2300	

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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.
		replacement should be considered. 4. Check oiler brush for wear, dirt, or mis-adjustment. 5. Replace any removed guarding 6. Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER CHAIN SIDE 2	79**	**Check Chain Tension and Delta on side two.** 1. Remove guarding as necessary 2. Check chain tension at tail shaft/sprocket assembly. The vertical spring plate should be at the edge of, but not visible from the top viewing hole (3-3/16 inches from edge of box). Adjust as necessary. 3. Measure side-to-side chain length delta. If chain tension adjustments were just made, the shoe sorter must be run for 5 minutes prior to taking the following measurement. a. Measure from the tail shaft center dimple to the inboard edge of the guarded adjustment frame box on each side (within +/- 1/16”) on each side. Measurements should be taken from the center of the shaft to the end of the box opposite the tension adjustment assembly (towards the input end of the Shoe Sorter). b. Compare measurements from each side. If the delta is greater than 1/2”, there may be a problem with the chain oiler on the shorter side. Take action to investigate and correct. If either measurement is less than 5.5 inches full chain replacement should be scheduled. c. If correcting oiler issues does not decrease this side-to-side difference by the next scheduled measurement or the delta is greater than 5/8” chain, replacement should be considered. 4. Check oiler brush for wear, dirt, or mis-adjustment.	5	09	500	2300	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		5. Replace any removed guarding 6. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER GEARBOX SIDE 1	80	**Change gearbox oil on side one.** Change gearbox oil using ISO VG220 Mineral Based Oil, Shell OMALA 220.	14	07	10000	45000	
DISTRIBUTION SUBSYSTEM: SHOE SORTER GEARBOX SIDE 2	81	**Change gearbox oil on side two.** Change gearbox oil using ISO VG220 Mineral Based Oil, Shell OMALA 220.	14	07	10000	45000	
INDUCTION SUBSYSTEM: POLY CHAIN BELTS SIDE 1	82	**Check drive belt and sprocket condition on side one.** Check condition of poly chain belts and sprockets on the following conveyors for pulleys with sharp edges, or belts with tears, missing teeth, or improper tension. Remove guarding, as necessary, check belts and sprockets, then reinstall guarding for the following conveyors: 1. Sync Module Conveyors DX1-1 through DX1-4 and DX2-1 (5) 5 to 8 lb at .125" to .25" 2. Recirculation Conveyor (1) see MS-202 for tensioning 3. Auto-induction 45 degree Loading and Unloading Conveyors (6) 5 to 7 lbs. at .5" 4. Auto-induction Sync Conveyors (6) 5 to 7 lbs. at .5" 5. Semi-Automatic Induction Station Coding Conveyors (2) 5 to 7 lbs. at .5" 6. Semi-Automatic Induction Station Scale Conveyor (1) 5 to 7 lbs. at .5" 7. Semi-Automatic Induction Station Synchronizing Conveyor (1) 5 to 7 lbs. at .5" 8. Semi-Automatic Induction Station Unloading Conveyor (1) 5 to 7 lbs. at .5" 9. Generate corrective work order and notify Supervisor as necessary.	24	09	7200	35000	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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 SUBSYSTEM: POLY CHAIN DRIVE BELTS SIDE 2	83	**Check drive belt and sprocket condition on side two.** Check condition of poly chain belts and sprockets on the following conveyors for pulleys with sharp edges, or belts with tears, missing teeth, or improper tension. Remove guarding, as necessary, check belts and sprockets, then reinstall guarding for the following conveyors: 1. Sync Module Conveyors DX1-1 through DX1-4 and DX2-1 (5) 5 to 8 lbs. at .125" to .25" 2. Recirculation Conveyor (1) see MS-202 for tensioning 3. Auto-induction 45 degree Loading and Unloading Conveyors (6) 5 to 7 lbs. at .5" 4. Auto-induction Sync Conveyors (6) 5 to 7 lb at .5" 5. Semi-Automatic Induction Station Coding Conveyors (2) 5 to 7 lbs. at .5" 6. Semi-Automatic Induction Station Scale Conveyor (1) 5 to 7 lbs. at .5" 7. Semi-Automatic Induction Station Synchronizing Conveyor (1) 5 to 7 lbs. at .5" 8. Semi-Automatic Induction Station Unloading Conveyor (1) 5 to 7 lbs. at .5″. 9. Generate corrective work order and notify Supervisor as necessary.	24	09	7200	35000	
INDUCTION SUBSYSTEM: GEARBOXES SIDE 1	84	**Check gearbox condition on side one.** Check gearboxes on the following conveyors for leaks: 1. Remove guarding as necessary 2. Auto-Induction 90 Degree Conveyor (3) 3. Semi-Auto Roller Conveyor (1) 4. Rework Roller Conveyor (1) 5. Replace any removed guarding 6. Generate corrective work order and notify	2	07	1800	8200	

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Supervisor as necessary.					
INDUCTION SUBSYSTEM: GEARBOXES SIDE 2	85	**Check gearbox condition on side two.** Check gearboxes on the following conveyors for leaks: 1. Remove guarding as necessary 2. Auto-Induction 90 Degree Conveyor (3) 3. Semi-Auto Roller Conveyor (1) 4. Rework Roller Conveyor (1) 5. Replace any removed guarding 6. Generate corrective work order and notify Supervisor as necessary.	2	07	1800	8200	
INDUCTION SUBSYSTEM: SEMI-AUTO ROLLER TABLES SIDE 1	86	**Check O-ring belts on side one.** Check underside of the shoe sorter roller table and the rework roller table from beneath them. Look for damage or obvious signs of wear such as worn steel shafts, broken or missing pulleys or rollers, missing O-ring belts, or bearings emitting debris. Generate corrective work order and notify Supervisor as necessary.	5	09	1800	8200	
INDUCTION SUBSYSTEM: SEMI-AUTO ROLLER TABLES SIDE 2	87	**Check O-ring belts on side two.** Check underside of the shoe sorter roller table and the rework roller table from beneath them. Look for damage or obvious signs of wear such as worn steel shafts, broken pulleys, missing O-ring belts, or bearings emitting debris. Generate corrective work order and notify Supervisor as necessary.	5	09	1800	8200	
INDUCTION SUBSYSTEM: SEMI-AUTO CODING CONVEYOR (2 BELTS) SIDE 1	88	**Check tension pulley on side one.** Check Coding Belt Tension Roller bearings and shaft ends for signs of failure (shaft damage or wear or bearing emitting debris). Rotate coding belt by hand to verify roller is not binding and that bearings are not failing.	6	09	7200	35000	

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					Run Hours	Pieces Fed (000)	Freq.
		Generate corrective work order and notify Supervisor as necessary.					
INDUCTION SUBSYSTEM: SEMI-AUTO CODING CONVEYOR (2 BELTS) SIDE 2	89	**Check tension pulley on side two.** Check Coding Belt Tension Roller bearings and shaft ends for signs of failure (shaft damage, or wear, or bearing emitting debris). Rotate coding belt by hand to verify roller is not binding and that bearings are not failing. Generate corrective work order and notify Supervisor as necessary.	6	09	7200	35000	
INDUCTION SUBSYSTEM: 45 DEGREE BELTS SIDE 1	90	**Check Anti-Skid Assemblies on side one.** Check Anti-Skid Assemblies on the Auto and Semi-Auto Induction Stations for: 1. Remove guarding as necessary 2. Broken, missing, damaged, or loose hardware. 3. Check for broken, missing, or damaged springs. 4. Check for broken, missing, damaged, or binding casters. 5. Replace any removed guarding 6. Generate corrective work order and notify Supervisor as necessary.	7	09	7200	35000	
INDUCTION SUBSYSTEM: 45 DEGREE BELTS SIDE 2	91	**Check Anti-Skid Assemblies on side two.** Check Anti-Skid Assemblies on the Auto and Semi-Auto Induction Stations for: 1. Remove guarding as necessary 2. Broken, missing, damaged, or loose hardware. 3. Check for broken, missing, or damaged springs. 4. Check for broken, missing, damaged, or binding casters. 5. Replace any removed guarding 6. Generate corrective work order and notify	7	09	7200	35000	

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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					Run Hours	Pieces Fed (000)	Freq.
		Supervisor as necessary.					
SORTER SUBSYSTEM: SAFETY BARRIERS	92**	**Check Sorter safety barriers.** Check for missing, loose, or damaged safety barriers (Lexan panels, wire mesh screens, gates, etc.). Generate corrective work order and notify Supervisor as necessary. ***Multiplied By: Carrier Cells**	0.01*	07			1
SORTER SUBSYSTEM: LABEL PRINTERS	93	**Clean label printer print heads.** Clean the label printer print head using the following procedure: 1. Ensure this procedure is accomplished when the APPS is powered down. **WARNING: Allow sufficient time for the printhead to cool before handling or cleaning.** 2. Do not touch the print head with any metal or sharp objects. 3. Ensure the printer switch is in OFF position. 4. Raise and open the hinged label printer cover. 5. Rotate the green print head lift knob in the full counter-clockwise position. 6. Lift the print head to access the print surface. **WARNING: PPE must be properly used as required by the current SDS when using alcohol. Alcohol is a flammable liquid. Discard alcohol soaked materials according to local procedures to prevent spontaneous combustion.** 7. Apply a small amount of Isopropyl alcohol to a Q-Tip. Do not over-saturate the Q-tip with alcohol. A damp Q-tip will provide the best results. 8. Carefully wipe debris from the face of the exposed print head with the Q-Tip. 9. Carefully lower the print head onto the roller	2	07	20	190	

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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	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		and label. 10. Rotate the green print head lift knob in the full clockwise position. 11. Close the hinged label printer cover. 12. Restore the printer switch to the on position. 13. After the APPS is powered up and returned to operating condition, print a test label from each label printer, and verify label print					
SORTER SUBSYSTEM: BINS	94	**Check bin, roller table, and sack hanger condition.** **WARNING: Worn bin chutes and other hardware may have sharp edges. Use hand protection.** Check 25% of the roller tables and sack hangers for ease of use and operability. **NOTE:** Verify in the machine logbook which bins were checked previously and continue from that point. **WARNING: Failure of roller extension table stops will allow the roller table assembly to be pulled completely out of the track. Verify these stops are in place and use caution when pulling the roller table out fully.** 1. Verify the chute roller extension stops are in place and functional by extending the roller extension fully. 2. Check bin chutes and associated hardware for wear, sharp edges, and damage. 3. Grasp each chute and attempt to lift or move it side-to-side. Ability to move chute indicates that the lower mounting bolts may be loose or missing. 4. Log the bin position numbers checked during this check and ensure all bins are checked on a rotational basis. 5. Generate corrective work order and notify Supervisor as necessary.	1*	07	1400		

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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.
		***Multiplied By: 25% BINS**					
SORTER SUBSYSTEM: CABLES, WIRING, CONNECTORS, AND TERMINATIONS	95	**Check cables and wiring.** Check the physical integrity of all externally accessible cables, wiring, connectors, and terminations in the Sorter Subsystem. Tighten any visibly loose connections and note any obvious cable damage such as pinched cables, cuts or abrasions which could affect cable integrity. • GCPU cabling. • 70 VDC Power Supply cabling. • OCC Cabling • OIP Cabling Perform this task in tandem with sorter vacuuming tasks while guarding is removed for cleaning. Generate corrective work order and notify Supervisor as necessary. ***Multiplied By: Carrier Cells**	0.05*	07	7200		
SORTER SUBSYSTEM: CLEAN MONORAIL DEBRIS	96	**Clean monorail.** Check monorail for build-up of dirt or debris not removed by regular vacuuming. Clean areas of monorail with excessive buildup. Perform this task in coordination with Sorter vacuuming schedule to minimize necessity to remove additional guarding. ***Multiplied By: Carrier Cells**	0.1*	07	7200		
POWER AND CONTROL: POWER FACTOR CONTROL CABINET (PFC)	97	**Inspect and clean PFC.** **WARNING: Capacitors within this enclosure have the potential to store hazardous voltages. Wait at least two minutes after system lockout for capacitors to fully discharge. Failure to comply could result in personal injury or death.** 1. Open cover of PFC 2. Check condition of interior components.	10	09			M

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Equipment Nomenclature: Automated Package Processing System	Equipment Model:								Bulletin Filename: mm15109				Occurrence: eCBM			

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: Freq.
		3. Check cooling fans for dirty blades and clean as needed. 4. Check inside cabinet for indications of worn or damaged components. 5. Inspect condition of filter media located at bottom of enclosure. Clean or replace filter as appropriate. 6. Close cover of PFC 7. Generate corrective work order and notify Supervisor as necessary.					
POWER AND CONTROL: SUPERVISOR PLATFORM COMPUTER CABINET	98	**Clean SMS Computer Cabinet & Desk.** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, printer, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as necessary).	8	07			M
POWER AND CONTROL: SUPERVISOR PLATFORM COMPUTER CABINET	99	**Clean Supervisor Platform Computers (3).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling.	60	09			52
POWER AND CONTROL: IMAGE PROCESSOR RACKS 1 THRU 3	100	**Clean IS and IP computer cabinets 1 thru 3 (3 per system).** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as	15	07			M

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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.
		necessary).					
POWER AND CONTROL: IMAGE PROCESSOR RACK 4 (DUAL ONLY)	101	**Clean IP computer cabinet #4 (1 per system).** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as necessary). * Dual Sided Machine Only	5	07			M
POWER AND CONTROL: IMAGE PROCESSOR RACKS 1 THRU 3	102	**Clean the Image Server Computer.** 1. Verify cables are labeled, then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling.	20	09			52
POWER AND CONTROL: IMAGE PROCESSOR RACKS 1 THRU 3	103	**Clean the AMD Computer.** 1. Verify cables are labeled, then disconnect cabling from the computer 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling.	20	09			52
POWER AND CONTROL: IMAGE PROCESSORS 1 and 2	104	**Clean the Image Processor Computers (1 and 2).** 1. Verify cables are labeled, then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and	40	09			52

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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	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		reconnect cabling.					
POWER AND CONTROL: IMAGE PROCESSORS 3 and 4 (DUAL ONLY)	105	**Clean Image Processor Computers (3 and 4).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling. * Dual Sided Machine Only	40	09			52
POWER AND CONTROL: FSD COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 1	106	**Clean FSD/DCS computer cabinet side one.** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as necessary).	5	07			M
POWER AND CONTROL: FSD/DCS COMPUTERS SIDE 1	107	**Clean FSD & DCS Computers on side one (3).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack, and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling.	60	09			52
POWER AND CONTROL: FSD COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 2	108	**Clean FSD/DCS computer cabinet side two.** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as	5	07			M

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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.
		necessary). * Dual Sided Machine Only					
POWER AND CONTROL: FSD/DCS COMPUTERS SIDE 2	109	**Clean FSD & DCS Computers on side two (3).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling. * Dual Sided Machine Only	60	09			52
POWER AND CONTROL: IMAGE CAPTURE COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 1	110	**Clean IC computer cabinet on side one.** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior& exterior, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as necessary).	5	07			M
POWER AND CONTROL: IMAGE CAPTURE COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 1	111	**Clean Image Capture Computers (4).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling.	80	09			52
POWER AND CONTROL: IMAGE CAPTURE COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 2	112	**Clean IC computer cabinet on side two.** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as	5	07			M

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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.
		necessary). * Dual Sided Machine Only					
POWER AND CONTROL: IMAGE CAPTURE COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 2	113	**Clean Image Capture Computers (4).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling. * Dual Sided Machine Only	80	09			52
POWER AND CONTROL: SEMI-AUTO INDUCTION COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 1	114	**Clean SAIC computer cabinet on side one.** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, keyboard, mouse, and monitor as needed. 3. Vacuum computer filters (replace as necessary).	5	07			M
POWER AND CONTROL: SEMI-AUTO INDUCTION COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 1	115	**Clean Induction Computers (4).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling.	80	09			52
POWER AND CONTROL: SEMI-AUTO INDUCTION COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 2	116	**Clean SAIC computer cabinet on side two.** 1. Check for indications of damaged cabinet or components. Verify cabling connections to computers are secure and cables are not visibly damaged. 2. Clean cabinet interior & exterior, keyboard, mouse, and monitor as needed.	5	07			M

