MAINTENANCE TECHNICAL SUPPORT CENTER HEADQUARTERS MAINTENANCE OPERATIONS UNITED STATES POSTAL SERVICE

Maintenance Management Order

- **SUBJECT:** Preventive and Operational Maintenance Guidelines for Automated Flat Sorter Machine 100 (AFSM100) with and without Automatic Tray Handling System (ATHS) Using eCBM
 - TO: All AFSM100 Sites

DATE: September 23, 2021

PUB NO: MMO-142-20 FILE CODE: H8A, H8B FILE ID: mm20138 REV LEVEL: ae

This Maintenance Management Order (MMO) **supersedes MMO-095-12** and provides Preventive and Operational Maintenance Guidelines for Automated Flat Sorter Machine 100 (AFSM100) with and without Automatic Tray Handling System (ATHS). This bulletin applies to Acronym AFSM100, Class Codes AB and AC.

The workhours indicated in the workload estimate (Attachment 1) are based on a 16hour operations window and reflect the maximum annual workhours required to maintain each system. Actual workhour requirements and the frequency of tasks are dependent on run time and pieces processed. 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

The use of compressed or blown air is prohibited. An alternative cleaning method such as a HEPA filtered vacuum cleaner, a damp rag, lint-free cloth, or brush must be used in place of compressed or blown air.

WARNING

Steps contained in this bulletin may require the use of Electrical Work Plan (EWP) Personal Protective Equipment (PPE). Refer to the current EWP MMO for appropriate EWP PPE and barricade requirements.

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

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- Attachments 1. Summary of Workload Estimate For AFSM100 System
 - 2. Master Checklist 03-AFSM100-AB-001-M AFSM100 (Non-ATHS) Preventive Maintenance (PM)
 - 3. Master Checklist 03-AFSM100-AC-002-M AFSM100 (ATHS) Preventive Maintenance (PM)
 - 4. Master Checklist 09-AFSM100-AB-001-M AFSM100 (Non-ATHS) Operational Maintenance (OM)
 - 5. Master Checklist 09-AFSM100-AC-002-M AFSM100 (ATHS) Operational Maintenance (OM)
 - 6. Master Checklist 09-AFSM100-**-003-M AFSM100 (Non-ATHS and ATHS) Operational Maintenance (OM)

SUMMARY WORKLOAD ESTIMATE

FOR AFSM100 (NON-ATHS AND ATHS)

SUMMARY WORK LOAD ESTIMATES FOR AFSM100_AB (non-ATHS)

Operation Se	Routine Servicing	Repair Time per Machine (Hrs/yr) *	Routine Servicing	Non- Productive	Total Servicing	Operational Maintenance + Total Servicing		
Days	ays Per Machine (Hrs/Yr)		+ Repair Time (Hrs/Yr)	Time per Machine (Hrs/yr) **	per Machine (Hrs/Yr)	1 Tour Hrs/Yr OpM x 1	2 Tours Hrs/Yr OpM x 2	
5 Days	1151.52	345.46	1496.98	149.70	1646.67	1,880.67	2,006.34	
6 Days	1330.05	399.02	1729.07	172.91	1901.97	2,182.77	2,333.57	
7 Days	1508.58	452.57	1961.15	196.12	2157.27	2,484.87	2,660.80	
*	Repair mai	ntenance es	timates base	ed on 30% of	preventive r	naintenance.		
**	Based on 1	0% of total	PM and repa	ir.				

	Opera	Operational Maintenance non-ATHS								
	One Tour	Two Tours	Three Tours							
5 Days	234.00	359.67	N/A							
6 Days	280.80	431.60	N/A							
7 Days	327.60	503.53	N/A							

NOTES:

*Repair estimates based on 30% of servicing.

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

					_	, , ,		
Operation	Routine Servicing	Repair	Routine Servicing	Non- Productive	Total Servicing	Operational Maintenance + Total Servicing		
Davs	Days Machine	Machine (Hrs/yr) *	+ Repair	Time per	per	1 Tour	2 Tours	
Days			Time	Machine	Machine	Hrs/Yr	Hrs/Yr	
	(Hrs/Yr)	(1113/91)	(Hrs/Yr)	(Hrs/yr) **	(Hrs/Yr)	OpM x 1	OpM x 2	
5 Days	1362.33	408.70	1771.03	177.10	1948.13	2,182.13	2,307.80	
6 Days	1579.00	473.70	2052.70	205.27	2257.97	2,538.77	2,689.57	
7 Days	1795.67	538.70	2334.37	233.44	2567.81	2,895.41	3,071.34	
*	Repair mai	ntenance es	timates bas	ed on 30% of	preventive r	naintenance.		
**	Based on 1	0% of total	PM and repa	air.				

SUMMARY WORK LOAD ESTIMATES FOR AFSM100_AC (ATHS)

	Opera	Operational Maintenance ATHS									
	Three Tours										
5 Days	234.00	359.67	N/A								
6 Days	280.80	431.60	N/A								
7 Days	327.60	503.53	N/A								

NOTES:

*Repair estimates based on 30% of servicing.

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

AFSM100 (NON-ATHS) MASTER CHECKLIST

03-AFSM100-AB-001-M

PREVENTIVE MAINTENANCE (PM)

Time Total: (779) minutes

U.S. Postal	IDENTIFICATION										
Maintenance	Check	dist	WORK CODF	WORK EQUIPMENT				LASS	NUN	IBER	TYPE
			0 3	A F S	M 1	0 0	A	B	0 () 1	М
Equipment Nor	menclatu	ure	Equipment Model Bulletin			n Filename		Occurrence			
Automated Flat Sort	ing Ma	achine 100	AFS	M100 (Non-	ATHS)	mm	120138				
	-	-					Est.		Т	hreshold	ds
Part or Component	Item	-	Task Stat	tement and I	nstruction		Time	Min. Skill	Run	Pieces	
	No	(Comp	oly with al	ll current saf	ety precaut	tions)	Req	Lev	Hours	Fed	Freq.
	4 **						(11111)	A 11		(000)	
SAFETY	1.""	Disconnec	t power a	And apply loc	ckouts whe	IONS. n	1	All			
•••••		required by	y this inst	truction. Ref	fer to curre	nt local					
		lockout pro	ocedures	to properly s	shut down	and lock					
		out this ma	achine. C	Check for su	spicious du	st or					
		notify supe	ervisor pri	ior to procee	substance	is iouria, inv					
		further acti	ion on the	e equipment		,					
		THE USE	OF COM	IPRESSED (N AIR IS					
		PROHIBIT	ED.								
		When clea	aning is re	equired, an a	alternative of	cleaning					
		a damp ra	a must be	e used in pla	ce of comr	pressed					
		or blown a	ir. A lint-	free cloth or	brush may	be used					
		on optical	equipme	nt only when	other clea	ning					
		methods c	annot be	used. Repo	ort safety						
		deficiencie	es to your	supervisor	mmediatel	y upon					
		WARNING	FOR E	NP/PPE: St	eps conta	ined in					
		this bullet	tin may r	equire the u	use of Elec	trical					
		Work Plan	n (EWP) ∣ M (DDE)	Personal Pr	otective						
		Equipmen MMO or a	it (PPE). nnronria	Refer to th	e current F and barr	EWP icade					
		requireme	ents.			louuo					
		WARNING	9: Variou	s products	requiring	Safety					
		Data Shee	ets (SDS)) may be uti	lized durir	ng the					
		performar	nce of th	e procedure	es in this b	oulletin.					
		is on file a	and avail	able to all e	emplovees	. When					
		reordering	g such a	product, it	is suggest	ted that					
		current SI	DS be re	quested. R	efer to SD	S for					
	O **	appropria	te perso	nal protecti	ve equipm	ient.	F	00			
MAIN MACHINE. MIS/USV	۷.	renomi s	system s	nutuown.			5	09			U
CONTROL		Shut down	system	using MS-17 dures	'8 Vol B Sh	lutdown					
				uules.							
MAIN MACHINE:	3.**	Lock out	power.				5	All			D
		Lockout m	achine a	ccording to c	current loca	l Energy					
		Control Pro	ocedures	ocedures.							
SAR CABINET:	4.	Vacuum a	and chec	k Secondar	y Address	Reader	1	07		440	
SAR COMPUTER		(SAR) cab	oinet.								

		[Est.	Min. Skill Lev	Thresholds			
Part or Component	ltem No		Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)		Run Hours	Pieces Fed (000)	Freq.	
		SA the det	R cabinet filter is located in a slide tray under cabinet. Replace when impacted dirt and bris cannot be removed by vacuuming.						
MIS/USV SYSTEM:	5.**	Re	move and clean filters.	5	07			1	
ENTIRE SYSTEM		Rej car	place filters when impacted dirt and debris nnot be removed by vacuuming.						
		1.	Clean filter in each rear door of the supervisor station.						
		2.	Clean filter each computer (MIS and USV).						
		3.	Reinstall all filters.						
MAIN MACHINE: ENTIRE SYSTEM	6.**	Ma per	il search the entire AFSM100 System by forming the following steps:	16	07			D	
		1.	Perform mail search beginning at infeed station 1 by opening all hinged covers and doors on each infeed station, perform mail search and leave covers open.						
		2.	Continue to the right side of the level change module by bin 1. Check for mail on perforated screen underneath bucket assemblies and on the floor.						
		3.	Continue to the right side of the sort modules and perform a mail search beginning at bin 1, working toward the drive module.						
			 Remove any debris found on conveyor and/or conveyor photocells. 						
			b. Search for mail in mail chutes.						
		4.	Continue to the Drive Module and search for mail on expanded metal guards under drive module at the entrance to the maintenance alley.						
		5.	Continue to the left side of the sort modules and perform a mail search beginning at bin 61, working toward the level change module.						
			 Remove any debris found on conveyor and/or conveyor photocells. 						
			b. Search for mail in mail chutes.						
		6.	Continue to the left side of the level change module by bin 120. Check for mail on perforated screen underneath bucket assemblies and on the floor.						

			Est.	Min	Thresholds		
Part or Component	Item	Task Statement and Instruction	Time	Min. Skill	Run	Pieces	
	No	(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed	Freq.
		 Continue to the injector side of the infeed stations and check for mail on the floor underneath the injectors. 	((((((((((((((((((((((((((((((((((((((((000)	
INFEED STATION:	7.**	Remove debris.	9*	07		25	
FEEDER MODULE		 Remove any buildup of debris from the Destacker central vacuum chamber screen. 					
		2. Remove visible debris such as loose FICS labels and mailpiece fragments.					
		*3 minutes per feeder					
INFEED STATION:	8.**	Remove dust and debris.	9*	07		220	
FEEDER MODULE		Vacuum and clean any accumulation of dust or debris from the mail transport in the feeder, OCR/ICS, and 950 modules.					
		*3 minutes per infeed station					
INFEED STATION:	9.**	Clean destacker module.	12*	07		220	
FEEDER MODULE		 Brush and vacuum the destacker low vacuum chamber plate. Replace the vacuum plate (PSN 3915-05-000-2458) when impacted debris cannot be removed by vacuuming. Remove and clean the interior filter screen. Replace the interior filter (PSN 4330-05-000- 					
		2273) when impacted debris cannot be removed by vacuuming.					
		 Remove canister filter and clean by vacuuming. Replace the canister filter (PSN 4330-05-000-2274) when impacted dirt and debris cannot be removed by vacuuming. 					
		* 4 minutes per infeed station.					
INFEED STATION:	10.**	Check and clean feeder vacuum filters.	6*	07		1540	
FEEDER MODULE		Clean destacker/tilter module vacuum filter. Replace filter when impacted dirt and debris cannot be removed by vacuuming.					
		1. Remove the filter element from the vacuum pump and clean by vacuuming with a HEPA vacuum.					
		2. Reinstall vacuum pump filter.					
	44.4.4	* 2 minutes per infeed station.	0.01			10000	
INFEED STATION: FEEDER MODULE	11.**	Replace vacuum pump carbon vanes.	30*	07		13200	
		1. Remove vacuum pump plastic front cover.					
		2. Remove vacuum pump regulator.					