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					Run Hours	Pieces Fed (000)	Freq.
		3. Vacuum computer filters (replace as necessary). * Dual Sided Machine Only					
POWER AND CONTROL: SEMI-AUTO INDUCTION COMPUTER CABINETS WITH COMPUTERS AND UPS SIDE 2	117	**Clean Induction Computers (4).** 1. Verify cables are labeled, and then disconnect cabling from the computer. 2. Remove computer from rack and clean computer interior using an ESD vacuum or Dust Containment Unit. 3. Re-install computer within the rack and reconnect cabling. * Dual Sided Machine Only	80	09			52
POWER AND CONTROL: SORTER MAIN CONTROL CABINET (SMCC)	118	**Inspect and Clean SMCC interior.** **WARNING** **480 Volt electric power is present at the Line side of the main disconnect. Use caution to avoid electrical shock, personal injury, or death. Steps contained in this bulletin require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE and barricade requirements.** 1. Don the appropriate EWP PPE and set up barricades as required by the current Electrical Work Plan (EWP) MMO. 2. Open cabinet door 3. Check inside cabinet for indications of worn or damaged components. 4. Clean cabinet interior as needed, then close the enclosure doors. 5. Close cabinet door 6. Doff EWP PPE. 7. Clean cabinet exterior as needed.	15	09	1800		

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POWER AND CONTROL: UNLOADER DISTRIBUTED CONTROL CABINET (UDCC) SIDE 1	119	**Inspect and clean UDCC enclosures on side one (3).** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed (3 per side). 4. Close cabinet door	10	09	1800		
POWER AND CONTROL: UNLOADER DISTRIBUTED CONTROL CABINET (UDCC) SIDE 2	120	**Inspect and clean UDCC enclosures on side two (3).** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed (3 per side). 4. Close cabinet door	10	09	1800		
POWER AND CONTROL: FEED SINGULATION DISTRIBUTION MAIN CONTROL CABINET (FSD-MCC) SIDE 1	121	**Inspect and clean FSD-MCC enclosure on side one.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed 4. Close cabinet door	5	09	1800		
POWER AND CONTROL: FEED SINGULATION DISTRIBUTION MAIN CONTROL CABINET (FSD-MCC) SIDE 2	122	**Inspect and clean FSD-MCC enclosure on side two.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door	5	09	1800		
POWER AND CONTROL: FEED SINGULATION	123	**Inspect and clean FSD-DCC enclosures on side one (8).**	40	09	1800		

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					Run Hours	Pieces Fed (000)	Freq.
DISTRIBUTION CONTROL CABINET (FSD-DCC) SIDE 1		1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed (8 per side). 4. Close cabinet door					
POWER AND CONTROL: FEED SINGULATION DISTRIBUTION CONTROL CABINET (FSD-DCC) SIDE 2	124	**Inspect and clean FSD-DCC enclosures on side two (8).** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed (8 per side). 4. Close cabinet door	40	09	1800		
POWER AND CONTROL: DISCRETE DISTRIBUTED SOURCE OF SUPPLY SIDE 1	125	**Inspect and clean DDSS enclosure on side one.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door	5	09	1800		
POWER AND CONTROL: DISCRETE DISTRIBUTED SOURCE OF SUPPLY SIDE 2	126	**Inspect and clean DDSS enclosure on side two.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door	5	09	1800		
POWER AND CONTROL: INDUCTION MAIN CONTROL CABINET (IMCC) SIDE 1	127	**Inspect and clean IMCC enclosure on side one.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components.	5	09	1800		

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		3. Clean cabinet exterior and interior as needed. 4. Close cabinet door					
POWER AND CONTROL: INDUCTION MAIN CONTROL CABINET (IMCC) SIDE 2	128	**Inspect and clean IMCC enclosure on side two.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door	5	09	1800		
POWER AND CONTROL: AUTOMATIC DISTRIBUTED CONTROL CABINET (ADCC) SIDE 1	129	**Inspect and clean side ADCC Enclosures on side one (3).** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door	15	09	1800		
POWER AND CONTROL: AUTOMATIC DISTRIBUTED CONTROL CABINET (ADCC) SIDE 2	130	**Inspect and clean side ADCC Enclosures on side two (3).** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door	15	09	1800		
POWER AND CONTROL: SEMI-AUTOMATIC DISTRIBUTED CONTROL CABINET (SADCC) SIDE 1	131	**Inspect and clean side SADCC Enclosure on side one.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door	5	09	1800		
POWER AND CONTROL: SEMI-AUTOMATIC	132	**Inspect and clean side SADCC Enclosure on side two.**	5	09	1800		

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
DISTRIBUTED CONTROL CABINET (SADCC) SIDE 2		1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door					
POWER AND CONTROL: OPERATOR CONTROL CABINET (OCC)	133	**Inspect and clean all OCC Enclosures.** 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed. 4. Close cabinet door ***Multiplied By: OCC**	5*	09	1800		
POWER AND CONTROL: 70 VDC POWER SUPPLY	134	**Inspect and clean all 70 VDC Power Supply Enclosures.** (Up to 4 on a system) 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cooling fan and cabinet exterior and interior as needed. 4. Close cabinet door 5. Loosen thumbscrews, remove, and vacuum filter screens (2 per supply). 6. Re-install filter screens. ***Multiplied By: 70 VDC Power Supply**	8*	09	1800		
POWER AND CONTROL: GROUND CENTRAL PROCESSING UNIT (GCPU)	135	**Inspect and clean all GCPU Enclosures.** (Up to 8 on a system) 1. Open cabinet door 2. Check inside cabinet for indications of worn or damaged components. 3. Clean cabinet exterior and interior as needed.	5*	09	1800		

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		4. Close cabinet door ***Multiplied By: GCPU**					
POWER AND CONTROL: SORTER MAIN CONTROL CABINET (SMCC)	136	**Check all externally accessible cables and wiring at the SMCC and Supervisor Platform.** 1. Check the physical integrity of all externally accessible cables, wiring, and connectors, to the supervisor platform and surrounding power and control cabinets. 2. Remove any items placed on top of the SMCC enclosure.	5	09	7200		
SORTER SUBSYSTEM: SORTER ASSEMBLY	137**	**Sorter train length evaluation and adjustment.** **NOTE:** Slip-joints are installed approximately every eight trains (56 cells). When centered, the slip joint will have 1 mm of flat exposed on the plunger shaft. Having the train length adjusted with all slip-joints at 1 mm extension or a mix of extended and compressed averaging to 1 mm extended will extend staybolt life and reduce drive wheel wear. Train length evaluation must be performed while the sorter is stopped. All slip-joints must be inspected without moving the train between observations of all slip-joints as the distances will change with each movement of the sorter. 1. Locate and observe the position of all slip joints. Use the local spreadsheet of recorded staybolt lengths created during cell inspection to determine which cells have slip-joints. 2. Determine whether all slip joints are compressed or if they are extended past 1 mm. a. If all staybolts are compressed the overall train length is too long. Shorten the longest staybolt or slip-joint on the machine to bring it closer to the average machine staybolt distance. b. If all staybolts are extended past 1 mm of exposed flat, the overall train length is too	40	09	1440		

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		short. Lengthen the shortest staybolt or slip-joint on the machine to bring it closer to the average machine staybolt distance. Use the local spreadsheet of recorded staybolt lengths created during cell inspection when choosing staybolt(s) to adjust. c. Record new cell distances on the local spreadsheet of recorded staybolt lengths created during cell inspection. If when adjusting staybolts, the change in distance required to achieve an overall average of 1 mm extended would require a staybolt to be adjusted out of tolerance, spread the change over several staybolts.					
APPS SYSTEM: POWER UP	138**	**Power up and restore system to operational mode.** **WARNING: Be careful when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Restore the system to operational mode as prescribed by the current local lockout/restore procedures by an APPS trained employee. 2. Verify that all systems report Online or Offline. Take corrective action for any subsystems remaining Disconnected. 3. Once the Sort Controller reports Offline after booting, within 2 minutes place the Sorter Subsystem in Maintenance to prevent the Sorter from dropping to Disconnected. Place the Sorter in the Offline state if Sorter does not require to be left in Maintenance mode for maintenance tasks. 4. System-wide, verify that all status indicators and stacklights are operating properly. 5. Reset the E-stop circuit.	13	10			D

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence eCBM			

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.
		6. Investigate any failures or abnormalities and initiate corrective action as needed. Generate corrective work order and notify Supervisor as necessary.					
APPS SYSTEM: LOGS	139**	**Review APPS log book, Past Faults, and reports.** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Review paper log book for issues requiring investigation or corrective action. 2. Review SMS status screen for existing faults or problems. 3. Review SMS log book and past RTF faults for problems. 4. Review feedback from End of Run Report Interpretation tasks performed during operational tours. 5. Investigate problems and initiate corrective action as necessary. Generate corrective work order and notify Supervisor as necessary.	10	10	1	0.001	
APPS SYSTEM: E-STOPS	140**	**Check all Pull-Cord and Mushroom Head E-Stops (2 people recommended).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Start machine (all conveyors and carrier cells running). 2. Activate an E-Stop Switch or Pullcord. 3. Verify the E-Stop switch latches in the activated position. **NOTE**: Start with a different E-Stop each time this task is issued	0.2*	09			4

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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.
		and performed. 4. Verify machine stops. 5. Verify E-Stop Switch internal LED illuminates. 6. Verify red lamp on stack light illuminates. 7. Verify horns sound two sequential tones. **NOTE:** Pullcord E-Stop tension is set properly when the green band is at the edge of the switch. 8. Reset emergency stop switch. If a pullcord, verify the cable tension indicator is in the correct position. Adjust cable tension as necessary. 9. At SMCC, verify the Clear Fault button illuminates. 10. At SMCC, reset fault by pressing the Clear Fault pushbutton, which will cause the pushbutton light to turn off. 11. Without restarting machine, check remaining E-Stops by repeating the activate and reset sequence for each E-Stop switch. Verify every switch sounds the audible and visible indicators and illuminates the Clear Fault pushbutton at the SMCC. 12. Review system log on SMS and ensure that all E -Stops were reported. 13. Initiate corrective action for any damaged or improperly functioning switch. Generate corrective work order and notify Supervisor as necessary. ***Multiplied By: E-STOP** **It is recommended that 2 persons perform the task.**					
APPS SYSTEM: UNLOADER SAFETY PHOTOTEYES SIDE 1	141**	**Check Unloader safety photoeyes on side one (3 unloaders per side).** **WARNING: Be cautious when working around or on equipment when power has been applied.**	3	07			1

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		There are three safety photoeyes on each Unloader located at ankle, waist, and chest heights. 1. Block and unblock chest-height safety photoeye. 2. Verify unloader will not operate. 3. Verify blue stack light illuminates. 4. Verify fault light illuminates on Unloader operator interface panel. 5. Clear fault. 6. Repeat steps 2 through 5 for waist-height and ankle-height safety photoeyes. 7. Note any deficiencies and report them to supervisor.					
APPS SYSTEM: UNLOADER SAFETY PHOTOEYES SIDE 2	142**	**Check Unloader safety photoeyes on side two (3 unloaders per side).** **WARNING: Be cautious when working around or on equipment when power has been applied.** There are three safety photoeyes on each Unloader located at ankle, waist, and chest heights. 1. Block and unblock chest-height safety photoeye. 2. Verify unloader will not operate. 3. Verify blue stack light illuminates. 4. Verify fault light illuminates on Unloader operator interface panel. 5. Clear fault. 6. Repeat steps 2 through 5 for waist-height and ankle-height safety photoeyes. 7. Note any deficiencies and report them to supervisor.	3	07			1
APPS SYSTEM: SAFETY	143**	**Check All Unloader gates (side one and side**	1*	07			1

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
BARRIERS		**two, if present).** (Only present when APCU is at end of load belt.) **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Check for mis-alignment or damage which would prevent gate from being opened or closed. 2. Open gate. 3. Verify that APCU will not operate. 4. Close gate. 5. At APCU operator control panel (UNL-DCC for that unloader), clear the interlock. 6. Repeat steps 1 through 5 for second gate. 7. Note any deficiencies and report them to supervisor. ***Multiplied By: APCU w/Gate**					
FEED SUBSYSTEM: APCU & PUN OPERATIONAL SIDE 1	144	**Check Unloader hydraulic unit operation on side one (3 Unloaders) (2 people recommended).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** **WARNING: If the APCU pressure levels are near or in excess of 1750 PSI, the APCU must be removed from service immediately and repaired.** **WARNING: If the PUN pressure levels are near or in excess of 1400 PSI, the PUN must be removed from service immediately and**	6	07	140	600	

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	0	3	A	P	P	S					A	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
		repaired. 1. Check pump, reservoir, filter, and all connections for leaking fluid. 2. With Unloader empty, operate Unloader and observe for the following: a. Verify smooth lift performance during operation. b. Observe motion of each pivot pin & clevis, observing for signs of pin or clevis wear. If any non-rotational motion of the pin is observed, schedule the clevis bushing for replacement. c. Observe floor mounting points and verify floor mounting bolts are secure. d. Check gauges for damage. e. Observe filter pressure gauge. Pressure in excess of 20 PSI indicates clogged filter. Initiate action to replace. f. Observe the hydraulic pressure gauge. If pressure indicated does not fall within ranges below, initiate corrective action. 3. Note any deficiencies and report them to supervisor. **NOTE:** The typical empty APCU pressure reading ranges are as below: *Stage one Tilt Up: 500 PSI to 750 PSI *Stage two Dump Up: 700 PSI to 850 PSI *Stage three Dump Down: 950 PSI to 1350 PSI *Stage four Tilt Down: 1100 PSI to 1450 PSI **NOTE:** The maximum operating pressure with rated capacity should be less than 1750 PSI. The system release pressure is pre-set at 1750 PSI by the manufacturer. **NOTE:** The typical empty PUN pressure reading					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		ranges are as below: *Stage one Tilt Up: 450 PSI to 625 PSI *Stage two Lift Up: 400 PSI to 575 PSI *Stage three Return Home & Tilt Down: 600 PSI to 825 PSI **NOTE:** The maximum operating pressure with rated capacity should be less than 1400 PSI. The system release pressure is pre-set at 1400 PSI by the manufacturer. **It is recommended that 2 persons perform the task.**					
FEED SUBSYSTEM: APCU & PUN OPERATIONAL SIDE 2	145	**Check Unloader hydraulic unit operation on side two (3 Unloaders) (2 people recommended).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** **WARNING: If the APCU pressure levels are near or in excess of 1750 PSI, the APCU must be removed from service immediately and repaired.** **WARNING: If the PUN pressure levels are near or in excess of 1400 PSI, the PUN must be removed from service immediately and repaired.** 1. Check pump, reservoir, filter, and all connections for leaking fluid. 2. With Unloader empty, operate Unloader and observe for the following: a. Verify smooth lift performance during operation. b. Observe motion of each pivot pin & clevis, observing for signs of pin or clevis wear. If any non-rotational motion of the pin is	6	07	140	600	

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	0	3	A	P	P	S					A	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
		observed, schedule the clevis bushing for replacement. c. Observe floor mounting points and verify floor mounting bolts are secure. d. Check gauges for damage. e. Observe filter pressure gauge. Pressure in excess of 20 PSI indicates clogged filter. Initiate action to replace. f. Observe the hydraulic pressure gauge. If pressure indicated does not fall within ranges below, initiate corrective action. 3. Generate corrective work order and notify Supervisor as necessary. **NOTE:** The typical empty APCU pressure reading ranges are as below: *Stage one Tilt Up: 500 PSI to 750 PSI *Stage two Dump Up: 700 PSI to 850 PSI *Stage three Dump Down: 950 PSI to 1350 PSI *Stage four Tilt Down: 1100 PSI to 1450 PSI **NOTE:** The maximum operating pressure with rated capacity should be less than 1750 PSI. The system release pressure is pre-set at 1750 PSI by the manufacturer. **NOTE:** The typical empty PUN pressure reading ranges are as below: *Stage one Tilt Up: 450 PSI to 625 PSI *Stage two Lift Up: 400 PSI to 575 PSI *Stage three Return Home & Tilt Down: 600 PSI to 825 PSI **NOTE:** The maximum operating pressure with rated capacity should be less than 1400 PSI. The system release pressure is pre-set at 1400 PSI by the manufacturer. **It is recommended that 2 persons perform the**					

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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.
		task.					
DISTRIBUTION SUBSYSTEM: FSD INTERLOCKS SIDE 1	146**	**Check FSD access door interlocks on side one (2 people recommended).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Start machine (All conveyors and carrier cells running). 2. Open the Shoe Sorter debris bin access door. 3. Observe the Shoe Sorter red stack light flashes and audible warning beeps. 4. Observe all FSD modules from Shoe Sorter back to Load Module stop immediately. Powered rollers and Induction Stations will run approximately 15 seconds. 5. At FSD MCC, verify that fault light illuminates. 6. Check door for damage and misalignment. 7. Close debris bin access door. 8. At FSD MCC, clear fault. 9. Open each unstacker side and lower access door, verifying the red stacklight flashes and audible beep sounds for each door. Press the FSD MCC clear fault button after testing each door. 10. Open each Shoe Sorter Plexiglas access door, verifying the red stacklight flashes and audible beep sounds for each door. Press the FSD MCC clear fault button after testing each door. 11. At FSD MCC, start FSD by pressing start push-button. 12. Verify all FSD conveyors start.	12	09			1

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		13. Stop machine. 14. Review system log at SMS to ensure access door interlock was reported. 15. Generate corrective work order and notify Supervisor as necessary. **It is recommended that 2 persons perform the task.**					
DISTRIBUTION SUBSYSTEM: FSD INTERLOCKS SIDE 2	147**	**Check FSD access door interlocks on side two (2 people recommended).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Start machine (All conveyors and carrier cells running). 2. Open the Shoe Sorter debris bin access door. 3. Observe the Shoe Sorter red stack light flashes and audible warning beeps. 4. Observe all FSD modules from Shoe Sorter back to Load Module stop immediately. Powered rollers and Induction Stations will run approximately 15 seconds. 5. At FSD MCC, verify that fault light illuminates. 6. Check door for damage and misalignment. 7. Close debris bin access door. 8. At FSD MCC, clear fault. 9. Open each unstacker side and lower access door, verifying the red stacklight flashes and audible beep sounds for each door. Press FSD MCC clear fault button after testing each door. 10. Open each Shoe Sorter Plexiglas access door, verifying the red stacklight flashes and audible beep sounds for each door. Press the FSD MCC clear fault button after testing each	12	09			1

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		door. 11. At FSD MCC, start FSD by pressing start push-button. 12. Verify all FSD conveyors start. 13. Stop machine. 14. Review system log at SMS to ensure access door interlock was reported. 15. Generate corrective work order and notify Supervisor as necessary. **It is recommended that 2 persons perform the task.**					
INDUCTION SUBSYSTEM: INDUCTION LANE GATE INTERLOCKS SIDE 1	148**	**Check induction lane gate interlocks on side one (4).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Start machine (all conveyors and carrier cells running). 2. Press the Request Access button next to the access gate. The button should flash, and then light solid. 3. Verify the induction lane stops. 4. Open gate and check gate for damage or mis-alignment. 5. Leave that gate open and proceed to next gate. 6. Repeat steps 2 through 5 for Induction lanes 2, 3, and Semi-Auto. 7. Close the gate for Semi-Auto Induction lane and press the gate Start button. 8. Close and reset the gates for Induction lanes	13	09			1

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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					Run Hours	Pieces Fed (000)	Freq.
		3, 2, and 1 verifying the lane restarts. 9. Stop the APPS machine. 10. Review system log at SMS to ensure interlocks were reported. 11. Generate corrective work order and notify Supervisor as necessary.					
APPS SYSTEM: INDUCTION LANE GATE INTERLOCKS SIDE 2	149**	**Check induction lane gate interlocks on side two (4).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Start machine (all conveyors and carrier cells running). 2. Press the Request Access button next to the access gate. The button should flash then light solid. 3. Verify the induction lane stops. 4. Open gate and check gate for damage or misalignment. 5. Leave that gate open and proceed to next gate. 6. Repeat steps 2 through 5 for Induction lanes 2, 3, and Semi-Auto. 7. Close the gate for Semi-Auto Induction lane and press the gate Start button. 8. Close and reset the gates for Induction lanes 3, 2, and 1 verifying the lane restarts. 9. Stop the APPS machine. 10. Review system log at SMS to ensure interlocks were reported. 11. Generate corrective work order and notify Supervisor as necessary.	13	09			1

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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.
SORTER SUBSYSTEM: MAINTENANCE TEST STATION ACCESS DOOR SOLENOID	150**	**Check maintenance test station access door solenoid.** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Ensure system is not in Maintenance mode (Sorter blue stacklight should not be illuminated). 2. Attempt to open the Maintenance Test Station Access doors. 3. Verify that solenoid prevents doors from opening. 4. From SMS, place sorter in Maintenance mode by selecting Maintenance, Set Machine States, then clicking Sorter (to highlight) then clicking the Maintenance button. 5. At the Maintenance Test Station turn off the 70 VDC rotary switch and place the Access rotary switch in the Access position. 6. Verify that solenoid has retracted by opening the Maintenance Test Station Access doors. 7. Close the Maintenance Test Station Access doors. 8. Turn on the 70 VDC rotary switch and place the Access Switch in the Normal position. 9. At the SMS put the Sorter subsystem in the Offline mode by selecting Maintenance, Set Machine States, then clicking Sorter (to highlight) then clicking the Offline button. 10. Generate corrective work order and notify Supervisor as necessary.	4	09			1
SORTER SUBSYSTEM: SORTER GATE INTERLOCKS	151**	**Check sorter gate interlocks (2 people recommended, closed loop system only).** **WARNING: Be cautious when working around or on equipment when power has been**	11*	09			1

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts. 1. Start machine (all conveyors and carrier cells running). 2. Activate one of the Sorter Access Gate Interlock Switches by opening the gate. **NOTE:** Start with a different access gate each time this task is issued and performed. 3. Verify the machine stops. 4. Verify the red lamp on stack lights illuminate. 5. Verify horns sound two sequential tones. 6. Close the Access Gate and check gate for damage and mis-alignment. 7. At SMCC, verify the Clear Fault button illuminates. 8. At SMCC, reset fault by pressing the Clear Fault button. 9. Without restarting machine, repeat step 2 and steps 4 through 8 for the second Sorter Access Gate Interlock Switch. 10. Review system fault log at the SMS to ensure interlocks were reported by clicking the Non-Active check-box in the faults pane to display non-active faults and verify each interlock reported and then recovered. 11. Generate corrective work order and notify Supervisor as necessary. ***Multiplied By: Sort Configuration** **It is recommended that 2 persons perform the task.**					
IMAGE AARS: TOP ILLUMINATION SIDE 1	152	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the**	120	09			104

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Illumination Module. **WARNING: Falling hazard exists. When working on the belt, work between the tunnel frame members located over the belt to minimize risk of falling. Failure to comply may result in personal injury or death.** **WARNING: Lock out the FSD-MCC following local lockout/restore procedures to prevent startup of the AARS belts.** **CAUTION: Before performing any Top Camera Illumination Module procedures, place cardboard over the belts to prevent footprints and/or debris from collecting on belt surfaces. Debris on belts may cause reduced address recognition performance.** **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Lock out the FSD-MCC following local lockout/restore procedures to prevent AARS belt motion. 2. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 3. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug <u>from the back of the fan if plug is present at fan body</u>. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan.					

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet.** **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 4. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202 Vol. B Section 6.6.2 titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 5. Label unit housing with date of Bulb and Fan replacement. 6. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 2. 7. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11).					

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		It is recommended that 2 persons perform the Gain Table portion of this task.					
IMAGE AARS: BOTTOM ILLUMINATION SIDE 1	153	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the Illumination Module.** **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Remove side guarding from lower camera assembly to allow access to Illumination Module. 2. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 3. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug from the back of the fan if plug is present at fan body. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow**	110	09			104

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet. **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 4. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202 Vol. B Section 6.6.2 titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 5. Label unit housing with date of Bulb and Fan replacement. 6. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 2. 7. Reinstall side guarding to lower camera assembly. 8. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain table portion of this task.**					
IMAGE AARS: SEMI-AUTO ILLUMINATION SIDE 1	154	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the**	120	09			104

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		Illumination Module. **WARNING: Falling hazard exists. When working on the belt, work between the tunnel frame members located over the belt to minimize risk of falling. Failure to comply may result in personal injury or death.** **WARNING: Lock out the INDX-DCC-4 following local lockout/restore procedures to prevent startup of the Semi-Auto belts.** **CAUTION: Before performing any Top Camera Illumination Module procedures, place cardboard over the belts to prevent footprints and/or debris from collecting on belt surfaces. Debris on belts may cause reduced address recognition performance.** **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Lock out the INDX-DCC-4 following local lockout/restore procedures to prevent Semi-Auto belt motion. 2. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 3. Replace Cooling Fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug <u>from the back of the fan if plug is present at fan body</u>. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet.** **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 4. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 5. Label unit housing with date of Bulb and Fan replacement. 6. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 2. 7. Remove lockout and restore power to the INDX-DCC-4. 8. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain table portion of this task.**					
IMAGE AARS: LEFT ILLUMINATION SIDE 1	155	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the Illumination Module.** **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket 2. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug from the back of the fan if plug is present at fan body. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down.**	100	09			104

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
		Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet. **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 3. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 4. Label unit housing with date of Bulb and Fan replacement. 5. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 1. 6. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain Table portion of this task.**					
IMAGE AARS: RIGHT ILLUMINATION SIDE 1	156	**Replace Illumination Module Fan and Bulb and Perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the**	100	09			104

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Illumination Module. **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 2. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug <u>from the back of the fan if plug is present at fan body</u>. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet.** **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination**					

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence eCBM			

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.
		module is turned on. 3. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 4. Label unit housing with date of Bulb and Fan replacement. 5. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 1. 6. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain Table portion of this task.**					
IMAGE AARS: TOP ILLUMINATION SIDE 2	157	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the Illumination Module.** **WARNING: Falling hazard exists. When working on the belt, work between the tunnel frame members located over the belt to minimize risk of falling. Failure to comply may result in personal injury or death.** **WARNING: Lock out the FSD-MCC following local lockout/restore procedures to prevent startup of the AARS belts.** **CAUTION: Before performing any Top Camera Illumination Module procedures, place cardboard over the belts to prevent footprints**	120	09			104

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		and/or debris from collecting on belt surfaces. Debris on belts may cause reduced address recognition performance. **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. Lock out the FSD-MCC following local lockout/restore procedures to prevent AARS belt motion. 1. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 2. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug from the back of the fan if plug is present at fan body. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained**					

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		within Safety Data Sheet. **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 3. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 4. Label unit housing with date of Bulb and Fan replacement. 5. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 2. 6. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain Table portion of this task.**					
IMAGE AARS: BOTTOM ILLUMINATION SIDE 2	158	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the Illumination Module.** **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Remove side guarding from lower camera	110	09			104

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		assembly to allow access to Illumination Module. 2. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 3. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug <u>from the back of the fan if plug is present at fan body</u>. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet.** **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 4. Replace Illumination Module Bulb. Detailed					

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 5. Label unit housing with date of Bulb and Fan replacement. 6. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 2. 7. Reinstall side guarding to lower camera assembly. 8. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain Table portion of this task.**					
IMAGE AARS: SEMI-AUTO ILLUMINATION SIDE 2	159	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the Illumination Module.** **WARNING: Falling hazard exists. When working on the belt, work between the tunnel frame members located over the belt to minimize risk of falling. Failure to comply may result in personal injury or death.** **WARNING: Lock out the INDX-DCC-4 following local lockout/restore procedures to prevent startup of the Semi-Auto belts.** **CAUTION: Before performing any Top Camera Illumination Module procedures, place**	120	09			104

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model								Bulletin Filename mm15109				Occurrence eCBM			

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.
		cardboard over the belts to prevent footprints and/or debris from collecting on belt surfaces. Debris on belts may cause reduced address recognition performance. **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Lock out the INDX-DCC-4 following local lockout/restore procedures to prevent Semi-Auto belt motion. 2. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 3. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug <u>from the back of the fan if plug is present at fan body</u>. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup**					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet. **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 4. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 5. Label unit housing with date of Bulb and Fan replacement. 6. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 2. 7. Remove lockout and restore power to the INDX-DCC-4. 8. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain Table portion of this task.**						
IMAGE AARS: LEFT ILLUMINATION SIDE 2	160	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the Illumination Module.** **NOTE:** It is recommended that two persons	100	09			104

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 2. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover. b. Disconnect cooling fan wiring plug from the back of the fan if plug is present at fan body. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet.** **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.**					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence eCBM			

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.
		3. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble. 4. Label unit housing with date of Bulb and Fan replacement. 5. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 1. 6. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain Table portion of this task.**					
IMAGE AARS: RIGHT ILLUMINATION SIDE 2	161	**Replace Illumination Module Fan and Bulb and perform Gain Table Adjustment.** **WARNING: Allow sufficient time for lamps to cool before performing service on the Illumination Module.** **NOTE:** It is recommended that two persons perform the Gain Table Adjustment to avoid the necessity of relocating the monitor while performing the calibration. 1. Remove the Illumination Module by removing the four socket head cap screws (2 on each side) attaching the Illumination Module to the mounting bracket. 2. Replace cooling fan (bench repair): a. Remove screws (4) from the cooling fan cover.	100	09			104

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		b. Disconnect cooling fan wiring plug <u>from the back of the fan if plug is present at fan body</u>. Do not attempt to pull the wiring pigtail out of the module. If the original or replacement fan does not have male pins on the fan body, cut wires near old fan body and use a 24 AWG splice connector to connect new fan wires to existing harness. c. Remove screws (4) from the cooling fan. d. Vacuum all dust and debris from the heat sink fins and fan cover. e. Replace cooling fan and reassemble. Fan airflow direction should be towards the module. **WARNING: To prevent injury in case of bulb breakage, wear protective eye wear when performing this procedure. Bulb is hot. Allow at least 20 minutes for bulb to cool down. Failure to comply may result in personal injury. Have leather gloves nearby for cleanup in case of bulb breakage. Handle and dispose of bulb according to instructions contained within Safety Data Sheet.** **CAUTION: To prevent bulb breakage, do not touch bulb with anything other than thin cotton gloves. Body oil, tiny grains of dirt etc. will cause bulb to burst when illumination module is turned on.** 3. Replace Illumination Module Bulb. Detailed replacement instructions are located in the MS-202, Vol. B, Section 6.6.2, titled Sodium Bulb. a. Loosen corner screws (2) and open front hinged glass frame of the illumination module. b. Loosen hex screw to pivot bulb mounting for bulb removal. c. Replace bulb (nub away from reflector) and reassemble.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		4. Label unit housing with date of Bulb and Fan replacement. 5. Reinstall the module onto the mounting bracket, reinstalling the screws removed in step 1. 6. Perform Gain Table calibration for the camera (Standalone Gain Table Calibration instructions are included in MMO-094-11). **It is recommended that 2 persons perform the Gain Table portion of this task.**					
FEED SUBSYSTEM: PHOTOEYES (ALL MODULES IN FEED SYSTEM) SIDE 1	162**	**Perform Flicker Test on side one FSD.** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Check FSD photoeyes for damage. 2. Verify SX-4-1 photoeyes are aimed at the proper reflectors. The upper photoeye is to be aimed at the top reflector and the lower photoeye is to be aimed at the lower reflector. 3. Ensure that photoeye mounting hardware is secure. 4. At the SMS, using the Maintenance - Set Machine States menu put the Side 1 FSD Section in Maintenance Mode. 5. Perform photoeye flicker diagnostic to check for false triggering due to loose photoeye mounting hardware, conveyor belting, etc. a. Menu item **Maintenance** - **System Diagnostics** - **Directed Diagnostics** b. Expand Side 1 and choose **FSD Subsystem** - **General Test** - **Photo Eye Test**. 6. Correct issues or generate corrective work order and notify Supervisor as necessary.	10	09	8		
FEED	163**	**Perform Flicker Test on side two FSD.**	10	09	8		