				Min	Thresholds		
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		3. Remove cast iron front cover.					
		 Remove and replace all six carbon vanes (PSN 3455-05-000-7867). 					
		5. Install the cast iron front cover.					
		6. Install the vacuum pump regulator.					
		7. Install the vacuum pump plastic cover.					
		* 10 minutes per infeed station.					
INFEED STATION:	12.**	Replace the vacuum system MAC valves.	60*	09		13200	
FEEDER MODULE		Remove and replace MAC valves.					
		Contact Supervisor to schedule rebuild of MAC valves removed from the system.					
		* 20 minutes per infeed station.					
INFEED STATION:	13.**	Check condition and wear of infeed stations.	30*	09		220	
ENTIRE SYSTEM		Note all deficiencies and notify the supervisor for scheduling of corrective maintenance.					
		 Check feeder paddle mechanical condition for general wear and damage. 					
		 Check anti-doubler assembly for binding, dragging, damage to vacuum hose, nozzle condition, and general alignment and mechanical condition. 					
		Check all presser arm assemblies for general alignment and mechanical condition.					
		 Check for missing, loose, or damaged belts. Look for discoloration, belt residue, frayed edges, or rubbing. Make minor adjustments as necessary. 					
		 Check all pulleys and rollers for damage and wear. Wipe clean any accumulation of dust, label adhesive, or debris from the pulleys and rollers. 					
		 Check all photocells, emitters, and reflectors for loose retaining hardware and bent and/or broken brackets. 					
		 Check all shock dampers for oil leakage and proper mechanical condition and operation. 					
		8. Check for broken or missing springs.					
		 Check injector hardware, gantry, injector solenoids, springs, wheels, and pulleys for general wear and mechanical condition. 					

			Est.	Min	TI	ls	
Part or Component	Item	Task Statement and Instruction		Skill	Run	Pieces	_
	NO	(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq.
		 Check hinged covers while open, for damaged or leaking pneumatic cylinders. Replace worn or damaged pneumatic cylinders as necessary. 	()			(000)	
		 Check all clutch/brake sensors for damage or missing hardware/components. 					
		* 10 minutes per infeed station.					
INFEED STATION:	14.**	Clean OCR/FICS module.	18*	07		220	
FICS MODULE		WARNING: Before performing any actions in the AV1222-1 scanner area, allow sufficient time for components to cool.					
		 Using a microfiber glove or lint free cloth, wipe down each AV1222-1 scanner window assembly and mounting plate. 					
		 Remove any accumulation of dust or debris from the aperture plate and surrounding area. This includes the removal FICS labels from pulleys, aperture, and baseplate. 					
		 Remove and clean AV1222-1 camera filters. Replace camera filters (PSN 4130-04-000- 4014) when impacted dirt and debris cannot be removed by vacuuming. 					
		 Remove and clean FAR computer filter. This filter can be removed from the computer and washed with warm water. 					
		 Remove and clean CoBCR filters. Replace filter (PSN 4310-07-000-0176) when impacted dirt and debris cannot be removed by vacuuming. 					
		 Clean vacuum filter on FICS labeler. Replace filter (PSN 4130-04-000-4688) when impacted dirt and debris cannot be removed by vacuuming. 					
		 Using a microfiber glove or lint free cloth, wipe down the verifier lens and remove any buildup of dust and debris from in front of the verifier. 					
		* 6 minutes per infeed station.					
INFEED STATION:	15.**	Clean and check FICS labeler.	6*	09			D
FICS MODULE		WARNING: Exercise care around knife cutting edge to prevent injuries.					
		1. Clean labeler cutting blades with silicone oil.					
		 Check labeler oil reservoir level. Replace oil bottle as necessary. 					

			Est.	Min	Thresholds			
Part or Component	ltem No		Task Statement and Instruction (Comply with all current safety precautions)		Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		* 2	minutes per infeed station.					
INFEED STATION:	16.**	Cle	an and check FICS Ink Jet Printer (IJP).	30*	09			D
FICS MODULE		Per 1.	form the following steps on the IJP: Remove printhead from sleeve.					
		2.	Clean and check printhead.					
		3.	Clean and check sleeve.					
		4.	Clean back plate.					
		5.	Install printhead back into sleeve.					
		* 1() minutes per infeed station.					
INFEED STATION:	17.**	Ch	eck and clean FICS labeler.	30*	09			1
FICS MODULE		WA edg	RNING: Exercise care around knife cutting ge to prevent injuries.					
		1.	Place FICS labeler in maintenance position by opening FICS module rear door and rotating labeler latch in a counterclockwise direction. Pull handle on labeler until it is safely latched in the maintenance position.					
		2.	Remove and clean labeler cutting blades.					
		3.	Inspect blades for chips or damage, replace if damage or chips visible.					
		4.	Inspect Delrin balls for wear (flat spots) and replace if worn.					
		5.	Check labeler wick for damage or residue. Replace wick as necessary.					
		6.	Lubricate wick with silicone oil.					
		7.	Inspect stop block bumpers for damage or wear and replace if worn or damaged.					
		8.	Inspect label paddle and stop bumper for wear or damage and replace if damaged or wear is excessive.					
		9.	Clean label application roller using Scrubs in a Bucket towelette.					
		10.	Inspect Label Feed Backup Roller for wear. Replace roller as necessary.					
		11.	Inspect Labeler Back-up Idler (D27) for wear. Replace roller as necessary.					
		12.	Check labeler oil level and replenish as necessary.					

			[_				
			Est.	Min.		nreshold	IS
Part or Component	Item	Task Statement and Instruction	Time	Skill	Run	Pieces	
	INO	(Comply with all current safety precautions)	Keq (min)	Lev	Hours	Fed	Freq.
		 Return FICS labeler to operational position. Pull up on latch plunger, push labeler in. Rotate labeler latch clockwise and close FICS module rear door. 				(000)	
		* 10 minutes per infeed station.					
INFEED STATION: FICS MODULE	18.**	Replace OCR/FICS module IJP filter tube ink filter.	15*	09		13750 0	
		Replace IJP filter tube assembly.					
		*5 minutes per infeed station.					
INFEED STATION: FICS MODULE	19.**	Replace OCR/FICS module IJP primary ink filter.	15*	09		39600	
		Replace primary ink filter.					
		*5 minutes per infeed station.					
LEVEL CHANGE	20.**	Clean and check level change module.	2	07		220	
MODULE: LEVEL CHANGE MODULE		 Check door closer wheel for cracks, broken spokes, voids in wheel surface. 					
		Clean the level change photocell array with a microfiber glove or lint free cloth.					
LEVEL CHANGE	21.**	Clean Microcom label printer.	8*	07		220	
PRINTER		1. Vacuum and clean Microcom label printer.					
		 Clean Microcom label printer print head using a Q-tip lightly dampened with isopropyl alcohol or use thermal printer cleaning kit identified in MMO-004-03. 					
		*4 minutes per label printer.					
	22.**	Check condensate trap and filter.	1	07			1
CHANGE MODULE		 Check for oil and/or water presence in condensate trap. Drain if water or oil is present. 					
		 Observe that filter indicator valve is green; red indicates filter replacement is necessary. Replace filter if red indicator is present. 					
TAKEAWAY	23.**	Check Takeaway Conveyor Drive	36	09		19800	
ENTIRE SYSTEM		 Remove side access cover from each takeaway conveyor. 					
		 Check drive belt condition and tension using procedures and specifications in handbook MS-178. Observe drive motor gearbox for 					

			Est.	Min	Thresholds		
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		visible lubrication leaks. Tension and track belts when necessary.					
		3. Replace side access cover.					
		* 18 minutes per takeaway conveyor.					
TAKEAWAY	24.**	Lubricate and check take away conveyor.	20*	07		39600	
CONVEYOR: TAKEAWAY CONVEYOR		 Lubricate take away conveyor roller pillow block bearings (two each per side). Lubricate via grease fittings using lithium base #2 grease (Shell Avania or equivalent). 					
		 Check take away conveyor drive motor gearbox for visible lubrication leaks. Notify supervisor of any lubrication leaks. 					
		* 10 minutes per takeaway conveyor.					
SORT MODULE:	25.**	Check for damaged components.	30*	09			М
ENTIRE SYSTEM		 Check for cracked buckets, missing bucket flaps, and buckets not even with adjacent buckets while cleaning. 					
		 Check tub full switch assembly/actuator for damage or breakage. 					
		Check tub present switch assemblies for damage or breakage.					
		* 15 minutes per side.					
SORT MODULE:	26.	Remove dust and debris.	120	07		19800	
ENTIRE SYSTEM		Vacuum any accumulation of dust and/or debris outside and inside of sort module (maintenance alley), including the floor. Remove all mail tub labels.					
DRIVE MODULE: DRIVE	27.**	Remove, clean, lubricate, and install the 96-link main drive chain.	45	07		39600	
MOTOR/BRAKE		Refer to MS-178, Vol. B, Section 5.8.5 Removing and Replacing the Drive Module 96 Link Drive Chain.					
DRIVE MODULE PULL CORD E-	28.**	Check condition and trip tension for pull cord E-stop.	2	09			М
STOP		Refer to MS-178 Vol. B, Section 4.8.4. Adjust as necessary.					
MAIN MACHINE:	29.	Vacuum main electrical cabinet.	2	07		19800	
		Vacuum any accumulation of dust or debris.					
INFEED STATION: FICS MODULE	30.	Replace OCR/FICS module IJP vacuum filter	6*	09		1540	

		F	Est.		Т	Thresholds		
Part or Component	Item	Task Statement and Instruction	Time	Min. Skill	Run	Pieces		
	No	(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq.	
•		Inside of the IJP assembly locate, remove, and replace the vacuum filter.	()			(000)		
		*2 minutes per infeed station						
INFEED STATION: ENTIRE SYSTEM	31.**	Close all open doors and covers.	4	07			D	
MAIN MACHINE:	32.**	Return AFSM100 to service.	12	09			D	
MAIN ELECTRICAL		WARNING: Be cautious when working around or						
O/DINE I		on equipment when power has been applied.						
		 Restore power to machine as prescribed by the local lockout procedure. 						
		 Observe the AFSM100 Status Screen on the MIS computer for the following: Machine Status=System Ready, NDSS-Available, USVPC-Connected, REC VCS-Connected, Site VCS-Connected, OCR/BCR1-Connected With VCS, OCR/BCR2-Connected With VCS, OCR/BCR3-Connected With VCS, Printer-On- Line, Right and Left Label Printer-Ready. 						
		3. Notify supervisor of any problems.						
SUPERVISOR	33.**	Perform database repair procedure.	10	10			1	
CONTROL		CAUTION: Do not interrupt recovery process. Database corruption or data loss could result.						
		1. Log in as Maintenance 1.						
		 Click on System Administration to Exit AFSM100 software. 						
		3. Click on Exit. Click on Yes.						
		 Start Windows NT Explorer by clicking on Start in lower left corner. 						
		5. Click on Programs .						
		6. Click on NT Explorer .						
		7. Click on MIS directory box.						
		8. Click on BIN directory box.						
		9. Double click on DBRepair.exe .						
		10. Use dropdown arrow to select database to be repaired or select All Databases to repair all databases. Press Rebuild Database button to start the repair process.						
		 After selected databases have been checked, a dialog box displays indicating length of time used to repair databases. 						

	Item Task Statement and Instruction	Est.	Min	Thresholds			
Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		12. Press OK button to exit DBRepair utility.					
		 Click on X in upper right hand corner to close NT Explorer . 					
		14. Click on Start .					
		15. Click on Shutdown .					
		16. Click on Restart Computer.					
		17. Click on Yes .					
		 After MIS software is fully functional, switch to the USV-PC screen. 					
		19. Using Start menu, Shutdown and Restart Computer.					
		20. After USV PC is running, press reset button on the USV rack.					
		21. Cycle power to all three infeed stations.					
		22. Machine is ready to run.					
SUPERVISOR	34.**	Check MIS Alarms	10	09			D
STATION: MIS/USV CONTROL		Observe MIS alarm window for any Photoeye Low Gain Warnings. Clean, align, adjust, or replace any photoeye/reflector to correct the Low Gain Warning(s).					
INFEED STATION:	35.**	Check OCR/FICS Scanner.	9*	10			1
FICS MODULE		Check the white level on each scanner. Observe white level graph for acceptable pattern and adjust the white level only if it is more than 5 units above or below average value of 199.					
		* 3 minutes per infeed station.					
INFEED STATION:	36.**	Check OCR/FICS.	30*	10		1540	
FICS MODULE		 Start AFSM100 and infeed. Run camera alignment card and check for camera skew and clarity of image. 					
		 Check the Distance to Scanline on each scanner. Initiate action to correct shift in Distance to Scanline. 					
		 Note values and adjustments in equipment logbook. 					
		*10 minutes per infeed station.					
INFEED STATION:	37.**	Check FICS Ink Jet Printer (IJP)	12*	10		1540	
FICS MODULE		 Check that IJP vacuum gauge reads between 12 and 13 inches in vacuum. 					