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
SUBSYSTEM: PHOTOEYES (ALL MODULES IN FEED SYSTEM) SIDE 2		**WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Check FSD photoeyes for damage. 2. Verify SX-4-1 photoeyes are aimed at the proper reflectors. The upper photoeye is to be aimed at the top reflector and the lower photoeye is to be aimed at the lower reflector. 3. Ensure that photoeye mounting hardware is secure. 4. At the SMS, using the Maintenance - Set Machine States menu put the Side 1 FSD Section in Maintenance Mode. 5. Perform photoeye flicker diagnostic to check for false triggering due to loose photoeye mounting hardware, conveyor belting, etc. a. Menu item **Maintenance** - **System Diagnostics** - **Directed Diagnostics** b. Expand Side 2 and choose **FSD Subsystem** - **General Test** - **Photo Eye Test**. 6. Correct issues or generate corrective work order and notify Supervisor as necessary.					
INDUCTION SUBSYSTEM: PHOTOEYES - INDUCT SIDE 1	164**	**Perform Flicker Test on side one Induct Lanes (4).** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Check photoeyes for looseness or damage. 2. At the SMS, using the **Maintenance** - **Set Machine States** menu put the Side 1 Induct Section in **Maintenance** Mode. 3. Perform photoeye flicker diagnostic to check for false triggering due to loose photoeye mounting hardware, conveyor belting, etc. a. Select **Maintenance** - **System Diagnostics** - **Directed Diagnostics**	9	09	8		

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		b. Expand Side 1 then select **Auto Induction** - **PEC Test** - **PEC Flicker Test**. c. Choose the induct lane to be tested then click **Start**. d. Allow the test to run for ten seconds then click **Stop Test**. e. Expected results are all zeroes if there are no blockages. f. Repeat for each Auto Induction lane then expand the Semi Auto lane to perform the flicker test on the Semi Auto lane. 4. Review flicker test results and take necessary corrective action. 5. At the SMS, using the Maintenance - Set Machine States menu put the Side 1 Induct Section in Offline mode. 6. Correct issues or generate corrective work order and notify Supervisor as necessary.					
INDUCTION SUBSYSTEM: PHOTOEYES - INDUCT SIDE 2	165**	**Perform Flicker Test on side two Induct Lanes (4).** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Check photoeyes for looseness or damage. 2. At the SMS, using the **Maintenance** - **Set Machine States** menu put the Side 1 Induct Section in **Maintenance** Mode. 3. Perform photoeye flicker diagnostic to check for false triggering due to loose photoeye mounting hardware, conveyor belting, etc. a. Select **Maintenance** - **System Diagnostics** - **Directed Diagnostics.** b. Expand Side 2 then select **Auto Induction** - **PEC Test** - **PEC Flicker Test**.	9	09	8		

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		c. Choose the induct lane to be tested then click **Start**. d. Allow the test to run for ten seconds then click **Stop Test**. e. Expected results are all zeroes if there are no blockages. f. Repeat for each Auto Induction lane then expand the Semi Auto lane to perform the flicker test on the Semi Auto lane. 4. Review flicker test results and take necessary corrective action. 5. At the SMS, using the Maintenance - Set Machine States menu put the Side 2 Induct Section in Offline mode. 6. Correct issues or generate corrective work order and notify Supervisor as necessary.					
SORTER SUBSYSTEM: PHOTOEYES	166**	**Perform Sorter Photoeye Flicker Test** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. At the SMS, using the **Maintenance** - **Set Machine States** menu put the Sorter Subsystem in **Maintenance** Mode. 2. Perform photoeye flicker diagnostic to check for false triggering due to loose photoeye mounting hardware, conveyor belting, etc. a. Select **Maintenance** - **Directed Diagnostics – Sorter.** b. Select **Sorter Controller Subsystem - PEC Test**, and then execute the **Rework PECs Tool** and the **Recentering PECs Tool** to verify these photoeyes are unblocked and functional. c. Under the menu PEC Test select **Sorter Test** - **Directed Flicker Test**. d. Set the number of laps to three then **Start**	15	09	8		

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence eCBM			

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.
		Test. e. The sorter will start and move for three laps then stop. Cells which block photoeyes will be displayed in the report. 3. Review flicker test results and take necessary corrective action. 4. At the SMS, using the **Maintenance** - **Set Machine States** menu put the Sorter Subsystem in **Offline** Mode. 5. Correct issues or generate corrective work order and notify Supervisor as necessary.					
AARS/DCS TUNNEL: LASER CONDITION SIDE 1	166.1**	**Check Laser Condition - Side 1.** Evaluate TLDI and SLDI condition. All lasers may be viewed from one location clicking the correct desktop shortcut. **NOTE:** Refer to MMO-077-11 APPS Data Collection Subsystem (DCS) Laser Troubleshooting Information for additional information. 1. Log onto DCS Secondary Computer as M2. 2. Click on the desktop shortcuts to view Side 1 TLDI and Side 1 SLDI laser camera images using Fullframeview. 3. Observe the background of the image and the brightness of the laser line. The background should be black to dark purple. As the camera ages, the background will gradually transition to bright pink, resulting in performance degradation. If the camera background is purple/pink and singulation or typing performance is degraded, schedule the camera for replacement 4. Observe the laser line in the image. The laser line should be bright and crisp. If the laser line appears diffuse or very dim, clean & inspect the laser reference plate and perform a TLDI calibration. If singulation performance remains poor, schedule the laser for	3	10	300	1350	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		replacement. 5. Close the **Fullframeview window.** 6. Log off of the computer by pressing **Ctrl-Alt-Del** and then selecting Log Off**.** 7. Correct issues or generate corrective work order and notify Supervisor as necessary.					
AARS/DCS TUNNEL: LASER CONDITION SIDE 2	166.2**	**Check Laser Condition - Side 2** Evaluate TLDI and SLDI condition. All lasers may be viewed from one location clicking the correct desktop shortcut. **NOTE:** Refer to MMO-077-11, APPS Data Collection Subsystem (DCS) Laser Troubleshooting Information for additional information. 1. Log onto DCS Secondary Computer as M2. 2. Click on the desktop shortcuts to view Side 2 TLDI and Side 2 SLDI laser camera images using Fullframeview. 3. Observe the background of the image and the brightness of the laser line. The background should be black to dark purple. As the camera ages, the background will gradually transition to bright pink, resulting in performance degradation. If the camera background is purple/pink and singulation or typing performance is degraded, schedule the camera for replacement. 4. Observe the laser line in the image. The laser line should be bright and crisp. If the laser line appears diffuse or very dim, clean & inspect the laser reference plate and perform a TLDI calibration. If singulation performance remains poor, schedule the laser for replacement. 5. Close the **Fullframeview window.** 6. Log off of the computer by pressing **Ctrl-Alt-Del** and then selecting Log Off. 7. Correct issues or generate corrective work	3	10	300	1350	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		order and notify Supervisor as necessary.					
APPS SYSTEM: COMPUTERS SIDE 1	166.3	**Computer Fan & UPS Check on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** Use a flashlight to check all computers in the following enclosures to verify cooling fan operation (case fans, power supply fans and CPU fans). All computer CPU fans are visible from the rear of the computer except for the AMD and SAIS which are viewable from the front. Verify the Uninterruptible Power Supply (UPS) in each enclosure does not show any fault indications. The center sine wave LED should be lit green indicating good supply power. The three fault lights Overload (unbalanced scale), On Battery (battery with sine wave), or Battery Fail (battery symbol with the X) should not be lit. If the Battery Fail LED is lit the battery must be replaced. The Battery Charge Graph (far right) will flash if the battery level falls below the low battery warning time for the load connected to the UPS. UPS batteries are locally purchased items due to shelf life. 1. Supervisor's Platform 2. Image Server Enclosure 3. IP Enclosure 1 (IP1 & IP2) 4. IP Enclosure 2 (Single Sided, only AMD computer. Dual Sided, IP3 and 4) 5. Semi-Auto Induct Enclosure 6. FSD/DCS Enclosure 7. Image Capture Enclosure	10	07			2

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Generate corrective work order and notify Supervisor as necessary.					
APPS SYSTEM: COMPUTERS SIDE 2	166.4	**Computer Fan & UPS Check on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** Use a flashlight to check all computers in the following enclosures to verify cooling fan operation (case fans, power supply fans and CPU fans). All computer CPU fans are visible from the rear of the computer except for the AMD and SAIS which are viewable from the front. Verify the Uninterruptible Power Supply (UPS) in each enclosure does not show any fault indications. The center sine wave LED should be lit green indicating good supply power. The three fault lights Overload (unbalanced scale), On Battery (battery with sine wave), or Battery Fail (battery symbol with the X) should <u>not</u> be lit. If the Battery Fail LED is lit the battery must be replaced. The Battery Charge Graph (far right) will flash if the battery level falls below the low battery warning time for the load connected to the UPS. UPS batteries are locally purchased items due to shelf life. 1. IP Enclosure 3 (Dual sided only) which houses the AMD computer on a Dual APPS. 2. FSD/DCS Enclosure (Side 2) 3. Image Capture Enclosure (Side 2) 4. Semi-Auto Induct Enclosure (Side 2) Generate corrective work order and notify Supervisor as necessary.	5	07			2
FEED SUBSYSTEM:	167	**Monitor motor and gearbox temperature on**	15	09	1800	17100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
GEARBOXES SIDE 1		**side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Using infra-red temperature measurement instrument, check the temperature of the motors and gearboxes on the following conveyors. Remove covers as required to gain access: a. Load Conveyor (1) b. Incline Conveyor (1) c. Dosing and Unstacker Conveyor (7) d. Traffic Control Conveyor (6) e. Delta Wing Aligner Conveyor (5) f. Metering Conveyor (4) 2. Reinstall covers as necessary. 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Initiate action to investigate and correct components exhibiting excessive operating temperature. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: GEARBOXES SIDE 2	168	**Monitor motor and gearbox temperature on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Using infra-red temperature measurement instrument, check the temperature of the	15	09	1800	17100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		motors and gearboxes on the following conveyors. Remove covers as required to gain access: a. Load Conveyor (1) b. Incline Conveyor (1) c. Dosing and Unstacker Conveyor (7) d. Traffic Control Conveyor (6) e. Delta Wing Aligner Conveyor (5) f. Metering Conveyor (4) 2. Reinstall covers as necessary. 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Initiate action to investigate and correct components exhibiting excessive operating temperature. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: GEARBOXES SIDE 1	169	**Monitor tunnel motor and gearbox temperature on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Remove guarding as necessary 2. Using infra-red temperature measurement instrument, check the temperature of the motors and gearboxes on the following conveyors. a. AARS DCX 1-1 b. AARS DCX 1-2 c. AARS DCX 1-3 d. AARS DCX 2-2 3. Record measurements in SMS log book.	4	09	1800	17100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Compare current results with results from previous checks. 4. Replace any removed guarding 5. Initiate action to investigate and correct components exhibiting excessive operating temperature. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: GEARBOXES SIDE 2	170	**Monitor tunnel motor and gearbox temperature on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Remove guarding as necessary 2. Using infra-red temperature measurement instrument, check the temperature of the motors and gearboxes on the following conveyors. a. AARS DCX 1-1 b. AARS DCX 1-2 c. AARS DCX 1-3 d. AARS DCX 2-2 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Replace any removed guarding 5. Initiate action to investigate and correct components exhibiting excessive operating temperature. Generate corrective work order and notify Supervisor as necessary.	4	09	1800	17100	
FSD AND INDUCT SUBSYSTEM: GEARBOXES SIDE	171	**Monitor motor and gearbox temperature on side one.** **WARNING: Be cautious when working around**	28	09	1800	17100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
1		**or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Using infra-red temperature measurement instrument, check the temperature of the motors and gearboxes on the following conveyors. Remove access covers as required to gain access: a. 90 Degree Incline and High Speed Conveyors (2) b. Sync Module DX1-1 through DX1-4 and DX2-1 Conveyors (5) c. Shoe Sorter Conveyor (1) d. Recirculation Conveyor (1) e. Rework Conveyor (1) f. Auto-Induction 45 Degree Loading and Unloading Conveyers (6) g. Auto-Induction Sync Conveyor (6) h. Semi-Auto Induction Roller Table Conveyor (1) i. Semi-Auto Induction Coding Conveyors (2) j. Semi-Auto Induction Scale Conveyor (1) k. Semi-Auto Synchronizing Conveyor (1) l. Semi-Auto Induction Unloading Conveyor (1) 2. Reinstall covers as necessary. 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Initiate action to investigate components exhibiting excessive operating temperature. Generate corrective work order and notify					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Supervisor as necessary.					
FSD AND INDUCT SUBSYSTEM: GEARBOXES SIDE 2	172	**Monitor motor and gearbox temperature on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Using infra-red temperature measurement instrument, check the temperature of the motors and gearboxes on the following conveyors. Remove access covers as required to gain access: a. 90 Degree Incline and High Speed Conveyors (2) b. Sync Module DX1-1 through DX1-4 and DX2-1 Conveyors (5) c. Shoe Sorter Conveyor (1) d. Recirculation Conveyor (1) e. Rework Conveyor (1) f. Auto-Induction 45 Degree Loading and Unloading Conveyers (6) g. Auto-Induction Sync Conveyor (6) h. Semi-Auto Induction Roller Table Conveyor (1) i. Semi-Auto Induction Coding Conveyors (2) j. Semi-Auto Induction Scale Conveyor (1) k. Semi-Auto Synchronizing Conveyor (1) l. Semi-Auto Induction Unloading Conveyor (1) 2. Reinstall covers as necessary. 3. Record measurements in SMS log book. Compare current results with results from	28	09	1800	17100	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		previous checks. 4. Initiate action to investigate components exhibiting excessive operating temperature. Generate corrective work order and notify Supervisor as necessary.					
POWER AND CONTROL: POWER CABINETS SIDE 1	173	**Monitor component temperature on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied.** **WARNING: Steps contained in this bulletin require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE and barricade requirements.** 1. Don the appropriate EWP PPE and set up barricades as required by the current Electrical Work Plan (EWP) MMO. 2. Open cabinet door 3. Using infra-red temperature measurement instrument, check the temperature of components for indications of hot spots inside the following cabinets: a. Power Factor Control Cabinet (PFC) b. Operator Control Cabinets (OCC) c. Unloader Distributed Control Cabinets (UDCC) d. Feed Singulation Distribution Main Control Cabinets (FSD-MCC) e. Feed Singulation Distribution Distributed Control Cabinets (FSD-DCC) f. Automatic Distributed Control Cabinets (ADCC) g. Discrete Distributed Source of Supply Cabinets (DDSS) h. Induction Main Control Cabinets (IMCC) i. Semi-Automatic Distributed Control	50	09	1800	17100	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Cabinets (SADCC) j. Sorter Main Control Cabinet (SMCC) k. Ground Central Processing Unit Cabinets (GCPU) l. 70 VDC Power Supply Cabinets 4. Close cabinet door 5. Doff EWP PPE. 6. Record measurements in SMS log book. Compare current results with results from previous checks. 7. Initiate action to investigate and correct components exhibiting excessive operating temperature. Generate corrective work order and notify Supervisor as necessary.					
POWER AND CONTROL: POWER CABINETS SIDE 2	174	**Monitor component temperature on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied.** **WARNING: Steps contained in this bulletin require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE and barricade requirements.** 1. Don the appropriate EWP PPE and set up barricades as required by the current Electrical Work Plan (EWP) MMO. 2. Open cabinet door 3. Using infra-red temperature measurement instrument, check the temperature of components for indications of hot spots inside the following cabinets: a. Power Factor Control Cabinet (PFC) b. Operator Control Cabinets (OCC) c. Unloader Distributed Control Cabinets (UDCC) d. Feed Singulation Distribution Main Control	50	09	1800	17100	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Cabinets (FSD-MCC) e. Feed Singulation Distribution Distributed Control Cabinets (FSD-DCC) f. Automatic Distributed Control Cabinets (ADCC) g. Discrete Distributed Source of Supply Cabinets (DDSS) h. Induction Main Control Cabinets (IMCC) i. Semi-Automatic Distributed Control Cabinets (SADCC) j. Sorter Main Control Cabinet (SMCC) k. Ground Central Processing Unit Cabinets (GCPU) l. 70 VDC Power Supply Cabinets 4. Close cabinet door 5. Doff EWP PPE. 6. Record measurements in SMS log book. Compare current results with results from previous checks. 7. Initiate action to investigate and correct components exhibiting excessive operating temperature. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: ALL CONVEYORS SIDE 1	175	**Monitor conveyor components for excessive noise on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Using ultra-sonic measurement instrument, check the motors and gearboxes on the following conveyors. Remove covers as required to gain access:	15	09	1800	17100	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence eCBM			