			Est.	Min	T	hresholds		
Part or Component	Item	Task Statement and Instruction	Time	Skill	Run	Pieces		
	No	(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed	Freq.	
		 Check IJP positive air with flow meter for 2.0 to 2.5 Standard Cubic Feet per Hour (SCFH). 	()			(000)		
		⁴ 4 minutes per infeed station.						
INFEED STATION:	38.**	Perform Photoeye Adjustments	45*	09		1540		
ENTIRE SYSTEM		Perform Feeder, FICS, and 950 Module Photoeye adjustments per MS-178, Volume B, Section 4.						
		15 minutes per infeed station						
INFEED STATION: ENTIRE SYSTEM	39.**	Start the machine and each infeed; test each nterlock switch.	38	09			М	
		1. Open and close each cover and door, one at a time, and check interlocks.						
		 Observe that infeed stops and the carousel continues to run for each infeed interlock switch. 						
		 Check that all associated lamps and messages on the operator control panel LCD display and Minitron display properly report each interlock switch actuation. 						
		4. Observe that the carousel stops when any transport access cover or hood, over height safety hood, and maintenance alley gate are opened. Check that all associated lamps and messages on the operator control panel LCD display and Minitron display properly report each interlock switch actuation.						
INFEED STATION:	40.**	Check infeed station with ultrasound device.	21*	09		1540		
ENTIRE SYSTEM		 With the infeed station covers and doors open, start the infeed station. Using an ultrasound device and Airborne probe, listen for the following: 						
		 Abnormal bearing noise on each deck assembly along the top of the infeed module. 						
		 Abnormal bearing noise on the bottom of each deck plate on the infeed module. 						
		 Abnormal bearing and winding noise emanating from feeder motors. 						
		5. Vacuum leaking on each MAC valve assembly.						
		 Air leaking in the pneumatic system piping and components (i.e. hoses, vacuum tank, canister filter lid, etc.) 						
		7. Vacuum pump bearings and vacuum leakage.						

			Est.	Min	Thresholds		ls
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		 Vacuum turbine motor bearings and vacuum leakage. 					
		9. FICS Labeler pneumatics panel for air leakage					
		 Document all defective components for replacement. Close all covers and doors. 					
		7 minutes per infeed station.					
MAIN MACHINE:	41.**	Check carousel and infeed station E-Stops.	45	07			М
EMERGENCY STOPS		. Start the carousel and each infeed station.					
		 Actuate E-Stop switch on operator control panel at Infeed Station #1. 					
		 Observe that the carousel and all infeed stations stop. 					
		 Observe that the lamp inside the E-Stop switch illuminates. 					
		 Observe that the control panel E-Stop light illuminates and the LCD display reports an E- Stop. 					
		 Observe that the sort module Minitron displays the appropriate E-Stop message. 					
		 Observe that red lights on the light stacks illuminate. 					
		 Repeat Steps 1-7 for all remaining system E- Stops 					
		 Document all defective components for repair or replacement. 					
MAIN MACHINE: ENTIRE SYSTEM	42.**	Check infeed station injector and main carousel chain tension.	105	09		6600	
		Refer to MS-178 Volume B Maintenance nformation, Section 4 Alignment and Adjustment Procedures, Injector subsections.					
		 Place Drive Motor Lockout switch lever in the OFF position and install lockout device. Remove bucket assemblies to provide access for infeed station injector check. 					
		 At the sort module on the left side, starting at the level change unit and working toward the drive module: 					
		a. Remove six bucket modules.					
		b. Skip six bucket modules.					
		c. Remove six more bucket modules.					

	Est	Est.	Min	T	ls						
Part or Component	Item			Task State	ment and Instruct	tion	Time	iviin. Skill	Run	Pieces	
	No		(Com	ply with all o	current safety pre	cautions)	Req	Lev	Hours	Fed	Freq.
			d. S	Skip six buc	ket modules.		(11111)			(000)	
			e F	Remove six	bucket modules						
		3	Remo		device and place	Drive Motor					
		5.	Locko	out switch le	ever in the ON poses have been rem	sition after loved.					
		4.	Position space under Press missin infeed	ion carousel es from miss r the three ir s E-Stop swi ng bucket as d injection m	I chain. Run carc sing bucket asser nfeed station injec itch when spaces ssemblies are un nodules.	busel until nblies are ctor modules. from der the three					
		5.	Perfor using Proce	orm system s MS-178 Vo edures.	shutdown. Shut o I B Shutdown and	down system d Lockout					
		6.	Lock o lock o as pre instruc proce	out power. but electrical escribed by lictions provi edures.	Power down the I power and comp the current local ding lockout/resto	machine and pressed air lockout pre					
		7.	Remo	ove top cent	er covers on tens	sion module.					
		8.	Check Check	k the GIO ta k for debris	achometer belt for on the pulleys.	r damage.					
		CA sp ini ch Us ha	UTION ecificat tiate a ange a e proco ndbool	N: If carous ation and action to and infeed cedures and k MS-178.	el chain tension adjustment is check alignme station proximi specifications	is not within performed, ent of level ty switches. published in					
		9.	Check chain specif check	k and adjust tension. Us fications pul k main carou	t, if necessary, m sing procedures a blished in handbo usel chain tensior	ain carousel and ook MS-178, n.					
		10.	Check lubrica leaks.	k the main c ant leaks. N	drive motor gearb Notify supervisor	ox for visible of lubricant					
		11.	Check drive r disc th specif	k main drive motor brake hickness us fications in I	e motor brake. Cl e solenoid air gap ing procedures a handbook MS-17	heck main and friction nd 8.					
		12.	Check	k infeed stat	tion. (5 min per l	FS)					
			a. Ir	Injector area	a. Check for wear	r and debris.					
			b. C	Check shocl rail assembl	k anti-wear plates y for wear and da	s and guide amage.					

			Est.	Min	Thresholds		
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		13. Install tension module covers removed earlier. Install top covers on tension module.				()	
		WARNING: Be cautious when working around or on equipment when power has been applied.					
		14. Return to service. Restore power to machine as prescribed by the local lockout procedure. Observe the AFSM100 Status Screen on the MIS computer for the following: Machine Status=System Ready, NDSS-Available, USVPC-Connected, REC VCS-Connected, Site VCS-Connected, OCR/BCR1-Connected With VCS, OCR/BCR2-Connected With VCS, OCR/BCR3-Connected With VCS, Printer-On- Line, Right and Left Label Printer-Ready. Notify supervisor of any problems.					
	 Start carousel and position carousel chain so spaces are accessible in sort module. Press E-Stop switch when all missing bucket assembly spaces are visible on one side of the sort modules. 						
		16. Place Drive Motor Lockout switch lever in the OFF position and install lockout device.					
		17. Install bucket assemblies removed earlier.					
		 Remove lockout device and place Drive Motor Lockout switch lever in the ON position after all bucket assemblies have been installed. 					
MAIN MACHINE:	43.**	Replace chain guide Teflon strips.	263	09		39600	
ENTIRE SYSTEM		 Remove 12 consecutive bucket assemblies. Place Drive Motor Lockout switch lever in the OFF position and install lockout device. On the right side of the sort module, remove 12 consecutive bucket assemblies starting at the safety hood and working toward the level change unit. Remove lockout device and place Drive Motor Lockout switch lever in the ON position after bucket assemblies have been removed. 					
		2. Position carousel chain. Run carousel and press E-Stop switch when space from missing bucket assemblies are at the left side level change. This will enable an unobstructed view of the left side level change Teflon wear strips later in the PM.					

					Est.	Min	Т	Thresholds	ls
Part or Component	ltem No		(Coi	Task Statement and Instruction nply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		3.	Perf usin Proc	orm system shutdown. Shut down system g MS-178 Vol B Shutdown and Lockout cedures.					
		4.	Lock lock as p insti proc	k out power. Power down the machine and out electrical power and compressed air rescribed by the current local lockout ructions providing lockout/restore cedures.					
		5.	Rep strip	lace left side level change module Teflon s.					
			a.	Remove two side covers on level change module.					
			b.	Remove the top six carrier brackets to expose the top left level change chain guide Teflon strip.					
			C.	Replace top level change Teflon strip PSN 3915-05-000-2308.					
			d.	Reinstall every other carrier bracket removed in Step 5b.					
			e.	Remove the lower six carrier brackets to expose the lower left level change chain guide Teflon strip.					
			f.	Replace lower level change Teflon strip PSN 3915-05-000-2308.					
			g.	Reinstall every other carrier bracket removed in Step 5e.					
			h.	Reinstall two left level change side covers					
			i.	Remove the four top tension module covers.					
		6.	Retu as p Obs MIS Stat US Site With OCI Line Noti	urn to service. Restore power to machine rescribed by the local lockout procedure. erve the AFSM100 Status Screen on the computer for the following: Machine us=System Ready, NDSS-Available, /PC-Connected, REC VCS-Connected, VCS-Connected, OCR/BCR1-Connected or VCS, OCR/BCR2-Connected With VCS, R/BCR3-Connected With VCS, Printer-On- or, Right and Left Label Printer-Ready. fy supervisor of any problems.					

					Est.	Min	Т	hreshold	ls
Part or Component	Item		(0	Task Statement and Instruction	Time	Skill	Run	Pieces	_
	NO		(Col	mply with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq.
		7.	Pos Stop asse will mod	ition Carousel. Run carousel and press E- o switch when space from missing bucket emblies are at the tension module. This enable an unobstructed view of the tension dule Teflon wear strip					
		8.	Perf usin Proc	orm system shutdown. Shut down system g MS-178 Vol B Shutdown and Lockout cedures.					
		9.	Lock lock as p instr proc	k out power. Power down the machine and out electrical power and compressed air prescribed by the current local lockout ructions providing lockout/restore cedures.					
		10.	Ren	nove the lower tension module guide rail.					
		11.	Rep strip	lace tension module Teflon chain guide).					
			a.	Remove carrier brackets to expose the tension module Teflon chain guide strip.					
			b.	Replace tension module Teflon chain guide strip PSN 3915-05-000-2312.					
			C.	Reinstall carrier brackets removed in Step 11a.					
			d.	Reinstall lower tension module guide rail.					
			e.	Reinstall four top tension module covers.					
		12.	Ren cove	nove two right side level change side ers.					
		13.	Retu as p Obs MIS Stat US Site With OCI Line Noti	urn to service. Restore power to machine prescribed by the local lockout procedure. herve the AFSM100 Status Screen on the computer for the following: Machine us=System Ready, NDSS-Available, /PC-Connected, REC VCS-Connected, VCS-Connected, OCR/BCR1-Connected NCS, OCR/BCR2-Connected With VCS, R/BCR3-Connected With VCS, Printer-On- e, Right and Left Label Printer-Ready. fy supervisor of any problems.					
		14.	Pos Stop asso mod of th wea	ition carousel. Run carousel and press E- o switch when space from missing bucket emblies are at the right side level change dule. This will enable an unobstructed view he right side level change module Teflon in strips					

		[Est.	N.4" -	Т	hreshold	ls
Part or Component	ltem No		(Co	Task Statement and Instruction mply with all current safety precautions)	Time Req (min)	Min. Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		15.	Perl usin Pro	form system shutdown. Shut down system g MS-178 Vol B Shutdown and Lockout cedures.					
		16.	Lock lock as p instr proc	k out power. Power down the machine and out electrical power and compressed air prescribed by the current local lockout ructions providing lockout/restore cedures.					
		17.	Rep strip	lace right side level change module Teflon os.					
			a.	Remove the top carrier brackets to expose the top right level change chain guide Teflon strip.					
			b.	Replace top level change Teflon strip PSN 3915-05-000-2308.					
			c.	Reinstall carrier brackets removed in Step 17a.					
			d.	Remove the lower carrier brackets to expose the lower right level change chain guide Teflon strip.					
			e.	Replace lower level change Teflon strip PSN 3915-05-000-2308.					
			f.	Reinstall carrier brackets removed in Step 17d.					
			g.	Reinstall two right level change side covers					
			h.	Remove the two end drive module covers.					
		18.	Retu as p Obs MIS Stat US Site With OCI Line Noti	urn to service. Restore power to machine prescribed by the local lockout procedure. serve the AFSM100 Status Screen on the computer for the following: Machine tus=System Ready, NDSS-Available, /PC-Connected, REC VCS-Connected, VCS-Connected, OCR/BCR1-Connected n VCS, OCR/BCR2-Connected With VCS, R/BCR3-Connected With VCS, Printer-On- e, Right and Left Label Printer-Ready. fy supervisor of any problems.					
		19.	Pos Stop asso ena mod	ition carousel. Run carousel and press E- o switch when space from missing bucket emblies are at the drive module. This will ble an unobstructed view of the drive dule Teflon wear strip					