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.
		a. Load Conveyor (1) b. Incline Conveyor (1) c. Dosing and Unstacker Conveyor (7) d. Traffic Control Conveyor (6) e. Delta Wing Aligner Conveyor (5) f. Metering Conveyor (4) 2. Reinstall covers as necessary. 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Initiate action to investigate and correct components exhibiting excessive noise. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: ALL CONVEYORS SIDE 2	176	**Monitor conveyor components for excessive noise on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Using ultra-sonic measurement instrument, check the motors and gearboxes on the following conveyors. Remove covers as required to gain access: a. Load Conveyor (1) b. Incline Conveyor (1) c. Dosing and Unstacker Conveyor (7) d. Traffic Control Conveyor (6) e. Delta Wing Aligner Conveyor (5) f. Metering Conveyor (4) 2. Reinstall covers as necessary.	15	09	1800	17100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Initiate action to investigate and correct components exhibiting excessive noise. Generate corrective work order and notify Supervisor as necessary.					
AARS/DCS TUNNEL: ALL CONVEYORS SIDE 1	177	**Monitor Tunnel conveyor components for excessive noise on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Remove guarding as necessary 2. Using ultra-sonic measurement instrument, check the motors, gearboxes, and rollers on the following conveyors: a. AARS DCX 1-1 b. AARS DCX 1-2 c. AARS DCX 1-3 d. AARS DCX 2-1 e. AARS DCX 2-2 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Replace any removed guarding 5. Initiate action to investigate and correct components exhibiting excessive noise. Generate corrective work order and notify Supervisor as necessary.	5	09	1800	17100	

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
AARS/DCS TUNNEL: ALL CONVEYORS SIDE 2	178	**Monitor Tunnel conveyor components for excessive noise on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Remove guarding as necessary 2. Using ultra-sonic measurement instrument, check the motors, gearboxes, and rollers on the following conveyors: a. AARS DCX 1-1 b. AARS DCX 1-2 c. AARS DCX 1-3 d. AARS DCX 2-1 e. AARS DCX 2-2 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Replace any removed guarding 5. Initiate action to investigate and correct components exhibiting excessive noise. Generate corrective work order and notify Supervisor as necessary.	5	09	1800	17100	
FSD AND INDUCT SUBSYSTEM: ALL CONVEYORS SIDE 1	179	**Monitor conveyor components for excessive noise on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Using ultra-sonic measurement instrument, check the motors, gearboxes, bearings, and rollers on the following conveyors. Remove	42	09	1800	17100	

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		covers as required to gain access to: a. 90 Degree Incline and High Speed Conveyors (2) b. Sync Module DX1-1 through DX1-4 and DX2-1 Conveyors (5) c. Shoe Sorter Conveyor (1) d. Recirculation Conveyor (1) e. Rework Conveyor (1) f. Auto-Induction 45 Degree Loading and Unloading Conveyers (6) g. Auto-Induction Sync Conveyor (6) h. Semi-Auto Induction Roller Table Conveyor (1) i. Semi-Auto Induction Coding Conveyors (2) j. Semi-Auto Induction Scale Conveyor (1) k. Semi-Auto Synchronizing Conveyor (1) l. Semi-Auto Induction Unloading Conveyor (1) 2. Reinstall covers as necessary. 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Initiate action to investigate components exhibiting excessive noise. Generate corrective work order and notify Supervisor as necessary.						
FSD AND INDUCT SUBSYSTEM: ALL CONVEYORS SIDE 2	180	**Monitor conveyor components for excessive noise on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in**	42	09	1800	17100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		moving parts. 1. Using ultra-sonic measurement instrument, check the motors, gearboxes, bearings, and rollers on the following conveyors. Remove covers as required to gain access to: a. 90 Degree Incline and High Speed Conveyors (2) b. Sync Module DX1-1 through DX1-4 and DX2-1 Conveyors (5) c. Shoe Sorter Conveyor (1) d. Recirculation Conveyor (1) e. Rework Conveyor (1) f. Auto-Induction 45 Degree Loading and Unloading Conveyers (6) g. Auto-Induction Sync Conveyor (6) h. Semi-Auto Induction Roller Table Conveyor (1) i. Semi-Auto Induction Coding Conveyors (2) j. Semi-Auto Induction Scale Conveyor (1) k. Semi-Auto Synchronizing Conveyor (1) l. Semi-Auto Induction Unloading Conveyor (1) 2. Reinstall covers as necessary. 3. Record measurements in SMS log book. Compare current results with results from previous checks. 4. Initiate action to investigate components exhibiting excessive noise. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: SHOE SORTER SIDE 1	181	**Check Shoe Sorter for excessive noise on side one.** **WARNING: Be cautious when working around or on equipment when power has been**	3	09	1800	8200	

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts. 1. With all covers in place and with shoe sorter running, use sound pressure level measurement instrument to check for excessive noise from Shoe Sorter. Excessive noise is equal to or greater than 80 dB using the A-weighted scale. 2. Take measurements along length of conveyor and observe for increases in a particular area, or increases as a particular section of the shoe sorter conveyor passes by. 3. Initiate corrective action as required. Generate corrective work order and notify Supervisor as necessary.					
FEED SUBSYSTEM: SHOE SORTER SIDE 2	182	**Check Shoe Sorter for excessive noise on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. With all covers in place and with shoe sorter running, use sound pressure level measurement instrument to check for excessive noise from Shoe Sorter. Excessive noise is equal to or greater than 80 dB using the A-weighted scale. 2. Take measurements along length of conveyor and observe for increases in a particular area, or increases as a particular section of the shoe sorter conveyor passes by. 3. Initiate corrective action as required. Generate corrective work order and notify Supervisor as necessary.	3	09	1800	8200	

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
SORTER SUBSYSTEM: SORTER ASSEMBLY	183	**Check for excessive, irregular, or inconsistent noise from sorter train.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Attach the wide-focus cone to the Ultraprobe Ultrasound measuring device. 2. Start the Sorter at full speed. 3. With all covers and guards in place and with the Sorter train running, stand stationary at a sorter turn and use sound pressure level measurement instrument to check for excessive noise from Sorter as it passes by for three full laps at full speed. 4. Using a second employee as a spotter, the person listening to the train should signal the spotter for cells of interest. The spotter will record candidate cell numbers for corrective action. 5. Initiate investigation and corrective action as required. Generate corrective work order and notify Supervisor as necessary.	10	09	1800	8200	
AARS, DCS AND FASTSCAN: CALIBRATION BOX SIDE 1	184**	**Perform a Calibration Box test on side one.** This test will verify the accuracy of weight and dimensioning systems and Image Quality by following the instructions provided in the APPS Calibration Box Operation Instructions bulletin (MMO-071-11) using the Calibration Box: PSN 6760-13-000-6804 KIT, CALIBRATION (DIMS, WEIGHT, IMAGING), MED FRB1 & MED FRB2 1. Perform the tasks listed in MMO-071-11 to process the two Calibration Boxes through the AARS Tunnel and Semi Auto lane on side 1. **NOTE:** The Semi Auto Induction Lane must be	45	09			2

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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					Run Hours	Pieces Fed (000)	Freq.
		started and the appropriate bins must be placed in pause to prevent the boxes from being discharged to any location other than the Semi Auto Rework roller table or bin with a Utility Cart. Failure to do this may cause the boxes to be damaged if discharged to any other location. 2. Interpret the results as outlined in the MMO then initiate corrective action as required. Generate corrective work order and notify Supervisor as necessary. **NOTE:** Instructions for correcting image framing issues may be found in MMO-101-09 APPS Image Quality Inspection and Image Framing Adjustment using the Tweaker Tool. **NOTE:** Instructions for correcting image brightness issues may be found in MMO-094-11 APPS Standalone Gain Table Calibration.					
AARS, DCS AND FASTSCAN: CALIBRATION BOX SIDE 2	185**	**Perform a Calibration Box test on side two.** This test will verify the accuracy of weight and dimensioning systems and Image Quality by following the instructions provided in the APPS Calibration Box Operation Instructions bulletin (MMO-071-11) using the Calibration Box: PSN 6760-13-000-6804 KIT, CALIBRATION (DIMS, WEIGHT, IMAGING), MED FRB1 & MED FRB2 1. Perform the tasks listed in MMO-071-11 to process the two Calibration Boxes through the AARS Tunnel and Semi Auto lane on side 2. **NOTE:** The Semi Auto Induction Lane must be started and the appropriate bins must be placed in pause to prevent the boxes from being discharged to any location other than the Semi Auto Rework roller table or bin with a Utility Cart. Failure to do this may cause the boxes to be damaged if discharged to any other location. 2. Interpret the results as outlined in the MMO then initiate corrective action as required.	45	09			2

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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.
		Generate corrective work order and notify Supervisor as necessary. **NOTE:** Instructions for correcting image framing issues may be found in MMO-101-09 APPS Image Quality Inspection and Image Framing Adjustment using the Tweaker Tool. **NOTE:** Instructions for correcting image brightness issues may be found in MMO-094-11 APPS Standalone Gain Table Calibration.					
AARS, DCS AND FASTSCAN: SCALES SIDE 1	186**	**Check scales by performing a Scale Shift Test on the DCS Scale and Semi Auto Induction Lane scale on side one.** Perform the following on the DCS Tunnel scale: **WARNING: 480 volt power must be removed from the FSD to avoid personal injury or death due to belt motion.** 1. Place the FSD1-MCC-1 disconnect in the OFF position and apply lock. 2. Verify scale is zeroed with no load. **WARNING: Test weight weighs 50 pounds. Support test weight with additional persons. Failure to comply may result in personal injury or death.** 3. Check scale accuracy using a 50 lb test weight by placing the weight in five locations on the belt (center of belt and each of the four corners) and record the weight at each location. Weight is displayed with two decimal places (indicating 1/100th lb). 4. Compare highest and lowest readings. If the difference in highest and lowest is greater than 1/10 lb (0.10 lbs.) initiate corrective action. 5. Remove the lock at FSD1-MCC-1 and restore power. Perform the following on the Semi Auto Induction	12	07	1440	6500	

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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.
		Lane Scale: **WARNING: 480 volt power must be removed from the Semi Auto Induct Lane to avoid personal injury or death due to belt motion.** 6. Place the IND1-DCC-4 disconnect in the OFF position and apply lock. 7. Verify scale is zeroed with no load. **WARNING: Test weight weighs 50 pounds. Support test weight with additional persons. Failure to comply may result in personal injury or death.** 8. Check scale accuracy using a 50 lb test weight by placing the weight in five locations on the belt (center of belt and each of the four corners) and record the weight at each location. Weight is displayed with one decimal place (indicating 1/10th lb). Compare highest and lowest readings. If the difference in highest and lowest is greater than 1/10 lb (0.10 lbs.) initiate corrective action. 9. Remove the lock at IND1-DCC-4 and restore power. 10. Generate corrective work order and notify Supervisor as necessary.					
AARS, DCS AND FASTSCAN: SCALES SIDE 2	187**	**Check scales by performing a Scale Shift Test on the DCS Scale and Semi Auto Induction Lane scale on side two.** Perform the following on the DCS Tunnel scale: **WARNING: 480 volt power must be removed from the FSD to avoid personal injury or death due to belt motion.** 1. Place the FSD2-MCC-1 disconnect in the OFF position and apply lock. 2. Verify scale is zeroed with no load. **WARNING: Test weight weighs 50 pounds. Support test weight with additional persons. Failure to comply may result in personal injury**	12	07	1440	6500	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		or death. 3. Check scale accuracy using a 50 lb test weight by placing the weight in five locations on the belt (center of belt and each of the four corners) and record the weight at each location. Weight is displayed with two decimal places (indicating 1/100th lb). 4. Compare highest and lowest readings. If the difference in highest and lowest is greater than 1/10 lb (0.10 lbs.) initiate corrective action. 5. Remove the lock at FSD2-MCC-1 and restore power. Perform the following on the Semi Auto Induction Lane Scale: **WARNING: 480 volt power must be removed from the Semi Auto Induct Lane to avoid personal injury or death due to belt motion.** 6. Place the IND2-DCC-4 disconnect in the OFF position and apply lock. 7. Verify scale is zeroed with no load. **WARNING: Test weight weighs 50 pounds. Support test weight with additional persons. Failure to comply may result in personal injury or death.** 8. Check scale accuracy using a 50 lb test weight by placing the weight in five locations on the belt (center of belt and each of the four corners) and record the weight at each location. Weight is displayed with one decimal place (indicating 1/10th lb). Compare highest and lowest readings. If the difference in highest and lowest is greater than 1/10 lb (0.10 lbs.) initiate corrective action. 9. Remove the lock at IND2-DCC-4 and restore power.					