			Est.	Min	TI	hreshold	ls	
Part or Component	Item	T	ask Statement and Instruction	Time	Skill	Run	Pieces	_
	NO	(Compl	ly with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq.
		20. Perform using M Proced	n system shutdown. Shut down system //S-178 Vol B Shutdown and Lockout ures.					
		21. Lock ou lock out as pres instruct procedu	ut power. Power down the machine and t electrical power and compressed air scribed by the current local lockout tions providing lockout/restore ures.					
		22. Remov	e the lower drive module guide rail.					
		23. Replace	e drive module Teflon chain guide strip.					
		a. Re dri	emove carrier brackets to expose the ive module Teflon chain guide strip.					
		b. Re str	eplace drive module Teflon chain guide rip PSN 3915-05-000-2312.					
		c. Re	einstall all carrier brackets.					
		d. Re	einstall lower drive module guide rail.					
		e. Re	einstall two end drive module covers.					
		24. Return as pres Observ MIS con Status= USVPC Site VC With VC OCR/Bu Line, Ri Notify s	to service. Restore power to machine scribed by the local lockout procedure. ve the AFSM100 Status Screen on the mputer for the following: Machine =System Ready, NDSS-Available, C-Connected, REC VCS-Connected, CS-Connected, OCR/BCR1-Connected CS, OCR/BCR2-Connected With VCS, CR3-Connected With VCS, Printer-On- ight and Left Label Printer-Ready. supervisor of any problems.					
		25. Position Stop sw assemt module assemt	n Carousel. Run carousel and press E- witch when space from missing bucket blies are along the left side sort es. This will enable the bucket blies to be replaced.					
		26. Replace Place D OFF po the left consec Step 1. Drive M position installee	e 12 consecutive bucket assemblies. Drive Motor Lockout switch lever in the osition and install lockout device. On side of the sort module, install the 12 outive bucket assemblies removed in Remove lockout device and place Motor Lockout switch lever in the ON n after bucket assemblies have been d.					

	E E	Est.	N.4:	Т	Thresholds		
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		 Check operation. Run the carousel and observe smooth transition of bucket/carrier bracket assemblies as they transition between level change, tension and drive module areas. 					
MAIN MACHINE: SORT MODULE	44.**	Observe the sort module alignment. Start the carousel and observe bucket travel. Buckets should travel smoothly and not bounce. Note bucket number of any individual bucket that does not travel smoothly or bounces. Note module transition locations where bucket bouncing occurs. Notify supervisor of notations.	10	07		39600	
MAIN MACHINE: CARRIER BRACKET AND CHAIN ASSEMBLY	45.**	Observe carrier bracket alignment. Start the carousel, enter the maintenance alley, and observe the alignment of carrier brackets. All carrier bracket wheels should make contact with	6	09		39600	
		not properly aligned or defective.					
SORT MODULE: ENTIRE SYSTEM	46.**	Check operation of carousel safety hoods, drive module brake, and torque limiter.	5	09			М
		 Ensure there is no mail in bucket assembles. Insert a pliable piece of cardboard in a carrier bucket at chute #30. The cardboard should stick up above the top of the bucket sufficiently to actuate the safety hood at the entry to the drive module. 					
		3. With safety hood in normal operating position, make two marks on safety hood drawer slide assembly: one mark 8" and another mark 11" from the frame to establish acceptable travel distance limits of the safety hood.					
		 Start carousel. When cardboard strikes safety hood, observe that the carousel stops. The cardboard should move the safety hood between 8" and 11". 					
		 Insert a pliable piece of cardboard in a carrier bucket at chute #90. 					
		 Repeat Steps 3 and 4 for the level change module safety hood. 					
		 If carousel does not stop within prescribed limits, or if excessive backlash is observed, initiate action to check main drive brake and torque-limiter adjustments. 					

			Est.	Min	Т	reshold	ls
Part or Component	Item	Task Statement and Instruction	Time	iviin. Skill	Run	Pieces	
r art er e empenent	No	(Comply with all current safety precautions)	Req	Lev	Hours	Fed	Freq.
MAIN MACHINE: ENTIRE SYSTEM	47.**	Check Infeed Station and Main Electrical Cabinet with thermal imaging device.	10	09		1540	
		 Open the infeed station electrical panel doors and the main electrical cabinet door. 					
		 Scan the infeed station electrical panels (breaker panel and CCT board panel) for abnormal hot spots. 					
		Scan the Main Electrical Cabinet panel for abnormal hot spots.					
		4. Close all open panel doors.					
MAIN MACHINE:	48.**	Run Daily Test Deck.	24	09			D
ENTIRE SYSTEM		Alternate between the MTSCEVEN and MTSCODD sortplans daily.					
		 Set up the AFSM100 to run the daily test deck using the MTSCEVEN or MTSCODD sortplan. Put the machine in BCR/OCR mode. 					
		Load each 22 piece grouping on all three infeed stations and start the run.					
		3. Observe pick-off and vacuum gauge during the destacking of the mail. Open the feeder back door and observe that the vacuum gauge needle does not fluctuate more than five units as each mailpiece is fed. Verify that the vacuum recovers to high vacuum as each mailpiece is picked off. Close the feeder back door.					
		4. Perform an End of Run.					
		5. Collect test deck pieces from mail tubs.					
		 Review FICS labels placement on template pieces for proper placement and remove FICS labels (approximately 33 labels to be removed). 					
		 Any piece failures should be noted and a work order generated for troubleshooting/corrective maintenance action. 					
INFEED STATION:	49.**	Run Feeder Performance Test Deck.	75*	09		1540	
FEEDER MODULE		Get ready to run the 9-group performance deck by setting up test at MIS computer using sort program MTSCSG. Test each infeed station using performance deck provided with FEDR modification and print report. Generate a					

			Est.	Min	Thresholds			
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.	
		troubleshooting/corrective maintenance work order for stress groups not in tolerance.						
		* 25 minutes per infeed station.						
FINAL-CLEANUP	50.**	Clean up.	5	All				
		Ensure all tools, lubricants, rags, etc., are removed from the work area. Note deficiencies found and repairs performed in the Maintenance logbook. Notify supervisor and/or generate work orders per local SOP to document/initiate corrective maintenance activity for deficiencies found.						

Tasks marked with one asterisk*, after the time required, are per unit tasks.

Tasks marked with two asterisks**, after the item number, are critical tasks.

AFSM100 (ATHS) MASTER CHECKLIST

03-AFSM100-AC-002-M

PREVENTIVE MAINTENANCE (PM)

Time Total: (758) minutes

U.S. Postal Service			IDENTIFICATION															
Maintenance	Check	dist	WO CO	RK DE			E	QUIP	MEN NYM	T I			CI C	LASS ODE	NUN	/BER	TYPE	
			0	3	A	F	S	М	1	0	0		A	С	0	0 2	М	
Automated Flat Sort	ting Ma	ichine 100		A	Eq FS	uipmer M100	nt Moc) (AT	HS)			В	mm	1 Filenar 120138	ne	eCBM			
	ſ	Ī											г					
	ltare	-	Teel	Ctot	4 ~ ~		ا اہ م		atia.	_			Est.	Min.	T	hresho	lds	
Part or Component	No	(Comp	i ask olv wi	th al	len II ci	urren	t safe	etv p	reca	י utio	ons)		Rea	Skill	Run	Fed	s Frea	
		、 ·	((min)	Lev	Hours	(000)					
SAFETY STATEMENT	1**	COMPLY Disconnec required by lockout pro out this ma unusual de notify supe further acti THE USE PROHIBIT When clea method su a damp rag or blown a on optical methods c deficiencie detection. WARNING this bullet Work Plar Equipmen MMO or a requireme WARNING Data Shee performar Ensure th is on file a reordering current SI appropria	WITH t pow y this bocedu achin ebris. erviscion of OF C ED. ning ach as g mu ir. A equip anno s to S FOI in m h (EV ppro ets (S chas g mu is to S FOI in m h (EV chas s to S FOI in c c c n as g mu is to S FOI in m c c c n as g mu is to S FOI in c c c n as g c c n as g m c c n as g m u (EV c) c c n as c c n as c c n as c c n as c c n as c c n as c c n as c c n c c c n c c c n c c c n c c c n c c c n c c c c n c c c c n c c c c n c c c c c d d d d d d d d d d	H AL ver as insta- e. C If a pr printhe COM is ref st be vour st be vour R EV PE). Print SDS of th rren avail ch a e re- erso	L : dana da la constructione e l	SAFE d appl ction. property eck for unus to pro- equipr RESS uired, PA fill sed in sed in sed in sed in sed in sed. I upervi VPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE UIPPE U	ETY I ly loc Ref erly s sual s cocee n nent. ED C an a tered n pla thor vhen Repo so the PPE ucts c the ucts e util dure or ea all e ct, it it l. Ref	PREC kouts er to subst ding DR B Iterna vacio ce of brus othe rt sa mme eps o oteci e cui s in se o oteci e s in sch p mplo s s u se of poteci e cui s s o tec s in se o oteci e cui s s o tec s in se o oteci e cui s s o tec s in s o tec s in s o tec s o tec s tec s tec s tec s tec s tec s tec s tec s tec s tec s tec s tec s tec s tec s tec tec s te s te	CAU s which curring down curring and contained fety diate contained fety containe	TIC len in all dus e is an VN e cle npr le an ely tair ster DS me	AIR and lot t or foury AIR ane ane ane ane ane ane ane ane	al bock nd, IS n sed n in in i i i i i i i i	1	All				
MAIN MACHINE: MIS/USV	2**	Perform s	yste	m sl	hut	tdow	n.				_		5	09			D	
CONTROL		Shut down and Locko	syst ut Pr	em oceo	usi dur	ng M es.	S-17	8 Vo	IBS	Shu	tdov	wn						
MAIN MACHINE:	3**	Lock out p	powe	ər.									5	All			D	
CABINET		Lockout m Control Pro	achir oced	ne a ures	ссс 3.	ording	to c	urrer	nt loo	cal	Ene	rgy						
SAR CABINET: SAR COMPUTER	4	Vacuum a (SAR) cab	nd c inet.	hec	k S	Secor	ndar	y Ad	dres	s I	Read	der	1	07		440		

				Est.	Min	Thresholds		
Part or Component	Item No		Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
		SAI the deb	R cabinet filter is located in a slide tray under cabinet. Replace when impacted dirt and pris cannot be removed by vacuuming.					
MIS/USV SYSTEM:	5**	Rei	move and clean filters.	5	07			1
ENTIRESYSTEM		Rep can	place filters when impacted dirt and debris anot be removed by vacuuming.					
		1.	Clean filter in each rear door of the supervisor station.					
		2.	Clean filter each computer (MIS and USV).					
		3.	Reinstall all filters.					
MAIN MACHINE: ENTIRE SYSTEM	6**	Mai per	il search the entire AFSM100 System by forming the following steps:	16	07			D
		1.	Perform mail search beginning at infeed station 1 by opening all hinged covers and doors on each infeed station, perform mail search and leave covers open.					
		2.	Continue to the right side of the level change module by bin 1. Check for mail on perforated screen underneath bucket assemblies and on the floor.					
		3.	Continue to the right side of the sort modules and perform a mail search beginning at bin 1, working toward the drive module.					
			 Remove any debris found on conveyor and/or conveyor photocells. 					
			b. Search for mail in mail chutes.					
		4.	Continue to the Drive Module and search for mail on expanded metal guards under drive module at the entrance to the maintenance alley.					
		5.	Continue on the left side of the sort modules and perform a mail search beginning at bin 61, working toward the level change module.					
			 Remove any debris found on conveyor and/or conveyor photocells. 					
			b. Search for mail in mail chutes.					
		6.	Continue to the left side of the level change module by bin 120. Check for mail on perforated screen underneath bucket assemblies and on the floor.					