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		10. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER SENSORS SIDE 1	188	**Check proximity sensor and photoeye condition on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Secure FSD1-DCC-8 with a lockout in accordance with local procedures to prevent unexpected operation of the Shoe Sorter. 2. Open shoe sorter doors 3. Check the following proximity sensors and photoeyes at the drive end of the Shoe Sorter for damage and check to ensure mounting hardware is secure: a. Divert Confirm Proximity Sensor (on top rail) b. Shoe Detect Photoeye (on bottom rail) c. D-2-2 PE2 (Debris Bin Photoeye) 4. Check the following proximity sensors and photoeyes at the tail end of the Shoe Sorter for damage and ensure mounting hardware is secure: a. Zero Cell Proximity Sensor (on top rail) b. Group Detect Proximity Sensor (on top rail) c. Bottom Chain Stretch Proximity Sensor (above bottom rail) d. Shoe Detect Photoeye (Below bottom rail) 5. Remove lockout from FSD1- DCC-8. 6. Close all Shoe Sorter doors. 7. Place the FSD1-MCC Normal/Maintenance switch in **Maintenance**. 8. Place the FSD1-DCC-8 Normal/Maintenance switch in **Maintenance**.	15	09	720	3240	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		9. Place the FSD1-DCC-8 selector switch in the correct position for D-2-2 (Shoe Sorter). 10. Press the **Start** button on FSD1-DCC-8. 11. While the Shoe Sorter is moving, observe the Multiport for the Zero Cell and Chain Stretch proximity sensors. Verify both sensors are triggered once per revolution. 12. Press the **Stop** button on FSD-DCC-8 to stop the Shoe Sorter. 13. Place the FSD1-DCC-8 Normal/Maintenance switch in the **Normal** position. 14. Place the FSD1-MCC Normal/Maintenance switch in the **Normal** position. 15. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER SENSORS SIDE 2	189	**Check proximity sensor and photoeye condition on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Secure FSD2-DCC-8 with a lockout in accordance with local procedures to prevent unexpected operation of the Shoe Sorter. 2. Open shoe sorter doors 3. Check the following proximity sensors and photoeyes at the drive end of the Shoe Sorter for damage and ensure mounting hardware is secure: a. Divert Confirm Proximity Sensor (on top rail) b. Shoe Detect Photoeye (on bottom rail) c. D-2-2 PE2 (Debris Bin Photoeye) 4. Check the following proximity sensors and photoeyes at the tail end of the Shoe Sorter for damage and ensure mounting hardware is	15	09	720	3240	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		secure: a. Zero Cell Proximity Sensor (on top rail) b. Group Detect Proximity Sensor (on top rail) c. Bottom Chain Stretch Proximity Sensor (above bottom rail) d. Shoe Detect Photoeye (Below bottom rail) 5. Remove lockout from FSD2- DCC-8. 6. Close all Shoe Sorter doors. 7. Place the FSD2-MCC Normal/Maintenance switch in **Maintenance**. 8. Place the FSD2-DCC-8 Normal/Maintenance switch in **Maintenance**. 9. Place the FSD2-DCC-8 selector switch in the correct position for D-2-2 (Shoe Sorter). 10. Press the **Start** button on FSD2-DCC-8. 11. While the Shoe Sorter is moving, observe the Multiport for the Zero Cell and Chain Stretch proximity sensors. Verify both sensors are triggered once per revolution. 12. Press the **Stop** button on FSD-DCC-8 to stop the Shoe Sorter. 13. Place the FSD2-DCC-8 Normal/Maintenance switch in the **Normal** position. 14. Place the FSD2-MCC Normal/Maintenance switch in the **Normal** position. 15. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER INTERNALS SIDE 1	190**	**Check shoe sorter carriages on side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in**	54	09	600	2700	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		moving parts. **WARNING: 480 VAC Power will need to be applied to the machine for a short period of time while jogging the Shoe Sorter to access the next section of carriage assemblies using the instructions located in the MS-202 Vol. B Section 4.2 titled Conveyor Manual Operation. Using the VFD Parameter Tool does not require computer systems to be powered up, but will require any E-Stop condition to be reset to restore 480 VAC to the DCC 8 enclosure. Lock out the machine when performing the following tasks.** **CAUTION: Do not use any lubricant on the back of the slat assemblies. Correct any deficiencies in carriage assembly movement by repairing or replacing slats and carriage assemblies.** **Carriage thru-bolts on the Master Carriage Assembly should be torqued to 40 inch pounds. Over tightening of the nuts may damage the bolt.** **NOTE:** Any time the Shoe Sorter has been stopped after a full speed run and the side doors are opened, look down the line of Master Carriage Assembly pins on the bottom of the Shoe Sorter. All pins should be in a straight line. Note any carriages which are not in line with the others, as this assembly may have a brake, slat or wheel problem. Typically problems will not be apparent after jogging the sorter at slow speeds as the carriages do not tend to bounce at the end of travel at low speeds. 1. Position the desired section of the Shoe Sorter in the accessible area. 2. If the Shoe Sorter is required to be jogged, perform the following substeps: a. Don PPE. b. Turn FSD1-DCC-8 disconnect to Off position.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		c. Open enclosure FSD1-DCC-8 and connect cable from VFD Parameter Tool to the correct VFD per instructions located in the MS-202, Vol; B, Section 4.2 titled Conveyor Manual Operation. d. Close the FSD1-DCC-8 enclosure. e. Doff PPE. f. Jog the Shoe Sorter to the desired location using the VFD Parameter Tool. 3. Lock out the APPS machine or FSD1-DCC-8 in accordance with local procedures. 4. Open several side panels to enable access to carriage assemblies and slats. 5. Check chain for signs of wear or damage, misalignment, lack of lubrication, dirt on the oiling brushes, or binding roller wheels. 6. Check carriage assembly leaf springs for damage or loose hardware. 7. Check brake pads for proper function using a force gauge. Force required to extend and retract shoe cluster from rest should be 0.5 to 0.9 lbs. 8. Check slats for wear, damage, loose/missing hardware. 9. Check shoes for damage and wear. 10. Re-apply power and jog the shoe sorter to the next section, lockout and continue inspection at step 5. 11. Close any side panels that were opened. 12. If the Shoe Sorter was jogged using the VFD Parameter Tool, perform the following substeps: a. Don PPE. b. Turn FSD1-DCC-8 disconnect switch to the Off position. c. Open enclosure FSD1-DCC-8 and					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		disconnect the VFD Parameter tool cable from the VFD. d. Close the FSD1-DCC-8 enclosure. e. Turn FSD1-DCC-8 disconnect switch to the ON position. f. Doff PPE. g. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER INTERNALS SIDE 2	191**	**Check shoe sorter carriages on side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** **WARNING: 480 VAC Power will need to be applied to the machine for a short period of time while jogging the Shoe Sorter to access the next section of carriage assemblies using the instructions located in the MS-202 Vol. B Section 4.2 titled Conveyor Manual Operation. Using the VFD Parameter Tool does not require computer systems to be powered up, but will require any E-Stop condition to be reset to restore 480 VAC to the DCC 8 enclosure. Lock out the machine when performing the following tasks.** **CAUTION: Do not use any lubricant on the back of the slat assemblies. Correct any deficiencies in carriage assembly movement by repairing or replacing slats and carriage assemblies. Carriage thru-bolts on the Master Carriage Assembly should be torqued to 40 inch pounds. Over tightening of the nuts may damage the bolt.** **NOTE:** Any time the Shoe Sorter has been stopped after a full speed run and the side doors are opened, look down the line of Master Carriage	54	09	600	2700	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Assembly pins on the bottom of the Shoe Sorter. All pins should be in a straight line. Note any carriages which are not in line with the others, as this assembly may have a brake, slat, or wheel problem. Typically problems will not be apparent after jogging the sorter at slow speeds as the carriages do not tend to bounce at the end of travel at low speeds. 1. Position the desired section of the Shoe Sorter in the accessible area. 2. If the Shoe Sorter is required to be jogged, perform the following substeps: a. Don PPE. b. Turn FSD2-DCC-8 disconnect switch to Off position. c. Open enclosure FSD2-DCC-8 and connect cable from VFD Parameter tool to the correct VFD per the instructions located in the MS-202, Vol B, Section 4.2 titled Conveyor Manual Operation. d. Close the FSD2-DCC-8 enclosure. e. Doff PPE. f. Jog the Shoe Sorter to the desired location using the VFD Parameter Tool. 3. Lock out the APPS machine or FSD2-DCC-8 in accordance with local procedures. 4. Open several side panels to enable access to carriage assemblies and slats. 5. Check chain for signs of wear or damage, misalignment, lack of lubrication, dirt on the oiling brushes, or binding roller wheels. 6. Check carriage assembly leaf springs for damage or loose hardware. 7. Check brake pads for proper function using a force gauge. Force required to extend and retract shoe cluster from rest should be 0.5 to					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		0.9 lbs. 8. Check slats for wear, damage, loose/missing hardware. 9. Check shoes for damage and wear. 10. Re-apply power and jog the shoe sorter to the next section, lock out and continue inspection at step 5. 11. Close any side panels that were opened. 12. If the Shoe Sorter was jogged using the VFD Parameter Tool, perform the following substeps: a. Don PPE. b. Turn FSD2-DCC-8 disconnect switch to the Off position. c. Open enclosure FSD2-DCC-8 and disconnect the VFD Parameter tool cable from the VFD. d. Close the FSD2-DCC-8 enclosure. e. Turn FSD2-DCC-8 disconnect switch to the ON position. f. Doff PPE. g. Generate corrective work order and notify Supervisor as necessary.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER CHAIN SIDE 1	192**	**Check shoe sorter chains and sprockets on side one (2 people required).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** **WARNING: 480 VAC Power will need to be applied to the machine for a short period of time while jogging the Shoe Sorter to access the next section of carriage assemblies using**	30	09	1000	4500	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		the instructions located in the MS-202 Vol. B Section 4.2 titled Conveyor Manual Operation. Using the VFD Parameter Tool does not require computer systems to be powered up, but will require any E-Stop condition to be reset to restore 480 VAC to the DCC 8 enclosure. Lock out the machine when performing the following tasks. **WARNING: Use extreme caution when moving the Shoe Sorter with doors open to evaluate chain and sprocket condition. Do not reach into or lean into door opening while the shoe sorter is in motion.** 1. Prepare to jog the Shoe Sorter using the VFD Parameter Tool by performing the following substeps. a. Don PPE. b. Turn FSD1-DCC-8 disconnect switch to Off position. c. Open enclosure FSD1-DCC-8 and connect cable from VFD Parameter Tool to the correct VFD per the instructions located in the MS-202, Vol B, Section 4.2 titled Conveyor Manual Operation. d. Close the FSD1-DCC-8 enclosure. e. Turn FSD1-DCC-8 disconnect switch to On position. f. Doff PPE. 2. Open only the access door where observation will occur. All other doors should remain closed while moving the Shoe Sorter. 3. While the Shoe Sorter is in motion, observe the chain entering onto and leaving each sprocket looking for unusual motion or sounds. 4. Observe the chain as it is passing by. The links should be uniformly level. Chain which appears to waver up and down may indicate a dry chain which is beginning to bind.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		5. Observe each bearing (4) for unusual motion or sounds or signs of wear indicating failure. 6. Lock out the APPS or FSD1-DCC-8 in accordance with local procedures. 7. Inspect each sprocket for bent, worn or missing teeth. 8. Inspect sprockets for loose flat head screws which mount the sprocket to the hub. Torque value for these screws are 120 inch pounds. 9. Inspect plastic Pin Guide mounted to the Tail Sprocket for signs of damage. 10. Check oil level in reservoirs and fill as necessary. Investigate if oil usage is not apparent. 11. Don PPE. 12. With FSD1-DCC-8 enclosure disconnect in the Off position, open the enclosure and disconnect the VFD Parameter Tool cable from the VFD. 13. Close the FSD1-DCC-8 enclosure. 14. Doff PPE. 15. Secure all doors and restore power. 16. Generate corrective work order and notify Supervisor as necessary. **It is recommended that 2 persons perform the task when observing chains.**					
DISTRIBUTION SUBSYSTEM: SHOE SORTER CHAIN SIDE 2	193**	**Check shoe sorter chains and sprockets on side two (2 people required).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** **WARNING: 480 VAC Power will need to be applied to the machine for a short period of**	30	09	1000	4500	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		time while jogging the Shoe Sorter to access the next section of carriage assemblies using the instructions located in the MS-202 Vol. B Section 4.2 titled Conveyor Manual Operation. Using the VFD Parameter Tool does not require computer systems to be powered up, but will require any E-Stop condition to be reset to restore 480 VAC to the DCC 8 enclosure. Lock out the machine when performing the following tasks. **WARNING: Use extreme caution when moving the Shoe Sorter with doors open to evaluate chain and sprocket condition. Do not reach into or lean into door opening while the shoe sorter is in motion.** 1. Prepare to jog the Shoe Sorter using the VFD Parameter Tool by performing the following substeps. a. Don PPE. b. Turn FSD2-DCC-8 disconnect switch to Off position. c. Open enclosure FSD2-DCC-8 and connect cable from VFD Parameter Tool to the correct VFD per the instructions located in the MS-202, Vol B, Section 4.2 titled Conveyor Manual Operation. d. Close the FSD2-DCC-8 enclosure. e. Turn FSD2-DCC-8 disconnect switch to On position. f. Doff PPE. 2. Open only the access door where observation will occur. All other doors should remain closed while moving the Shoe Sorter. 3. While the Shoe Sorter is in motion, observe the chain entering onto and leaving each sprocket looking for unusual motion or sounds. 4. Observe the chain as it is passing by. The links should be uniformly level. Chain which					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		appears to waver up and down may indicate a dry chain which is beginning to bind. 5. Observe each bearing (4) for unusual motion or sounds or signs of wear indicating failure. 6. Lock out the APPS or FSD2-DCC-8 in accordance with local procedures. 7. Inspect each sprocket for bent, worn, or missing teeth. 8. Inspect sprockets for loose flat head screws which mount the sprocket to the hub. Torque value for these screws are 120 inch pounds. 9. Inspect plastic Pin Guide mounted to the Tail Sprocket for signs of damage. 10. Check oil level in reservoirs and fill as necessary. Investigate if oil usage is not apparent. 11. Don PPE. 12. With FSD2-DCC-8 enclosure disconnect in the Off position, open the enclosure and disconnect the VFD Parameter Tool cable from the VFD. 13. Close the FSD2-DCC-8 enclosure. 14. Doff PPE. 15. Secure all doors and restore power. **It is recommended that 2 persons perform the task when observing chains.**					
FSD AND INDUCT SUBSYSTEM: BELTING SIDE 1	194	**Check belting condition on side one (turn thru Inducts).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** With system conveyors running, check belt	6	09	140	630	

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		condition on the following conveyors for tracking, wear, damage, stretching, and debris (ex. label or tape stuck to belt). Listen for abnormal noises paying particular attention to rollers and bull-noses. After completing visual and audio check, stop conveyors to investigate detected problems. Initiate corrective action as required. Generate corrective work order and notify Supervisor as necessary: 1. 90 Degree Incline and High Speed Conveyors (2). Pay particular attention to belt rib condition. 2. Sync module belts DX1-1 through DX1-4 and DX2-1 (5) 3. Auto-Induct 45 Degree Loading and Unloading Conveyors (6) 4. Auto-Induct 90 Degree Conveyor (3) 5. Auto-Induct Sync Conveyors (6) 6. Semi-Auto Induction Coding Conveyor (2) 7. Semi-Auto Induction Scale Conveyor (1) 8. Semi-Auto Induction Synchronizing Conveyor (1) 9. Semi-Auto Induction Unloading Conveyor (1)					
FSD AND INDUCT SUBSYSTEM: BELTING SIDE 2	195	**Check belting condition on side two (turn thru Inducts).** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** With system conveyors running, check belt condition on the following conveyors for tracking, wear, damage, stretching, and debris (ex. label or tape stuck to belt). Listen for abnormal noises paying particular attention to rollers and bull-noses. After completing visual and audio check,	6	09	140	630	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		stop conveyors to investigate detected problems. Initiate corrective action as required. Generate corrective work order and notify Supervisor as necessary: 1. 90 Degree Incline and High Speed Conveyors (2). Pay particular attention to belt rib condition. 2. Sync module belts DX1-1 through DX1-4 and DX2-1 (5) 3. Auto-Induct 45 Degree Loading and Unloading Conveyors (6) 4. Auto-Induct 90 Degree Conveyor (3) 5. Auto-Induct Sync Conveyors (6) 6. Semi-Auto Induction Coding Conveyor (2) 7. Semi-Auto Induction Scale Conveyor (1) 8. Semi-Auto Induction Synchronizing Conveyor (1) 9. Semi-Auto Induction Unloading Conveyor (1)					
SORTER SUBSYSTEM: CARRIER CELLS, DRIVEN AND NON-DRIVEN	196**	**Carrier Cell Condition.** This task is to be performed in conjunction with the task titled STAYBOLT HANDS-ON CHECK. **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** **WARNING: Verify 70 VDC is not present after opening the Maintenance Test Station Doors by observing the voltmeter of a 70 VDC power supply.** Check the condition of 10% of the carrier cells (driven and non-driven) as follows: 1. Remove any guarding to allow access to the carrier cells	3*	09			1

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		2. Jog machine to position carrier cell in Maintenance Test Station area. 3. Check crossbelts for wear, damage, sagging, separation along edges, or tracking problems. 4. Inspect crossbelt motor wiring to ensure it is properly secured and not rubbing on carrier saddle. 5. Check drive belt for missing teeth or worn pulleys on driving cells. 6. Measure drive wheel diameter on driving cells. Schedule wheel for replacement if less than 98 mm diameter. 7. Check drive roller and idler roller for loose mounting brackets. 8. Check upper (.010" per side) and lower (.005" per side) side wheel gap. 9. Ensure cell flags are secure and properly positioned. 10. Check MAB Unit brushes for wear and damage. 11. Staybolt inspection is included in the associated STAYBOLT HANDS-ON INSPECTION which is a critical task. For Driven Carrier cells also check: 1. Monorail drive rollers for proper diameter (greater than 98mm) and gap behind washer is 5 mm +/- 1 mm (.20" +/- .04") 2. Lower wheel gap (.005" per side or .010" on one side) 3. Servo Amplifier cabling and mounting. 4. Replace any previously removed guarding for the carrier cells 5. Generate corrective work order and notify Supervisor as necessary. Log the carrier cell numbers checked during this check and ensure all cells are checked on a					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence eCBM	

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.
		rotational basis. ***Multiplied By: 10% Carrier Cell**					
SORTER SUBSYSTEM: STAYBOLT HANDS-ON CHECK	197**	**Check the condition of 10% of the carrier cells (driven and non-driven) as follows:** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** **WARNING: Verify 70 VDC is not present after opening the Maintenance Test Station Doors by observing the voltmeter of a 70 VDC power supply**. **NOTE:** All cells are checked on a 10% rotational basis using the spreadsheet to track inspections, adjustments, and replacements. 1. Remove any guarding to allow access to the carrier cells 2. Jog machine to position carrier cells in the maintenance test station area. 3. Check carrier cell stay-bolt to ensure it is not bent, cracked, or showing signs of fatigue. 4. Check carrier cell stay-bolt ball-joints for excessive wear and play. 5. Record the date and the overall cell distance from leading edge to leading edge of the cells in a spreadsheet (available on the APPS page of the MTSC website). Note the date of any staybolts replaced. Data recorded on this sheet will be used for adjusting overall train length issues and tracking staybolt replacement and breakage. Store this spreadsheet at the Maintenance Test Station. 6. Replace any previously removed guarding for the carrier cells 7. Generate corrective work order and notify	1.1*	09	8		