			Est.		Т	hresholds	6
Part or Component	Item	Task Statement and Instruction	Time	Min. Skill	Run	Pieces	
	No	(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed	Freq
		 Continue to the injector side of the infeed stations and check for mail on the floor underneath the injectors. 				(000)	
INFEED STATION:	7**	Remove debris.	9*	07		25	
ENTIRE SYSTEM		 Remove any buildup of debris from the Destacker central vacuum chamber screen. 					
		2. Remove visible debris such as loose FICS labels and mailpiece fragments.					
		*3 minutes per feeder					
INFEED STATION:	8**	Remove dust and debris.	9*	07		220	
FEEDER MODULE		Vacuum and clean any accumulation of dust or debris from the mail transport in the feeder, OCR/ICS, and 950 modules.					
		*3 minutes per infeed station.					
INFEED STATION:	9**	Clean destacker module.	12*	07		220	
		 Brush and vacuum the destacker low vacuum chamber plate. Replace the vacuum plate (PSN 3915-05-000-2458) when impacted debris cannot be removed by vacuuming. Remove and clean the interior filter screen. Replace the interior filter (PSN 4330-05-000- 2273) when impacted debris cannot be 					
		 Removed by vacuuming. Remove canister filter and clean by vacuuming. Replace the canister filter (PSN 4330-05-000-2274) when impacted dirt and debris cannot be removed by vacuuming. * 4 minutes per infeed station. 					
INFEED STATION:	10**	Check and clean feeder vacuum filters.	6*	07		1540	
		Clean destacker/tilter module vacuum filter. Replace filter when impacted dirt and debris cannot be removed by vacuuming.					
		1. Remove the filter element from the vacuum pump and clean by vacuuming with a HEPA vacuum.					
		2. Reinstall vacuum pump filter.					
		* 2 minutes per infeed station.					
INFEED STATION:	11**	Replace vacuum pump carbon vanes.	30*	07		13200	
		1. Remove vacuum pump plastic front cover.					
		2. Remove vacuum pump regulator.					

	E	Est.	Min	Т	hresholds	5	
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
		 Remove cast iron front cover. Remove and replace all six carbon vanes PSN 3455-05-000-7867 					
		5. Install the cast iron front cover.					
		6. Install the vacuum pump regulator.					
		7. Install the vacuum pump plastic cover.					
		* 10 minutes per infeed station.					
INFEED STATION:	12**	Replace the vacuum system MAC Valves.	60*	09		13200	
FEEDER MODULE		Remove and replace MAC valves.					
		Contact Supervisor to schedule rebuild of MAC valves removed from the system.					
		* 20 minutes per infeed station.					
INFEED STATION:	13**	Check condition and wear of infeed stations.	30*	09		220	
ENTIRE SYSTEM		Note all deficiencies and notify the supervisor for scheduling of corrective maintenance.					
		 Check feeder paddle mechanical condition for general wear and damage. 					
		 Check anti-doubler assembly for binding, dragging, damage to vacuum hose, nozzle condition, and general alignment and mechanical condition. 					
		 Check all presser arm assemblies for general alignment/tension and mechanical condition. 					
		 Check for missing, loose, or damaged belts. Look for discoloration, belt residue, frayed edges, or rubbing. Make minor adjustments as necessary. 					
		 Check all pulleys and rollers for damage and wear. Wipe clean any accumulation of dust, label adhesive, or debris from the pulleys and rollers. 					
		 Check all photocells, emitters, and reflectors for loose retaining hardware and bent and/or broken brackets. 					
		Check all shock dampers for oil leakage and proper mechanical condition and operation.					
		8. Check for broken or missing springs.					
		 Check injector hardware, gantry, injector solenoids, springs, wheels, and pulleys for general wear and mechanical condition. 					

	•		Est.	Min	Thresholds		
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
		 Check hinged covers while open, for damaged or leaking pneumatic cylinders. Replace worn or damaged pneumatic cylinders as necessary. 					
		 Check all clutch/brake sensors for damage or missing hardware/components. 					
		* 10 minutes per infeed station.					
INFEED STATION:	14**	Clean OCR/FICS module.	18*	07		220	
FICS MODULE		WARNING: Before performing any actions in the AV1222-1 scanner area, allow sufficient time for components to cool.					
		 Using a microfiber glove or lint free cloth, wipe down each AV1222-1 scanner window assembly and mounting plate. 					
		 Remove any accumulation of dust or debris from the aperture plate and surrounding area. This includes the removal FICS labels from pulleys, aperture, and baseplate. 					
		 Remove and clean AV1222-1 camera filters. Replace camera filters (PSN 4130-04-000- 4014) when impacted dirt and debris cannot be removed by vacuuming. 					
		 Remove and clean FAR computer filter. This filter can be removed from the computer and washed with warm water. 					
		 Remove and clean CoBCR filters. Replace filter (PSN 4310-07-000-0176) when impacted dirt and debris cannot be removed by vacuuming. 					
		 Clean vacuum filter on FICS labeler. Replace filter (PSN 4130-04-000-4688) when impacted dirt and debris cannot be removed by vacuuming. 					
		 Using a microfiber glove or lint free cloth, wipe down the verifier lens and remove any buildup of dust and debris from in front of the verifier. 					
		* 6 minutes per infeed station.					
INFEED STATION:	15**	Clean and check FICS labeler.	6*	09			D
FICS MODULE		WARNING: Exercise care around knife cutting edge to prevent injuries.					
		1. Clean labeler cutting blades with silicone oil.					
		 Check labeler oil reservoir level and replace oil bottle as necessary. 					

			Est.	Min	Т	Thresholds		
Part or Component	ltem No	Ta (Comply)	ask Statement and Instruction with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
		² 2 minutes	per infeed station.				(/	
INFEED STATION:	16**	Clean and	check FICS Ink Jet Printer (IJP).	30*	09			D
FICS MODULE		Perform the	following steps on the IJP:					
		1. Remove	e printhead from sleeve.					
		2. Clean a	nd check printhead.					
		3. Clean a	nd check sleeve.					
		4. Clean b	ack plate.					
		5. Install p	rinthead back into sleeve.					
		10 minutes	per infeed station.					
INFEED STATION:	17**	Check and	clean FICS labeler.	30*	09			1
FICS MODULE		WARNING: edge to pre	Exercise care around knife cutting event injuries.					
		1. Place F opening labeler l Pull har in the m	ICS labeler in maintenance position by FICS module rear door and rotating latch in a counterclockwise direction. Indle on labeler until it is safely latched maintenance position.					
		2. Remove	e and clean labeler cutting blades.					
		 Inspect damage 	blades for chips or damage, replace if or chips visible.					
		 Inspect replace 	Delrin balls for wear (flat spots) and if worn.					
		5. Check la Replace	abeler wick for damage or residue. e wick as necessary.					
		6. Lubricat	te wick with silicone oil.					
		7. Inspect wear an	stop block bumpers for damage or ad replace if worn or damaged.					
		 Inspect or dama excessi 	label paddle and stop bumper for wear age and replace if damaged or wear is ve.					
		9. Clean la Bucket	abel application roller using Scrubs in a towelette.					
		10. Inspect Replace	Label Feed Backup Roller for wear. e roller as necessary.					
		11. Inspect Replace	Labeler Back-up Idler (D27) for wear. e roller as necessary.					
		12. Check la necessa	abeler oil level and replenish as ary.					

			Est.	N Alia	T	Thresholds		
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq	
		 Return FICS labeler to operational position. Pull up on latch plunger, push labeler in. Rotate labeler latch clockwise and close FICS module rear door. 						
		* 10 minutes per infeed station.						
INFEED STATION:	18	Replace OCR/FICS module IJP Vacuum Filter	6*	09		1540		
FICS MODULE		Inside of the IJP assembly locate, remove, and replace the vacuum filter.						
		*2 minutes per infeed station						
INFEED STATION: FICS MODULE	19**	Replace OCR/FICS module IJP filter tube and primary ink filter.	15*	09		137500		
		Replace IJP filter tube assembly.						
		*5 minutes per infeed station.						
LEVEL CHANGE	20**	Clean and check level change module.	2	07		220		
MODULE: LEVEL CHANGE MODULE		 Check door closer wheel for cracks, broken spokes, and voids in wheel surface. 						
		 Clean the level change photocell array with a microfiber glove or lint free cloth. 						
LEVEL CHANGE	21**	Check condensate trap and filter.	1	07			1	
MODULE: LEVEL CHANGE MODULE		Check for oil and/or water presence in condensate trap. Drain if water or oil is present. Observe that filter indicator valve is green; red indicates filter replacement is necessary. Replace filter if red indicator is present.						
ATHS: ENTIRE	22**	Check and clean ATHS.	30*	09		220		
SYSTEM		Note any deficiencies found during the following steps and contact a supervisor if any of the belts require replacement.						
		 Check accumulation conveyor belts for wear, improper tracking, and damage. Clean all accumulation conveyor photocells using a microfiber glove or lint free cloth. 						
		2. Check incline conveyor belts for wear, improper tracking, and damage. Clean all incline conveyor photocells using a microfiber glove or lint free cloth.						
		3. Check automatic tray destacker belts for wear or damage. Clean all destacker photocells using a microfiber glove or lint free cloth.						

			Est.	Min	T	nresholds	6
Part or Component	Item	Task Statement and Instruction	Time	Skill	Run	Pieces	_
·	NO	(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq
		 Check automatic tray destacker puller springs for wear and/or over stretching. Replace springs as necessary. 				(000)	
		5. Check transfer module conveyor belts for wear, improper tracking, and damage. Ensure that the tabs on the transfer belts are adjusted properly so that empty tubs are square when transferred to the print/apply module. Clean all transfer module conveyor photocells using a microfiber glove or lint free cloth.					
		Clean the transfer module camera lens using a microfiber glove or lint free cloth.					
		 Clean the SICK scanner lenses using a microfiber glove or lint free cloth. 					
		Check the lift/rotate assembly belts and lift assembly for wear or damage.					
		Check all insert/extract modules for missing or damaged round belts.					
		 Check discharge conveyor for missing or damaged round belts. 					
		* 15 minutes per side.					
ATHS: ATHS INSERT/EXTRACT	23	Clean ATHS insert/extract module outer guard rail.	20*	07			1
MODULE		Use soft, lint-free cloth Scrubs in a Bucket to remove build-up of gummy adhesive residue. Dispose of cloth when it becomes soiled.					
		* 10 minutes per side.					
ATHS: ATHS	24**	Check and clean ATHS labeler and printer.	20*	09			D
PRINT/APPLY MODULE		 Check labeler air filter condition. Replace filter if dirty or clogged. 					
		 Check labeler brush for wear or damage. Replace brush as necessary. 					
		3. Remove air line from printer.					
		 Confirm that no air pressure registers on pressure gauge. 					
		5. Open label lid.					
		6. Rotate head release arm until latch releases.					
		 Unlatch label hold down by depressing thumb latch. 					
		8. Remove backing paper in stock path.					

	r			-	-		
			Est.	Min	TI	hresholds	S
Part or Component	Item	Task Statement and Instruction	Time	iviin. Skill	Run	Pieces	
and of component	No	(Comply with all current safety precautions)	Req	Lev	Hours	Fed	Freq
			(min)			(000)	
		9. Release brass nip roller hold-down.					
		10. Clean nip roller, label pressure rollers, actuator					
		lint free cloth and Scrubs in a Bucket to					
		remove any build up of adhesive residue.					
		Dispose of cloth when it becomes soiled.					
		11. Replace backing paper in stock path.					
		12. Reinstall air line to printer.					
		 Close and latch label hold-down and head release arm. 					
		14. Close label lid.					
		* 10 minutes per side					
SORT MODULE:	25**	Check for damaged components.	30*	07			Μ
		1. Check for cracked buckets, missing bucket					
		flaps, and buckets not even with adjacent					
		Ob a shark full share and for a sectable diam d/or					
		cracked lens					
		 Check tub present photoeye for scratched and/or cracked lens. 					
		*15 minutes per side.					
SORT MODULE:	26	Remove dust and debris.	120	07		19800	
ENTIRE SYSTEM		Vacuum any accumulation of dust and/or debris					
		outside and inside of sorter module (maintenance					
		alley), including floor. Remove all buildup of ATHS					
DRIVE MODULE: DRIVE	27**	Remove, clean, lubricate, and install the 96-link main drive chain.	45	07		39600	
MOTOR/BRAKE		Refer to MS-178, Vol. B, Section 5.8.5 Removing					
		and Replacing the Drive Module 96 Link Drive					
		Chain.					
DRIVE MODULE	28**	Check condition and trip tension for pull cord	2	09			М
PULL CORD E-		E-stop.					
510P		Refer to MS-178 Vol. B, Section 4.8.4. Adjust as					
		necessary.					
MAIN MACHINE:	29	Vacuum main electrical cabinet.	2	07		19800	
		Vacuum any accumulation of dust or debris.					
	30**	Close all open doors and covers	Δ	07			П
ENTIRE SYSTEM	50		-7	01			

			Est.	Min	TI	hresholds	5
Part or Component	Item	Task Statement and Instruction	Time	Skill	Run	Pieces	Frog
	NO	(Comply with all current safety precautions)	(min)	Lev	Hours	геа (000)	Fieq
MAIN MACHINE:	31**	Return AFSM100 to service.	12	09			D
CABINET		WARNING: Be cautious when working around or on equipment when power has been applied.					
		 Restore power to machine as prescribed by the local lockout procedure. 					
		 Observe the AFSM100 Status Screen on the MIS computer for the following: Machine Status=System Ready, NDSS-Available, USVPC-Connected, REC VCS-Connected, Site VCS-Connected, OCR/BCR1-Connected With VCS, OCR/BCR2-Connected With VCS, OCR/BCR3-Connected With VCS, Printer-On- Line, Right and Left Label Printer-Ready. 					
		3. Notify supervisor of any problems.					
SUPERVISOR	32**	Perform database repair procedure.	10	10			1
CONTROL		CAUTION: Do not interrupt recovery process. Database corruption or data loss could result.					
		1. Log in as Maintenance 1.					
		 Exit AFSM100 software by clicking on System Administration. 					
		3. Click on Exit. Click on Yes.					
		 Start Windows NT Explorer by clicking on Start in lower left corner. 					
		5. Click on Programs .					
		6. Click on NT Explorer .					
		7. Click on MIS directory box.					
		8. Click on BIN directory box.					
		9. Double click on DBRepair.exe.					
		 Use dropdown arrow to select database to be repaired or select All Databases to repair all databases. Press Rebuild Database button to start the repair process. 					
		 After selected databases have been checked, a dialog box displays indicating length of time used to repair databases. 					
		12. Exit DBRepair utility by pressing OK button.					
		 Close NT Explorer by clicking on X in upper right hand corner. 					
		14. Click on Start .					