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Supervisor as necessary. ***Multiplied By: 10% Carrier Cell**					
SORTER SUBSYSTEM: STAYBOLT VISUAL CHECK	198**	**Check stay-bolts and ball-joints while jogging sorter.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** Visually check the condition of 100% of the carrier cells (driven and non-driven) as follows: 1. From a stationary position, jog the sorter carrier cell train and visually check each carrier cell stay-bolt and ball-joint as the cells pass by. Observe for obvious signs of failure. 2. Check carrier cell Stay-Bolt to ensure it is not bent, cracked, or showing signs of obvious fatigue. 3. Check carrier cell Stay-Bolts and Ball-Joints for excessive wear and play. 4. Generate corrective work order and notify Supervisor as necessary. ***Multiplied By: Carrier Cells**	0.03*	09	8		
SORTER SUBSYSTEM: SAIS SIDE 1	199**	**Sort Accuracy System Validation Test Side 1** The following test will verify the Sort Accuracy Improvement System is calibrated properly, the laser brightness has not degraded, and the system is functioning. 1. At the SMS computer, put the Sorter Subsystem in Maintenance Mode. 2. Perform the Carrier Cell Belt Health directed diagnostic and write down the numbers of two carrier cells which pass and are acceptable for use in the System Validation Test to follow. a. At the SMS select Maintenance, Directed	45	10	1800		

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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		Diagnostics, Sorter, and then SAIS Test. b. Select Carrier Cell Belt Health test. c. The Input parameter selects which imager to use. Dual sided machines may use either 1 or 2. d. Click Start Test. e. After the test is completed, print the report for use as a guide to investigate and perform corrective action on suspect carrier cell belts as required. Do not use a listed cell in the following System Validation Test. **NOTE:** When placing the laser validation block (PSN 5220-13-000-0979) on the cell, the forward measurement must be taken from the front edge of the metal plate on the carrier cell, not the edge of the carrier cell belt. The gauge block must be parallel to the leading edge of the carrier cell. If clarification is required, a figure is provided in the SAIS Operation and Maintenance Manual. 3. Place laser validation gauge block on one of the acceptable carrier cells noted from the Carrier Cell Belt Health diagnostic. a. The block should be placed with the longest side parallel to the crossbelt travel (not parallel to the direction of train travel). b. The block is to be placed six inches from the inboard edge of the cell and six inches from the leading edge of the metal plate at the front of the cell. 4. At the SMS in the Directed Diagnostics window select Sorter, SAIS Test, and then System Validation Test. 5. Type the number 1 in the Side Input box. For dual-sided APPS this test will be repeated by entering 2 and then starting the test. 6. In the Good Cell Input box type the number of the cell recorded previously which does not						

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		have the block placed on it. 7. In the Test Cell Input box type the number of the cell which has the block placed on it. 8. Click Start Test. **NOTE:** Expected dimensions of the block are: Length = 303.5 mm +/- 10 mm Width = 101.0 mm +/- 10 mm Height = 50.5 mm +/- 10 mm Angle = 90 degrees +/- 2 degrees Center X and Y are informational and are not used as pass/fail criteria. 9. If the test is successful, "**Test 283 Succeeded**" will be displayed. 10. If the test indicates "**Test 283 Failed**": a. Verify proper placement of the laser validation gauge block. b. Clean Imager Camera and Laser windows. c. Verify that SAIS Tunnel curtain is closed and preventing bright ambient light from entering the tunnel. d. Verify mechanical alignment of Imager. e. Re-run the test. Replace imager if multiple test failures occur. 11. If on a dual-sided APPS, also complete the task titled Sort Accuracy System Validation Test Side 2 at this time. That task will direct the user to change the value of the Side input box to **2** and verify the Good Cell and Test Cell values are the same as previously entered. Click **Start Test** to perform the test on the Side 2 Imager. 12. If on a single-sided APPS, close the Directed Diagnostics window and use the **Maintenance, Set Machine States** menu to					

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	0	3	A	P	P	S					A	A	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Automated Package Processing System		mm15109	eCBM

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.
		place the Sorter Subsystem in the **Offline** state, and remove the Validation Gauge Block from the sorter. 13. Generate corrective work order and notify Supervisor as necessary.					
SORTER SUBSYSTEM: SAIS SIDE 2	200**	**Sort Accuracy System Validation Test Side 2.** The test will verify the Sort Accuracy Improvement System is calibrated properly, the laser brightness has not degraded, and the system is functioning. **NOTE:** This test must be performed in conjunction with Sort Accuracy System Validation Test Side 1 to eliminate the need to perform pre-requisite set-up steps more than once. 1. Change the value of the Side input box to 2 and verify the Good Cell and Test Cell values are the same as previously entered for the Side 1 test. 2. Click **Start Test**. **NOTE:** Expected dimensions of the block are: Length = 303.5 mm +/- 10 mm Width = 101.0 mm +/- 10 mm Height = 50.5 mm +/- 10 mm Angle = 90 degrees +/- 2 degrees Center X and Y are informational and are not used as pass/fail criteria. 1. If the test is successful, “Test 283 Succeeded” will be displayed. 2. If the test indicates “Test 283 Failed”: a. Verify proper placement of the laser validation gauge block. b. Clean Imager Camera and Laser windows. c. Verify that SAIS Tunnel curtain is closed and preventing bright ambient light from entering the tunnel.	10	10	1800		

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.
		d. Verify mechanical alignment of Imager. e. Re-run the test. Replace imager if multiple test failures occur. 3. Close the Directed Diagnostics window and use the **Maintenance**, **Set Machine States** menu to place the Sorter Subsystem in the **Offline** state and remove the Validation Gauge Block from the sorter. 4. Generate corrective work order and notify Supervisor as necessary.					
SMS COMPUTER: FIRE ALARM RELAY TEST	201**	**Fire alarm relay test.** **WARNING: Be cautious when working around or on equipment when power has been applied.** **NOTE:** The APPS is designed to be integrated into the building fire alarm using an alarm set of contacts which are closed when in a non-alarm state. When the facility fire alarm is triggered, the alarm system should open the contacts of the relay which will cause the APPS Fire Alarm Relay to de-energize. During a facility Fire Alarm Test monitor the APPS to see that the E-Stop loop opens and the fault is reported. 1. Site fire alarm relay is opened (typically during site fire alarm system test or drill). Upon returning to the machine, perform the following steps. 2. Verify the red stacklight is illuminated indicating an E-Stop. 3. Verify RTF 2807 FIRE ALARM ACTIVE is indicated on the SMS. The SMCC Clear Fault pushbutton will be illuminated. 4. Once alarm system relay is reset RTF 2807 should recover, press the SMCC Clear Fault button to reset the E-Stop circuit. 5. Generate corrective work order and notify Supervisor as necessary.	2	09			26

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
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	0	3	A	P	P	S					A	A	0	0	1	M
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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.
SMS COMPUTER: DATABASE MAINTENANCE	202**	**Verify database maintenance performed.** **WARNING: Be cautious when working around or on equipment when power has been applied.** **NOTE:** This task should be completed prior to backing up the Database weekly, as it will reduce Weekly Back-up CD-ROM creation time. **NOTE:** Database Maintenance is typically scheduled to occur automatically within the Maintenance Window. The day and time may be scheduled using the SMS Configuration. At the SMS, verify that the database maintenance task was performed successfully at least once in the past 7 days by performing the following steps: 1. Using the **Maintenance** - **Logbook** menu item, click on **Search**. 2. Check the box **Incident Author** then type **MAINTENANCE MESSAGE** in the box provided. 3. Check the box **Incident Created** and enter a beginning and end date range for the past seven days. 4. Click **Search Now**. 5. If Database Maintenance was performed, an entry description **Maintenance Window** will appear. Verify this entry has a status of **Closed** within the past seven days. Initiate the database maintenance task manually, if the task was not performed as scheduled. This is done by selecting **Maintenance** - **Perform Database Maintenance**. If necessary, adjust the database maintenance task schedule to ensure that the task is not scheduled during the operational window or during the powered-off portion of the maintenance window using the SMS Configuration settings.	2	10			1

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.
SMS COMPUTER: DIRECTORIES	203**	**Verify successful NDSS download and perform directory distribution.** **WARNING: Be cautious when working around or on equipment when power has been applied.** **NOTE:** The NDSS download to the SMS can occur at any time, including during a Mail Processing run. The directory distribution must occur during the powered-on portion of the maintenance window. **NOTE:** Initiating Directory Distribution requires very little time. Once distribution has begun, it will take from 20 to 35 minutes to complete. This process is not to be interrupted or temporary inability to process mail may result. 1. At the SMS, verify that the NDSS download task was performed as scheduled and that the directory files are current. If the Local directories are not current, perform a manual Directory Download using the Communications. To check the version on the SMS: a. Select **Communications** - **National Directory** - **Download National Directory**. b. Verify the **Local** (SMS) dates are the same as the **Remote** dates (NDSS) c. If they are not the same, click the **Download Version on NDSS** button and click **Start** (the download should finish within ten minutes). 2. Distribute the directories to all Image Processors using the **National Directory** - **Distribute National Directory** menu option. Select all then click **Start**. 3. If a single or several Image Processors failed distribution, the distribution process may be repeated for the targeted computers only. Investigate the cause of failure and correct. Image Processors (IPs) which do not have	5	10			1

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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.
		directories which are current compared with other IPs will be disabled until they have matching current directories. **NOTE:** If it is desired to quickly determine if distribution had been completed previously and which Directory dates are currently in use at the Image Processors, examine the file **NationalDirectoryDates.txt** which is located on the **Image Server** computer on the **D:** drive in the folder **APPS** subfolder **Logs**.					
SMS COMPUTER: SOFTWARE BACK-UP	204**	**Back-up Configuration, Sort Plans, and Database to CD-ROM.** **WARNING: Be cautious when working around or on equipment when power has been applied.** **NOTE:** It is recommended to perform this task immediately after or within a day of performing Database Maintenance. At the SMS computer perform the tasks listed below. **NOTE:** For specific task steps, refer to the current APPS Software Modification Order in the section titled Backup Database, Configuration File and Sort Plans Procedure. 1. Format a new CD-ROM. (Do not press the drive Eject button when complete). 2. Archive the **Database**. 3. Archive the **Sort Plans**. 4. Archive the **Configuration File**. 5. Press the Eject button on the drive at this time (the CD will not eject). 6. Click "Close to read on any computer" 7. Check the Protect CD so that it cannot be written to again" box then click OK. 8. Wait for the CD-ROM to be finalized and the disk will be ejected.	30	10			1

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		9. Label the CD-ROM with the following information: a. Current software version b. Site Name and Machine Serial Number c. Date d. Contents (Configuration File, Sort Plans & Database) 10. Store this CD-ROM in the APPS Software Binder along with the current software media.					
SYSTEM PRE-OPERATIONAL CHECK: SYSTEM	205**	**Pre-operational check of side one.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** Before returning machine to operations, start machine and perform operational check as follows: 1. Check warning horns and lights during machine start-up for proper function. 2. Observe SMS system status screen and review system log for problems. 3. With system running, walk around system observing that all belts are running, and listening for unusual noises. Pay particular attention to conveyor bull noses in the AARS and induction areas. 4. Login to Image Server and start the ISGUI application by clicking on the desktop shortcut. 5. Login to the DCS Primary computer and start the DCS Maintenance Screen by clicking the on the desktop shortcut. 6. Observe the FSD Photoeye screen to verify the KORE sensor indicates unblocked with no mail present.	9	10			D

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
		7. Check to ensure canvas is closed and secure. 8. Print a test label from each label printer and verify label print quality. 9. Generate corrective work order and notify Supervisor as necessary.					
SYSTEM PRE-OPERATIONAL CHECK: SYSTEM SIDE 2	206**	**Pre-operational check of side two.** **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** Before returning machine to operations, start machine and perform operational check as follows: 1. Check warning horns and lights during machine start-up for proper function. 2. Observe SMS system status screen and review system log for problems. 3. With system running, walk around system observing that all belts are running, and listening for unusual noises. Pay particular attention to conveyor bull noses in the AARS and induction areas. 4. Login to the DCS Primary computer and start the DCS Maintenance Screen by clicking the on the desktop shortcut. 5. Observe the FSD Photoeye screen to verify the KORE sensor indicates unblocked with no mail present. 6. Check to ensure canvas is closed and secure. 7. Generate corrective work order and notify Supervisor as necessary.	9	10			D

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
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	0	3	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence eCBM

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.
FINAL-CLEANUP	207**	**Clean up.** **WARNING: Be cautious when working around or on equipment when power has been applied.** 1. Ensure all tools, lubricants, rags, etc., are removed from the work area. 2. Ensure all equipment covers are in place. 3. Report all deficiencies to your supervisor and generate a work order, per local SOP, to document and initiate corrective maintenance activity. 4. Annotate deficiencies found and repairs performed in the SMS logbook.	1	All			

*** --- the tasks marked with an asterisk are per unit tasks.**

**** --- the tasks marked with two asterisks are critical tasks.**

ATTACHMENT 3

APPS MASTER CHECKLIST

09-APPS-AA-001-M

Operational Maintenance (Tourly)

Time Total: See Attachment 1

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model								Bulletin Filename mm15109				Occurrence Tourly			

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.	**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. Only microfiber cloths or gloves, camel hair brushes or 99.9% isopropyl alcohol wipes may be used to clean optical equipment. 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 and barricade requirements.**	1	All			
APPS OPERATIONAL: OPERATIONAL CHECK	2.	**Check Overall System Condition (Run Tour)** Operational maintenance. Perform the following operational maintenance checks at least once per operational (Non-PM) tour. Report unsafe conditions to supervisor immediately. Record all findings in the SMS logbook. **WARNING: Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. Check warning horns and lights during	15	10			T

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	0	9	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence Tourly			

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.
		machine start-up for proper function. 2. Check for problems with structural integrity of supervisor platform and stairs to protect from slips, trips, and falls. 3. Remove any items placed on top of SMCC or Image Server / Image Processor computer enclosures which could damage cables or impede computer rack air flow. 4. Observe SMS system status screen and review past faults for problems. Evaluate accept, reject, jam statistics and throughput rates to identify degraded performance. Refer to the current APPS End of Run Interpretation MMO for additional information. a. Evaluate FSD Lost Tracking rejects by examining the Performance Statistics tab. If FSD Lost Tracking is greater than 5% of pieces Fed for that FSD follow up and investigate causes using MMO-003-12 "APPS Performance Improvement - Locating FSD Lost Tracking Problems". b. Evaluate Induct rejects and auto recoveries by examining the performance statistics and quantity of rejects for each lane. 5. Verify SAI system(s) are Online. 6. Verify the Image Server GUI is displayed on the Image Server. Verify all Image Processors are green and processing images.					
APPS OPERATIONAL: OERATIONAL CHECK	3.	**Evaluate machine performance using the APPS Performance Report.** Perform the following 30 minutes after the start of a run and every run hour thereafter. Refer to MMO-069-14 titled APPS Performance Report Use and Interpretation for additional information. 1. At the SMS GUI click on the **Reports** heading. 2. Click on **APPS Performance Report**.	35	10			T

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	0	9	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence Tourly		

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.
		3. Examine the following report performance values and compare them to the desired threshold values. For values that do not meet the thresholds, determine cause of shortfall and investigate and correct or advise Processing Operations as applicable. Determine if the shortfalls can be related to machine condition and take corrective action as necessary. a. Load Efficiency b. Feed Rate c. Singulation Rate (the sub-categories of Doubles and Gap errors may be used to determine why pieces are not singulated) d. Semi Auto Throughput e. Operational Throughput f. Machine Accept Rate g. Sorted per Run Hour h. Machine Sorted Rate i. Average Time to Sweep a Bin 4. Examine the following Performance Report At-Risk values and compare them to the desired threshold values. For values that do not meet the thresholds, determine cause of shortfall and investigate or advise Processing Operations as necessary. Increased At-Risk values increase package processing costs and will contribute to lower throughput as the Semi-Auto Operator will not be able to process pieces from the Shoe Sorter if occupied by processing excessive At-Risk pieces from the rework roller table. a. Out of Sort b. Induct Rejects c. Sorter Rejects					

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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.
		d. VCS Keyer Rejects e. Semi-Auto VCS Keyer Rejects f. VCS Timeouts g. AARS Rejects h. AARS Recirculation Rejects i. Sweep Recirculation Rejects					
APPS OPERATIONAL: FSD FUNCTION SIDE 1	4.	**Visually Check FSD Section - Side 1 (Run Tour)** **WARNING: Be cautious when working around or on equipment when power has been applied. The following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. While machine is operating, obtain an elevated vantage point to view FSD Belts and mail movement. Note all deficiencies and submit to Supervisor for scheduling. a. Observe mail singulation. Mail should be 1 layer deep when reaching the Traffic Control Module. Pieces should migrate to the Port side of the Delta Wing and should be singulated prior to entering the AARS tunnel. b. Observe all unstacker belting for tracking problems or signs of damage such as tears, fraying or laminate separation. Verify incline conveyors do not slip backwards under normal load. c. Observe Traffic Control Module (TCM) for proper operation. The TCM should attempt to singulate side-by-side pieces by slowing belts when multiple pieces are present. d. Observe Delta Wing rollers for proper operation. Note any damaged or non-functioning rollers.	40	09			T

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	0	9	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence Tourly

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.
		e. Observe belts Sx-5-1 through Sx-5-4 for tracking issues or belt laminate separation. f. Observe center belt Sx-3-1 for tracking issues, severe belt wear, slipping, or damage. g. Observe vertical belt Sx-4-2 for tracking issues, severe belt wear or damage. h. Observe belt Cx-1-1 thru Cx-2-2 for tracking issues, severe belt wear or damage. i. Verify AARS Tunnel curtain is closed and the Message board is operational. j. Observe belts Dx-1-1 through Dx-1-4 and Dx-2-1 for tracking issues or belt laminate separation. 2. While machine is operating, walk the full circumference of the FSD from Feed belt to underneath 90 degree curves. Be aware of any sounds or smells indicating mechanical problems: a. Observe unloader operation (3 APCU or PUN). Verify that Safety Barrier photoeyes require a reset prior to operating the unloader. Verify that container retention hardware is in place. b. Check fluid and filters (3 APCU or PUN). Oil level should be from 2/3 to full on sight glass. Filter should be scheduled for replacement if filter pressure reaches 20 psi during operation. c. Visually inspect side of Fx-1-1 Conveyor through Plexiglas guarding to verify that Fx-1-1 belt slack is not sufficient to allow belt to damage cables underneath. d. Observe for proper loading by Operations (approximately 15 pieces per 5 feet of belt) and report deficiencies to Operations. Operations should feed in response to					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence Tourly

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.
		Recirculation Conveyor volumes: 1.) If volumes are more than three to five pieces every ten to fifteen seconds (optimal rate) then the Feed Rate should be reduced to achieve this recirculation volume. 2.) If no mail is coming to recirculation belt, Operators should increase Feed Rate until the target recirculation flow is achieved. 3.) Optimal feeding is achieved when a slight trickle of mail is routinely observed at the Recirculation belt, meaning the Semi-Auto Operator is being supplied with mail but not overwhelmed. This typically will result in a Feed Rate greater than 5,000 pieces per hour. 4.) If Feed Rates above 5,000 pieces an hour cannot be maintained with the recirculation volume stated above, maintenance should investigate causes of poor singulation or lost tracking. 5.) If a Feed Rate of over 5,500 pieces per hour cannot be achieved regardless of recirculation volumes, verify that Traffic Control KORE sensor is not blocked and that the unstacker belts are not slick and failing to pull mail uphill in the unstacker. e. Verify that DCS Maintenance Screen is displayed on the DCS Primary computer and that photoeye counts for S1 through S5 are relatively equal. Investigate any significant anomalies. f. Verify that scale weights displayed are reasonable and packages are not reading negative weight. Verify scale is zeroed					

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Equipment Nomenclature Automated Package Processing System	Equipment Model								Bulletin Filename mm15109				Occurrence Tourly			

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.
		when no mail is passing over it. g. Verify package type shown on Semi-Auto LED display matches mail type being run (Parcel, Flat Bundle, or Letter Bundle). h. Verify there is no debris within the tunnel which will degrade with belt, photoeye, or camera operation. i. Walk under the High-Speed and Incline Curves. Look for belt debris falling from outer edge of belt indicating rib damage. Listen for obvious bearing problems. j. Inspect Incline and High Speed Turn gearboxes for leaks, loose hardware, or excessive noise. k. Observe Recirculation conveyors for belt condition and excessive noise. l. Inspect Shoe Sorter gearbox for leaks, loose hardware, or excessive noise.					
APPS OPERATIONAL: FSD FUNCTION SIDE 2	5.	**Visually Check FSD Section - Side 2 (Run Tour)** **WARNING: Be cautious when working around or on equipment when power has been applied. The following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. While machine is operating, obtain an elevated vantage point to view FSD Belts and mail movement. Note all deficiencies and submit to Supervisor for scheduling. a. Observe mail singulation. Mail should be 1 layer deep when reaching the Traffic Control Module. Pieces should migrate to the Port side of the Delta Wing and should be singulated prior to entering the AARS tunnel. b. Observe all unstacker belting for tracking problems or signs of damage such as	40	09			T

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Equipment Nomenclature Automated Package Processing System	Equipment Model								Bulletin Filename mm15109				Occurrence Tourly			

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.
		tears, fraying or laminate separation. Verify incline conveyors do not slip backwards under normal load. c. Observe Traffic Control Module (TCM) for proper operation. The TCM should attempt to singulate side-by-side pieces by slowing belts when multiple pieces are present. d. Observe Delta Wing rollers for proper operation. Note any damaged or non-functioning rollers. e. Observe belts Sx-5-1 through Sx-5-4 for tracking issues or belt laminate separation. f. Observe center belt Sx-3-1 for tracking issues, severe belt wear, slipping, or damage. g. Observe vertical belt Sx-4-2 for tracking issues, severe belt wear or damage. h. Observe belt Cx-1-1 thru Cx-2-2 for tracking issues, severe belt wear or damage. i. Verify AARS Tunnel curtain is closed and the Message board is operational. j. Observe belts Dx-1-1 through Dx-1-4 and Dx-2-1 for tracking issues or belt laminate separation. 2. While machine is operating, walk the full circumference of the FSD from Feed belt to underneath 90 degree curves. Be aware of any sounds or smells indicating mechanical problems: a. Observe unloader operation (3 APCU or PUN). Verify that Safety Barrier photoeyes require a reset prior to operating the unloader. Verify that container retention hardware is in place. b. Check fluid and filters (3 APCU or PUN).					

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence Tourly

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.
		Oil level should be from 2/3 to full on sight glass. Filter should be scheduled for replacement if filter pressure reaches 20 psi during operation. c. Visually inspect side of Fx-1-1 Conveyor through Plexiglas guarding to verify that Fx-1-1 belt slack is not sufficient to allow belt to damage cables underneath. d. Observe for proper loading by Operations (approximately 15 pieces per 5 feet of belt) and report deficiencies to Operations. Operations should feed in response to Recirculation Conveyor volumes: 1.) If volumes are more than three to five pieces every ten to fifteen seconds (optimal rate) then the Feed Rate should be reduced to achieve this recirculation volume. 2.) If no mail is coming to recirculation belt, Operators should increase Feed Rate until the target recirculation flow is achieved. 3.) Optimal feeding is achieved when a slight trickle of mail is routinely observed at the Recirculation belt, meaning the Semi-Auto Operator is being supplied with mail but not overwhelmed. This typically will result in a Feed Rate greater than 5,000 pieces per hour. 4.) If Feed Rates above 5,000 pieces an hour cannot be maintained with the recirculation volume stated above, maintenance should investigate causes of poor singulation or lost tracking. 5.) If a Feed Rate of over 5,500 pieces per hour cannot be achieved regardless of recirculation volumes,					

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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.
		verify that Traffic Control KORE sensor is not blocked and that the unstacker belts are not slick and failing to pull mail uphill in the unstacker. e. Verify that DCS Maintenance Screen is displayed on the DCS Primary computer and that photoeye counts for S1 through S5 are relatively equal. Investigate any significant anomalies. f. Verify that scale weights displayed are reasonable and packages are not reading negative weight. Verify scale is zeroed when no mail is passing over it. g. Verify package type shown on Semi-Auto LED display matches mail type being run (Parcel, Flat Bundle, or Letter Bundle). h. Verify there is no debris within the tunnel which will degrade with belt, photoeye, or camera operation. i. Walk under the High-Speed and Incline Curves. Look for belt debris falling from outer edge of belt indicating rib damage. Listen for obvious bearing problems. j. Inspect Incline and High Speed Turn gearboxes for leaks, loose hardware, or excessive noise. k. Observe Recirculation conveyors for belt condition and excessive noise. l. Inspect Shoe Sorter gearbox for leaks, loose hardware, or excessive noise.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER OPERATION SIDE 1	6.	**Observe Shoe Sorter Operation on side one (Run Tour).** **WARNING: Be cautious when working around or on equipment when power has been applied. The following tasks require that the machine be running. Take precautions to prevent hair,**	10	09			T

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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence Tourly		

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.
		clothing, tools, and test equipment from being caught in moving parts. While machine is operating, obtain an elevated vantage point to view top of the Shoe Sorter. Observe the following: 1. Are packages being placed at center of shoe assemblies? 2. Is the Shoe Sorter pushing phantom packages? 3. Are shoes moving smoothly with no erratic motion? 4. Observe the multiports on the side of the DX-1-5 and DX-2-1 conveyor for indications of flickering photoeyes. 5. Note any deficiencies and initiate scheduling of corrective action.					
DISTRIBUTION SUBSYSTEM: SHOE SORTER OPERATION SIDE 2	7.	**Observe Shoe Sorter Operation on side two (Run Tour).** **WARNING: Be cautious when working around or on equipment when power has been applied. The following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** While machine is operating, obtain an elevated vantage point to view top of the Shoe Sorter. Observe the following: 1. Are packages being placed at center of shoe assemblies? 2. Is the Shoe Sorter pushing phantom packages? 3. Are shoes moving smoothly with no erratic motion? 4. Observe the multiports on the side of the DX-1-5 and DX-2-1 conveyor for indications of flickering photoeyes.	10	09			T

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	A	P	P	S					A	A	0	0	1	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence Tourly

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.
		5. Note any deficiencies and initiate scheduling of corrective action.					
SORTER SUBSYSTEM: SORTER FUNCTION	8.	**Check Sorter Condition & Function (Run Tour).** **WARNING: Be cautious when working around or on equipment when power has been applied. The following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. While machine is operating, obtain an elevated vantage point to view top of sorter train. a. Observe sorter train for one full lap watching cells as they pass. Note any missing, or damaged Carrier Cell Slider Plates, or Crossbelts. b. Observe sorter cell movement in relation to adjacent cells. Cell tops should remain level with smooth motion. Note areas of the sorter where cells appear to be hitting a bump, or particular cells which are moving erratically. 2. Walk the full circumference of the sorter: a. Listen for collector brushes clicking as they pass over power rail isolators. Note locations of excessive collector noise or other items of note. b. Observe condition of Horsehead (OIP) assemblies and stacklights for damage. Note any items requiring attention. During “end of run with sweep” events, note any bin-full lights which are not flashing and may need bulbs replaced. ***Multiplied By: Carrier Cells**	0.1*	09			T
IMAGE AARS: IMAGE QUALITY	9.	**Inspect image quality at the APPS Monitor Display (AMD) computer.** Perform the following either during or after a run to evaluate image quality from all cameras:	3*	10			T

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
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Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109					Occurrence Tourly

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.
		1. At the AMD GUI click on the **Review** button. 2. Click on a date for images to be reviewed, and then click V**iew**. 3. The Runs dialog box will open and display the following: a. Capture time b. Run Number c. Operation Number (000 typically indicates the run in progress. Data for that run has not yet been transferred to the AMD). d. Number of pcs. for that run 4. Double click on the desired run number of a run which is not Operation Number 000. The Images Review window will open and display the following data: a. Capture Time b. Run Number c. Serial # (Mailpiece ID) d. Side (1 or 2) e. Number of Images (Typically 1, 2 or 4 images. 1 for Semi, 2 a short item thru the tunnel, or 4 for a normal package thru the tunnel) 5. Select mailpieces which have 1 or 4 images by clicking to highlight then clicking **View**. Pieces with one image will typically be from the Semi-Auto and pieces with 4 images will be from the AARS tunnel with images from both sides, top and bottom. 6. Review the displayed images for contrast, focus, and proper framing. Perform this inspection for five images from each of the five cameras for each APPS side. 7. To zoom in on an image, double click on the image displayed and an additional window will open which allows a drag and zoom on the					

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		image to verify address elements are readable. Click the corner x to close this window. 8. Initiate corrective action for images which are not well framed, in focus and having sufficient contrast to be readable. Refer to MMO-101-09 for assistance in "Tweaking" the image for proper framing. 9. Click **Exit Review** to return the AMD to normal operation. ***Multiplied By: Sides**					

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					Run Hours	Pieces Fed (000)	Freq.

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ATTACHMENT 4

APPS MASTER CHECKLIST

09-APPS-AA-002-M

Operational Maintenance (Daily)

Time Total: See Attachment 1

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER		TYPE
	0	9	A	P	P	S					A	A	0	0	2	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109		Occurrence 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)	Freq.
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. Only microfiber cloths or gloves, camel hair brushes, or 99.9% isopropyl alcohol wipes may be used to clean optical equipment. 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 and barricade requirements.**	1	All			
APPS OPERATIONAL: INDUCT FUNCTION SIDE 1	2	**Check Induction Condition - Side 1 (Daily)** **WARNING: Be cautious when working around or on equipment when power has been applied. The following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. While machine is operating, obtain an elevated vantage point to view top of Induction belts, outside of the interlocked Induction Area. Observe the following:	30	09			D

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	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER		TYPE
	0	9	A	P	P	S					A	A	0	0	2	M
Equipment Nomenclature Automated Package Processing System	Equipment Model										Bulletin Filename mm15109				Occurrence 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)	Freq.
		a. Verify that all induct lanes are receiving and processing mail. Investigate causes of frequent Auto-recoveries or jams. b. Observe all four lanes for proper package placement onto the sorter. Ideal package placement is described in the SAI Operations & Maintenance Manual. c. Observe induct belts for obvious tracking issues or belt damage. 2. When clearing any Auto-Induct jam, verify that: a. The blue Induct Stacklight flashes. b. Induct message boards are operational. c. The “Request Access” button illuminates and mail stops for the lane being accessed when pressed. d. The access gates are not being closed and lanes restarted until all personnel have exited the interlocked area. 3. At the Semi-Auto Induction Lane, observe the following: a. Check for problems with structural integrity of Semi-Auto Induction Station platform(s) and stairs to protect from slips, trips, and falls. b. Semi-auto tunnel curtain is closed and Message Board is operational. c. Semi-auto roller tables do not have “dead spots” requiring frequent use of tools to pull mail to the Semi-auto operator. d. Verify that scale weights displayed are reasonable and packages are not reading negative weight. Verify scale is zeroed when no mail is passing over it. e. Verify the “Three Button Box” is operational.					

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					Run Hours	Pieces Fed (000)	Freq.
		f. Mail is being fed address up, square to the direction of belt travel (only angle very large packages to the template) and to the right of the Semi-Auto “No-read” line. g. Investigate cause if large volumes of mail are being returned on the Rework Conveyor to the left of the operator.					
APPS OPERATIONAL: INDUCT FUNCTION SIDE 2	3	**Check Induction Condition - Side 2 (Daily)** **WARNING: Be cautious when working around or on equipment when power has been applied. The following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.** 1. While machine is operating, obtain an elevated vantage point to view top of Induction belts, outside of the interlocked Induction Area. Observe the following: a. Verify that all induct lanes are receiving and processing mail. Investigate causes of frequent Auto-recoveries or jams. b. Observe all four lanes for proper package placement onto the sorter. Ideal package placement is described in the SAI Operations & Maintenance Manual. c. Observe induct belts for obvious tracking issues or belt damage. 2. When clearing any Auto-Induct jam, verify that: a. The blue Induct Stacklight flashes. b. Induct message boards are operational. c. The “Request Access” button illuminates and mail stops for the lane being accessed when pressed. d. The access gates are not being closed and lanes restarted until all personnel	30	09			D

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.
		have exited the interlocked area. 3. At the Semi-Auto Induction Lane, observe the following: a. Check for problems with structural integrity of Semi-Auto Induction Station platform(s) and stairs to protect from slips, trips, and falls. b. Semi-auto tunnel curtain is closed and Message Board is operational. c. Semi-auto roller tables do not have “dead spots” requiring frequent use of tools to pull mail to the Semi-auto operator. d. Verify that scale weights displayed are reasonable and packages are not reading negative weight. Verify scale is zeroed when no mail is passing over it. e. Verify the “Three Button Box” is operational. f. Mail is being fed address up, square to the direction of belt travel (only angle very large packages to the template) and to the right of the Semi-Auto “No-read” line. g. Investigate cause if large volumes of mail are being returned on the Rework Conveyor to the left of the operator.					