		Est.	N.41 .	T	hresholds	6	
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Min. Skill Lev	Run Hours	Pieces Fed (000)	Freq
		15. Click on Shutdown .				· · · · · ·	
		16. Click on Restart Computer.					
		17. Click on Yes .					
		 After MIS software is fully functional, switch to the USV-PC screen. 					
		19. Using Start menu, Shutdown and Restart Computer.					
		20. After USV PC is running, press reset button on the USV rack.					
		21. Cycle power to all three infeed stations.					
		22. Machine is ready to run.					
SUPERVISOR	33**	Check MIS Alarms	10	09			D
STATION: MIS/USV CONTROL		 Observe MIS alarm window for Photoeye Low Gain Warnings. Clean, align, adjust, or replace any photoeye/reflector to correct the Low Gain Warning(s). 					
		 Observe MIS alarm window for ATHS PLC or Servo Low Battery Alarms. Replace low batteries. 					
INFEED STATION:	34**	Check OCR/FICS Scanner.	9*	10			1
FICS MODULE		Check the white level on each scanner. Observe white level graph for acceptable pattern and adjust the white level only if it is more than 5 units above or below average value of 199.					
		* 3 minutes per infeed station.					
INFEED STATION:	35**	Check OCR/FICS.	30*	10		1540	
FICS MODULE		 Start AFSM100 and infeed. Run camera alignment card and check for camera skew and clarity of image. 					
		 Check the Distance to Scanline on each scanner. Initiate action to correct shift in Distance to Scanline. 					
		 Note values and adjustments in equipment logbook. 					
		* 10 minutes per infeed station.					
INFEED STATION:	36**	Check FICS Ink Jet Printer (IJP).	12*	10		1540	
FICS MODULE		 Check that IJP vacuum gauge reads between 12 and 13 inches in vacuum. 					

			Est.	Min	Thresholds			
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq	
		 Check IJP positive air with flow meter for 2.0 to 2.5 Standard Cubic Feet per Hour (SCFH). 						
		* 4 minutes per infeed station.						
INFEED STATION:	37**	Perform Photoeye Adjustments	45*	09		1540		
ENTIRE SYSTEM		Perform Feeder, FICS, and 950 Module Photoeye adjustments per MS-178, Volume B, Section 4.						
		*15 minutes per infeed station						
INFEED STATION: ENTIRE SYSTEM	38**	Start the machine and each infeed; test each interlock switch.	40	09			М	
		 Open and close each cover and door, one at a time, and check interlocks. 						
		 Observe that infeed stops and the carousel continues to run for each infeed interlock switch. Check that all associated lamps and messages on the operator control panel LCD display and Minitron display properly report each interlock switch actuation. 						
		 Observe that the carousel stops when any transport access cover or hood, over height safety hood, and maintenance alley gate are opened. Check that all associated lamps and messages on the operator control panel LCD display and Minitron display properly report each interlock switch actuation. 						
		4. On ATHS equipped machines, open and close each tub destacker door and level change module access door. Check that all associated lamps and messages on the operator control panel LCD display and Minitron display properly report each interlock switch actuation.						
INFEED STATION:	39**	Check infeed station with ultrasonic device.	21*	09		1540		
ENTIRE SYSTEM		With the infeed station covers and doors open, start the infeed station. Using an ultrasonic device and Airborne probe, listen for the following:						
		 Abnormal bearing noise on each deck assembly along the top of the infeed module. 						
		Abnormal bearing noise on the bottom of each deck plate on the infeed module.						
		Abnormal bearing and winding noise emanating from feeder motors.						
		4. Vacuum leaking on each MAC valve assembly.						

				Est.	N./:	TI	nresholds	6
Part or Component	Item		Task Statement and Instruction	Time	ıvıın. Skill	Run	Pieces	_
	No	(C	comply with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq
		5. Ai co filt	ir leaking in the pneumatic system piping and pmponents (i.e. hoses, vacuum tank, canister ter lid. etc.)	· · /			(000)	
		6. Va	acuum pump bearings and vacuum leakage.					
		7. Va lea	acuum turbine motor bearings and vacuum akage.					
		8. FI	ICS Labeler pneumatics panel for air leakage.					
		9. Do re	ocument all defective components for placement. Close all covers and doors.					
		*7 min	nutes per infeed station.					
MAIN MACHINE: EMERGENCY	40**	Check Stops	k ATHS, carousel and infeed station E- s.	60	07			М
STOPS		1. St	tart the carousel and each infeed station.					
		2. Ao pa	ctuate E-Stop switch on operator control and Infeed Station #1.					
		3. Ol sta	bserve that the carousel and all infeed ations stop.					
		4. Ol illu	bserve that the lamp inside the E-Stop switch uminates.					
		5. Ol illu St	bserve that the control panel E-Stop light uminates and the LCD display reports an E-top.					
		6. Ol the	bserve that the sort module Minitron displays e appropriate E-Stop message.					
		7. Ol illu	bserve that red lights on the light stacks uminate.					
		8. Re St	epeat Steps 1-7 for all remaining system E- tops					
		9. Do or	ocument all defective components for repair replacement.					
MAIN MACHINE: ENTIRE SYSTEM	41**	Check carou	k infeed station injector and main Isel chain tension.	105	09		6600	
		Refer Inform Proce	to MS-178 Volume B Maintenance nation, Section 4 Alignment and Adjustment dures, Injector sub-sections.					
		1. Pl Ol Re for	ace Drive Motor Lockout switch lever in the FF position and install lockout device. emove bucket assemblies to provide access r infeed station injector check.					

				Est.	Min	T	S	
Part or Component	Item No		Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
		2.	At the sort module on the left side, starting at the level change unit and working toward the drive module:					
			a. Remove six bucket modules.					
			b. Skip six bucket modules.					
			c. Remove six more bucket modules.					
			d. Skip six bucket modules.					
			e. Remove six bucket modules.					
		3.	Remove lockout device and place Drive Motor Lockout switch lever in the ON position after bucket assemblies have been removed.					
		4.	Position carousel chain. Run carousel until spaces from missing bucket assemblies are under the three infeed station injector modules. Press E-Stop switch when spaces from missing bucket assemblies are under the three infeed injection modules.					
		5.	Perform system shutdown. Shut down system using MS-178 Vol B Shutdown and Lockout Procedures.					
		6.	Lock out power. Power down the machine and lock out electrical power and compressed air as prescribed by the current local lockout instructions providing lockout/restore procedures.					
		7.	Remove top center covers on tension module.					
		8.	Check the GIO tachometer belt for damage. Check for debris on the pulleys.					
		CA sp ini ch Us ha	UTION: If carousel chain tension is not within ecification and adjustment is performed, tiate action to check alignment of level ange and infeed station proximity switches. e procedures and specifications published in ndbook MS-178.					
		9.	Check and adjust, if necessary, main carousel chain tension. Using procedures and specifications published in handbook MS-178, check main carousel chain tension.					
		10.	Check the main drive motor gearbox for visible lubricant leaks. Notify supervisor of lubricant leaks.					

			Est.	Min	T	hresholds	6
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
		 Check main drive motor brake. Check main drive motor brake solenoid air gap and friction disc thickness using procedures and specifications in handbook MS-178. 					
		12. Check infeed station. (5 min per IFS)					
		a. Injector area. Check for wear and debris.					
		 b. Check shock anti-wear plates and guide rail assembly for wear and damage. 					
		 Install tension module covers removed earlier. Install top covers on tension module. 					
		WARNING: Be cautious when working around or on equipment when power has been applied.					
		14. Return to service. Restore power to machine as prescribed by the local lockout procedure. Observe the AFSM100 Status Screen on the MIS computer for the following: Machine Status=System Ready, NDSS-Available, USVPC-Connected, REC VCS-Connected, Site VCS-Connected, OCR/BCR1-Connected With VCS, OCR/BCR2-Connected With VCS, OCR/BCR3-Connected With VCS, Printer-On- Line, Right and Left Label Printer-Ready. Notify supervisor of any problems.					
		 Start carousel and position carousel chain so spaces are accessible in sort module. Press E-Stop switch when all missing bucket assembly spaces are visible on one side of the sort modules. 					
		 Place Drive Motor Lockout switch lever in the OFF position and install lockout device. 					
		17. Install bucket assemblies removed earlier.					
		 Remove lockout device and place Drive Motor Lockout switch lever in the ON position after all bucket assemblies have been installed. 					

			Est.	Min	Thresholds				
Part or Component	Item No		(Co	Task Statement and Instruction mply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
MAIN MACHINE:	42**	Re	place	e chain guide Teflon strips.	263	09		39600	
ENTIRE SYSTEM	1.	1.	Ren Plac OFF the con safe cha plac ON bee	nove 12 consecutive bucket assemblies. ce Drive Motor Lockout switch lever in the position and install lockout device. On right side of the sort module, remove 12 secutive bucket assemblies starting at the ety hood and working toward the level nge unit. Remove lockout device and ce Drive Motor Lockout switch lever in the position after bucket assemblies have n removed.					
		2.	Pos pres buc cha of th late	ition carousel chain. Run carousel and as E-Stop switch when space from missing ket assemblies are at the left side level nge. This will enable an unobstructed view he left side level change Teflon wear strips r in the PM.					
		3.	Peri usir Pro	form system shutdown. Shut down system g MS-178 Vol B Shutdown and Lockout cedures.					
		4.	Loc lock as p inst proc	k out power. Power down the machine and out electrical power and compressed air prescribed by the current local lockout ructions providing lockout/restore cedures.					
		5.	Rep strip	lace left side level change module Teflon os.					
			a.	Remove two side covers on level change module.					
			b.	Remove the top six carrier brackets to expose the top left level change chain guide Teflon strip.					
			C.	Replace top level change Teflon strip PSN 3915-05-000-2308.					
			d.	Reinstall every other carrier bracket removed in Step 5b.					
			e.	Remove the lower six carrier brackets to expose the lower left level change chain guide Teflon strip.					
			f.	Replace lower level change Teflon strip PSN 3915-05-000-2308.					
			g.	Reinstall every other carrier bracket removed in Step 5e.					

				Task Statement and Instruction	Est.	Min	Thresholds			
Part or Component	Item		(00	Task Statement and Instruction	Time	Skill	Run	Pieces	Free	
	NU			mply with all current salety precautions)	(min)	Lev	Hours	rea (000)	Freq	
			h.	Reinstall two left level change side covers.						
			i.	Remove the four top tension module covers.						
		6.	Retr as p Obs MIS Stat USV Site With OCI Line Noti	urn to service. Restore power to machine prescribed by the local lockout procedure. serve the AFSM100 Status Screen on the computer for the following: Machine tus=System Ready, NDSS-Available, /PC-Connected, REC VCS-Connected, VCS-Connected, OCR/BCR1-Connected n VCS, OCR/BCR2-Connected With VCS, R/BCR3-Connected With VCS, Printer-On- e, Right and Left Label Printer-Ready. ify supervisor of any problems.						
		7.	Pos Stop asse will mod	ition Carousel. Run carousel and press E- o switch when space from missing bucket emblies are at the tension module. This enable an unobstructed view of the tension dule Teflon wear strip						
		8.	Peri usir Pro	form system shutdown. Shut down system ig MS-178 Vol B Shutdown and Lockout cedures.						
		9.	Loc lock as p inst proc	k out power. Power down the machine and a out electrical power and compressed air prescribed by the current local lockout ructions providing lockout/restore cedures.						
		10.	. Ren	nove the lower tension module guide rail.						
		11.	. Rep strip	blace tension module Teflon chain guide						
			a.	Remove carrier brackets to expose the tension module Teflon chain guide strip.						
			b.	Replace tension module Teflon chain guide strip PSN 3915-05-000-2312.						
			c.	Reinstall carrier brackets removed in Step 11a.						
			d.	Reinstall lower tension module guide rail.						
			e.	Reinstall four top tension module covers.						
		12.	. Ren cov	nove two right side level change side ers.						

			Est.	Min	Т	Thresholds		
Part or Component	Item No	(C	Task Statement and Instruction omply with all current safety precautions)	Time Req	Skill Lev	Run Hours	Pieces Fed	Freq
		13. Re as Ol Mi St US Si Si W O US	eturn to service. Restore power to machine prescribed by the local lockout procedure. oserve the AFSM100 Status Screen on the S computer for the following: Machine atus=System Ready, NDSS-Available, SVPC-Connected, REC VCS-Connected, e VCS-Connected, OCR/BCR1-Connected th VCS, OCR/BCR2-Connected With VCS, CR/BCR3-Connected With VCS, Printer-On- ne, Right and Left Label Printer-Ready. tify supervisor of any problems.					
		14. Po St as m of we	sition carousel. Run carousel and press E- op switch when space from missing bucket semblies are at the right side level change odule. This will enable an unobstructed view the right side level change module Teflon ear strips					
		15. Pe us Pr	rform system shutdown. Shut down system ing MS-178 Vol B Shutdown and Lockout ocedures.					
		16. Lo loo as ins pr	ck out power. Power down the machine and k out electrical power and compressed air prescribed by the current local lockout structions providing lockout/restore pocedures.					
		17. Re sti	place right side level change module Teflon ips.					
		a	Remove the top carrier brackets to expose the top right level change chain guide Teflon strip.					
		b	Replace top level change Teflon strip PSN 3915-05-000-2308.					
		с	Reinstall carrier brackets removed in Step 17a.					
		d	Remove the lower carrier brackets to expose the lower right level change chain guide Teflon strip.					
		е	Replace lower level change Teflon strip PSN 3915-05-000-2308.					
		f.	Reinstall carrier brackets removed in Step 17d.					
		g	Reinstall two right level change side covers					
		h	Remove the two end drive module covers.					

			Est.	N 4.	Thresholds											
Part or Component	Item			Т	ask S	Stater	nent	and I	Instru	ction		Time	Min. Skill	Run	Pieces	
	No		(Coi	ompl	ly with	n all c	urren	it saf	ety pr	ecaut	ions)	Req (min)	Lev	Hours	Fed (000)	Freq
		18.	Retu as p Obs MIS Stat US Site With OCF Line Noti	turn pres serv S co tus= VPC VPC e VC ch V c ch V c ch V c c r f s R/B c , R	to ser scribec we the mpute Syste C-Con CS-Co CS, O CS, O CS, O CR3-(tight an superv	rvice. d by f AFS er for em R necto nnecto CR/E Conr nd Lo visor	Res the lo M100 the fo eady ed, R eted, (3CR2 nected eft La of an	store cal lo ollow , ND EC V CCR -Cor d Wit bel F y pro	powe ockou tus Sc /ing: I SS-Av /CS-C /BCR hecte h VCS Printer oblems	r to m t proc creen Machi vailab conne 1-Con ed Wit S, Prir r-Read s.	aachine edure. on the ne le, cted, nected, nected h VCS, nter-On- dy.					
		19.	Pos Stop asse enal moc	sition p sv semt able dule	n caro witch v blies a an un e Teflo	ousel when are at nobst on we	. Rur spac t the c ructe ear sti	n car ce fro drive d vie rip	ousel om mis modu w of tl	and p ssing ule. T he dri ⁻	oress E- bucket his will ve					
		20.	Perf usin Proc	rforn ng N oced	n syste /IS-178 lures.	em s 8 Vo	hutdo I B Sł	own. hutdo	Shut own ai	dowr nd Lo	n system ckout					
		21.	Lock lock as p instr proc	ck ou k ou pres truct	ut pow It elect scribec tions p ures.	ver. trical d by f provid	Powe powe the cu ding le	er dov er an urren ocko	wn the d corr it loca ut/res	e mac npress I locko tore	hine and sed air out					
		22.	Ren	mov	ve the	lowe	r driv	e mo	dule g	guide	rail.					
		23.	Rep	plac	e drive	e mo	dule	Teflo	on cha	in gui	de strip.					
			a.	Re dri	emove ive mo	e cari odule	rier bi e Tefle	racke on ch	ets to nain g	expos uide s	se the strip.					
			b.	Re str	eplace rip PS	e driv N 39	e mo 15-0	dule 5-00(Tefloi 0-2312	n chai 2.	n guide					
			c.	Re	einstal	ll all (carrie	r bra	ckets							
			d.	Re	einstal	ll Iow	er dri	ve m	nodule	e guide	e rail.					
			e.	Re	einstal	ll two	end	drive	e mod	ule co	overs.					
		24.	Retu as p Obs MIS Stat US Site With OCF Line Noti	turn serv S co itus= VPC e VC ch V(cR/B e, R tify s	to ser scribec ve the mpute =Syste C-Con CS-Co CS, O CCS, O CCS, O CCS, O CCR3-(tight an superv	rvice. d by f AFS er for em R necte nnecto CR/E Conr nd Lo visor	Res the lo M100 the f eady ed, R tted, 0 3CR2 hected of an	store cal lo ollow , ND EC V OCR -Cor d Wit bel F bel F	powe ockou tus So ring: I SS-Av /CS-C /BCR hnecte h VCS Printer oblems	r to m t proc creen Machi vailab Conne 1-Con 1-Cor 2d Wit S, Prir -Read s.	hachine edure. on the ne le, cted, nected, h VCS, nter-On- dy.					

			Est.	Min	Т	hresholds	5
Part or Component	Item	Task Statement and Instruction	Time	Skill	Run	Pieces	
	No	(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq
		25. Position Carousel. Run carousel and press E- Stop switch when space from missing bucket assemblies are along the left side sort modules. This will enable the bucket assemblies to be replaced.					
		26. Replace 12 consecutive bucket assemblies. Place Drive Motor Lockout switch lever in the OFF position and install lockout device. On the left side of the sort module, install the 12 consecutive bucket assemblies removed in Step 1. Remove lockout device and place Drive Motor Lockout switch lever in the ON position after bucket assemblies have been installed.					
		27. Check operation. Run the carousel and observe smooth transition of bucket/carrier bracket assemblies as they transition between level change, tension and drive module areas.					
MAIN MACHINE:	43**	Observe the sort module alignment.	10	07		39600	
SORT MODULE		 Start the carousel and observe bucket travel. Buckets should travel smoothly and not bounce. 					
		 Note bucket number of any individual bucket that does not travel smoothly or bounces. Note module transition locations where bucket bouncing occurs. 					
		3. Notify supervisor of notations.					
MAIN MACHINE:	44**	Observe carrier bracket alignment.	6	09		39600	
BRACKET AND CHAIN ASSEMBLY		 Start the carousel, enter the maintenance alley, and observe the alignment of carrier brackets. All carrier bracket wheels should make contact with the rail. 					
		 Adjust or replace carrier brackets that are not properly aligned or defective. 					
SORT MODULE: ENTIRE SYSTEM	45**	Check operation of carousel safety hoods, drive module brake, and torque limiter.	5	09			М
		1. Ensure there is no mail in bucket assemblies.					
		2. Insert a pliable piece of cardboard in a carrier bucket at chute #30. The cardboard should stick up above the top of the bucket sufficiently to actuate the safety hood at the entry to the drive module.					

				Est.	N.4:	TI	hresholds	6
Part or Component	Item		Task Statement and Instruction	Time	iviin. Skill	Run	Pieces	
	No		(Comply with all current safety precautions)	Req (min)	Lev	Hours	Fed (000)	Freq
		3.	With safety hood in normal operating position, make two marks on safety hood drawer slide assembly: one mark 8" and another mark 11" from the frame to establish acceptable travel distance limits of the safety hood.	()			(000)	
		4.	Start carousel. When cardboard strikes safety hood, observe that the carousel stops. The cardboard should move the safety hood between 8" and 11".					
		5.	Insert a pliable piece of cardboard in a carrier bucket at chute #90.					
		6.	Repeat items three and four for the level change module safety hood.					
		7.	If carousel does not stop within prescribed limits, or if excessive backlash is observed, initiate action to check main drive brake and torque-limiter adjustments.					
MAIN MACHINE: ENTIRE SYSTEM	46**	Ch and	eck Infeed Station Main Electrical Cabinet d ATHS with thermal imaging device.	25	09		1540	
		1.	Open the infeed station electrical panel doors and the main electrical cabinet door. Scan the following electrical panels for abnormal hot spots and close the panel doors once the scan is completed.					
		2.	Infeed station electrical panels (breaker panel and CCT board panel) for abnormal hot spots.					
		3.	ATD electrical panel (right side).					
		4.	Destacker electrical panel (right side).					
		5.	Lift/Rotate electrical panel (right side).					
		6.	Print/Apply module electrical panel (right side).					
		7.	Each Insert/Extract module electrical panel (right side).					
		8.	Discharge module electrical panel (right side).					
		9.	ATHS Main Electrical Cabinet.					
		10.	AFSM Main Electrical Cabinet panel.					
		11.	Discharge module electrical panel (left side).					
		12.	Each Insert/Extract module electrical panel (left side).					
		13.	Print/Apply module electrical panel (left side).					
		14.	Lift/Rotate electrical panel (left side).					

			Est.	Min	Thresholds		
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq
		15. Destacker electrical panel (left side).					
		16. ATD electrical panel (left side).					
		Document all abnormal findings for corrective action.					
ATHS: ATHS	47	Check labeler air pressure gauge.	2*	09		220	
PRINT/APPLY MODULE		Ensure that the ATHS labeler air pressure is between 45 - 50 PSI, and adjust as necessary.					
		* 1 minute per side.					
MAIN MACHINE:	48**	Run Daily Test Deck.	24	09			D
ENTIRE SYSTEM		 Alternate between the MTSCEVEN and MTSCODD sortplans daily. 					
		 Set up the AFSM100 to run the daily test deck using the MTSCEVEN or MTSCODD sortplan. Put the machine in BCR/OCR mode. 					
		Load each 22 piece grouping on all three infeed stations and start the run.					
		4. Observe pick-off and vacuum gauge during the destacking of the mail. Open the feeder back door and observe that the vacuum gauge does not fluctuate more than five units as each mailpiece is fed. Verify that the vacuum recovers to high vacuum as each mailpiece is picked off. Close the feeder back door.					
		5. Perform an End of Run.					
		6. Collect test deck pieces from mail tubs.					
		 Review FICS label placement on template pieces for proper placement and remove FICS labels (approximately 33 labels to be removed). 					
		8. Remove tray labels from mail tubs.					
		 Any piece failures should be noted and a work order generated for troubleshooting/corrective maintenance action. 					
INFEED STATION:	49**	Run Feeder Performance Test Deck.	75*	09		1540	
FEEDER MODULE		 Get ready to run the 9-group performance deck by setting up test at MIS computer using sort program MTSCSG. Test each infeed station using performance deck provided with FEDR modification and print report. 					

	ltem		Est.	Min	T	Thresholds			
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq		
		 Generate a troubleshooting/corrective maintenance work order for stress groups not in tolerance. * 25 minutes per infeed station. 							
FINAL-CLEANUP	50**	Clean up.	5	All					
		 Ensure all tools, lubricants, rags, etc., are removed from the work area. 							
		2. Note deficiencies found and repairs performed in the Maintenance logbook.							
		 Notify supervisor and/or generate work orders per local SOP to document/initiate corrective maintenance activity for deficiencies found. 							

Tasks marked with one asterisk*, after the time required, are per unit tasks.

Tasks marked with two asterisks**, after the item number, are critical tasks.

AFSM100 (NON-ATHS) MASTER CHECKLIST

09-AFSM100-AB-001-M

OPERATIONAL MAINTENANCE

Performed During Operational Tours, Two Tours per Day

Time Total: 29 Minutes Non-ATHS machine

U.S. Posta	l Servi	ce						10	DEN	ITIFI	CA	TION	ON					
Maintenance	e Checl	klist	WOF COE	RK DE		E	EQUIP ACRC	MENT	Г			C C	LASS CODE	N	UMBEF	2	TYPE	
			0	9	AF	S	Μ	1	0	0		A	В	0	0	1	М	
Automated Flat Sor	menciat ting Ma	ure achine 100	A	ء FSN	=quipme ∕I100 (Non-	del ATH	S)		Bull	etin 1m2	Filenai 20138	me }		eCl	rence 3M	•	
	r V	F			,			/			-		-	r				
	14	-		<u></u>		l I.		- 4"			-	Est.	Min.		Thres	hold	S	
Part or Component	No	(Comp	ask : Iv witl	State h all	currer	and i It safe	nstru etv pi	recal	utior	າຣ)		Rea	Skill	Run	Pie	ces ed	Freq	
		(1	,				- 71			- /	((min)	Lev	Hours	S (00	0)		
SAFETY STATEMENT	1.	COMPLY N Disconnect required by lockout pro- out this ma unusual de notify supe further acti THE USE O PROHIBIT When clea method sur a damp rag or blown ai on optical of methods ca deficiencie detection. WARNING this bullet Work Plan Equipmen MMO or aj requireme WARNING Data Shee performan Ensure the is on file a reordering current SE appropriat	WITH pow this cedu chine bris. rvisor on on OF C ED. ning i ch as g mus r. A l equipt annot s to y FOR in ma (EW t (PP prop nts. : Var ts (S ce of con a percent ts (S ce of ce	ALL er ar instr res t f a far r price o the OMF s rec our s c EW ay ree P) P E). ious DS) f the rent vaila h a p req rson	SAFI nd app uction o prop heck for y unu or to pr equipe PRESS quired, EPA fil used i ree clo t only v used. superv P/PPE equire erson Refer e EWF s prode may b proce SDS f able to prode prode able to prode able to able to	ETY I ly loc. Ref erly so sual so ceee ment. ED C an a ltered n pla th or when Repo isor in E: St the u al Pre or ea all e ct, it i d. Ref	PREC kouts ier to shut of subst ding DR B Iterna l vacio otheort sa mme eps of otech e cui is su lized e sin ach p mplo is su	CAUT s whe curred down bus de ance with LOW ative com f clea fety diate conta fety diate tive rrent f bar iring duri this orodu oyees gges to SE	TIOI en ent l ent	NS. local diocion or counce aning aning ssed e use g pon cal /P de fety the letin used Wher I that or it.	k d, s or ed	1	All					
MAIN MACHINE:	2.	Monitor ea	equipment condition.						+	5	09				т			
ENTIRE SYSTEM		NOTE: Per tours per o	formed during operational tours, two lay.															
		1. Check outstar	main nding	tena issu	nce lo es.	gbool	k for	any										

			Est.	Min	٦	S	
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		 Ask operators (feeders and sweepers) and operations supervisor if they are aware of any equipment problems. Investigate reported problems. 					
SUPERVISOR	3.	Check MIS computer.	5	10			Т
COMPUTER		NOTE: Performed during operational tours, two tours per day.					
		1. Evaluate MIS computer sort status screen and interim EOR report production totals and rejects to identify abnormal performance such as low read rate, excessive VCS timeouts, excessive jams, low throughput, high occupancy, etc.					
		2. Check for warnings on AFSM100 diagram and the bottom of the MIS computer screen such as photocell low gain warnings, red or yellow indicators, and low VAC warnings.					
		 Observe bucket screen on MIS computer to identify malfunctions and mail stuck in buckets. 					
INFEED STATION:	4.	Check infeed stations.	3*	09			Т
INFEED STATION		NOTE: Performed during operational tours, two tours per day.					
		 Observe warning lamps, warning horns, and startup delay operate properly. 					
		 Observe feeder module operation for proper paddle motion, belt motion, mail piece presentation, and pickoff. Listen for unusual noise and observe for excessive vibration. 					
		3. Observe mail as it is processed in the destacker. Observe for excessive double feeds. Mail destacking and transport should be smooth and mail should start and stop promptly at each staging point in the mail path. Presser assemblies should not bounce excessively.					
		 Observe mail as it is transported through the buffer and accelerator. Mail transport should be smooth and mail should start and stop promptly at each staging point in the mail path. 					
		5. Check for excessive mail under the injectors.					

			Est.	N /1:	Т	hreshold	S
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	iviin. Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		 Observe buckets through clear Lexan cover near each infeed station injector. Observe that carts transition smoothly out of the injector section, and at infeed station one, for a smooth transition into the tension module. 					
		* 1 minute per Infeed					
	5.	Check level change module.	2	09			Т
CHANGE MODULE		NOTE: Performed during operational tours, two tours per day.					
		 Label printer label quality check. Randomly select labels from each label printer and observe for acceptable print quality. 					
		 Observe for proper operation of label cutter and stacker during normal label printer operation. 					
		 Observe compressed air pressure (level change module). Regulator gauge for incoming air should display 90 ± 5 PSI. Regulator gauge for infeed supply air should display 85 ± 5 PSI. 					
SORT MODULE:	6.	Check sort modules.	7	09			Т
SORTMODULE		NOTE: Performed during operational tours, two tours per day.					
		 During operational break, use maintenance diagnostic bucket screen to identify and remove mail stuck in and on top of buckets. 					
		 Observe that warning lamps, warning horns, and startup delay operate properly. 					
		 Observe that bin indicators and tub present switches function properly. 					
		 Observe take-away belts on each side of machine for condition and tracking. Listen for unusual noises emanating from take-away belt drive modules. 					
		5. Check general condition of powered roller and skate wheel conveyors at end of machine.					
		 Observe bucket assemblies for loose and missing hardware and doors that open prematurely. 					
		 Randomly select mail from tubs and check FICS label position and clarity of IJP sprayed bar code. 					

			Est.	Min	٦ [S	
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		8. Check random bin tub labels for clarity.					
DRIVE MODULE:	7.	Check drive module.	1	09			Т
DRIVE MODULE		NOTE: Performed during operational tours, two tours per day.					
		 Observe power factor controller operation. The power factor controller should be set to achieve unity power factor, signified by a display of 0.95 to 1.00 in the display. 					
		 Observe for excessive voltage fluctuation at the power factor controller panel. 					
		3. Listen for unusual noises emanating from drive module.					
MAIN MACHINE: ENTIRE SYSTEM	8.	Note deficiencies found and repairs performed in the Maintenance logbook.	5	09			Т
		NOTE: Performed during operational tours, two tours per day.					
		 Ensure all tools, lubricants, rags, etc., are removed from the work area. 					
		2. Note deficiencies found and repairs performed in the Maintenance logbook.					
		 Notify supervisor and/or generate work orders per local SOP to document/initiate corrective maintenance activity for deficiencies found. 					

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AFSM100 (ATHS) MASTER CHECKLIST

09-AFSM100-AC-002-M

OPERATIONAL MAINTENANCE

Performed During Operational Tours, Two Tours per Day

Time Total: 29 Minutes ATHS Machine

U.S. Postal	Servio	e							I	DE	NTIF	ICA	TION						
Maintenance	Check	dist	WC CO	DRK DE			E	EQUIP ACRC	MEN NYN	T 1			C (LASS		NU	JMBE	ER	TYPE
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Automateu Flat Soft	ing we			~		VIIU	0 (A I	113)					20130)			ec		
	-												Est.	N 41 -	Threshol				ds
Part or Component	Item	۲	Task	Stat	ieme	ent a	and li	nstru	ctior	۱			Time	Min. Skill	E	Ann	Pie	ces	
	No	(Comp	ly wi	th al	l cui	rren	t safe	ety pr	eca	utio	ns)		Req	Lev		ours	F	ed	Freq.
													(min)				(00	JU)	
SAFETY	1.				LS.					TIC	NS.		1	All					
STATEMENT		required by	ι ρον / this	inst	ina a truct	appi tion	Ref	kouts er to	curr	en ent	loca	1							
		lockout pro	cedu	ures	to p	prope	erly s	shut c	lowr	n ar	nd loo	ck							
		out this ma	ichin	e. C	Chec	ck fo	or sus	picio	us c	lust	or								
		unusual de	bris.	S tl sr pri	iny i ior ti	unus	sual s	subst	ance	e is	toun	id,							
		further acti	on o	n the	eq	uipn	nent.	uniy	vvitii	an	y								
		THE USE (:OM	PRF	FSS)R B	ເດຍ	VN	AIR	IS							
		PROHIBIT	ED.																
		When clea	ning	ning is required, an alternative cleaning						g									
		method su	ch as	ch as a HEPA filtered vacuum cleane						aner	or								
		or blown ai	I must be used in place of compresse								a ed								
		on optical e	equipment only when other cleaning							00									
		methods ca	anno	t be	use	ed. I	Repo	rt sa	fety		-								
		deficiencie: detection.	s to y	your	sup	oervi	isor ii	mme	diate	ely	upon	l							
		WARNING	FO	REV	NP/I	PPE	: St	eps o	cont	ain	ed ir	n							
		this bullet	in m	ay r	equ	lire 1	the u	ISE O	f Ele	ectr	ical								
		Equipmen	t (PF	чг) і РЕ).	Re	fer t	to the	e cur	rent	t EV	VP								
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		WARNING	: Va	riou	s pr	rodu	ucts I	requ	iring	y Sa	afety	'							
		performan		of the	e pr	roce	dure	s in	this	bu	lletir	n.							
		Ensure the	e cu	rren	t SC	DS f	or ea	ch p	rod	uct	use	d							
		is on file a	nd a	ivail	able	e to	all e	mplo	yee	s.	Whe	n							
		reordering	I such a product, it is suggested that							at									
		appropriat	iate personal protective equipment.																
MAIN MACHINE:	2.	Monitor ea	equipment condition.							5	09					Т			
ENTIRE SYSTEM		NOTE: Per tours per o	erformed during operational tours, two r day.							vo									
		1. Check outstar	maintenance logbook for any nding issues.																

	_		Est.	Min	Thresholds				
Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.		
		 Ask operators (feeders and sweepers) and operations supervisor if they are aware of any equipment problems. Investigate reported problems. 							
SUPERVISOR	3.	Check MIS computer.	5	10			Т		
COMPUTER		NOTE: Performed during operational tours, two tours per day.							
		1. Evaluate MIS computer sort status screen and interim EOR report production totals and rejects to identify abnormal performance such as low read rate, excessive VCS timeouts, excessive jams, low throughput, high occupancy, etc.							
		2. Check for warnings on AFSM100 diagram and the bottom of the MIS computer screen such as photocell low gain warnings, red or yellow indicators, and low VAC warnings.							
		Observe bucket screen on MIS computer to identify malfunctions and mail stuck in buckets.							
INFEED STATION:	4.	Check infeed stations.	3*	09			Т		
INFEED STATION		NOTE: Performed during operational tours, two tours per day.							
		 Observe warning lamps, warning horns, and startup delay operate properly. 							
		 Observe feeder module operation for proper paddle motion, belt motion, mail piece presentation, and pickoff. Listen for unusual noise and observe for excessive vibration. 							
		3. Observe mail as it is processed in the destacker. Observe for excessive double feeds. Mail destacking and transport should be smooth and mail should start and stop promptly at each staging point in the mail path. Presser assemblies should not bounce excessively.							
		 Observe mail as it is transported through the buffer and accelerator. Mail transport should be smooth and mail should start and stop promptly at each staging point in the mail path. 							
		5. Check for excessive mail under the injectors.							

	-		Est.	Min	Т	ds	
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
		6. Observe buckets through clear Lexan cover near each infeed station injector. Observe that carts transition smoothly out of the injector section, and at infeed station one, for a smooth transition into the tension module.					
		* 1 minute per Infeed					
SORT MODULE:	5.	Check sort modules.	7	09			Т
SORT MODULE		NOTE: Performed during operational tours, two tours per day.					
		 During operational break, use maintenance diagnostic bucket screen to identify and remove mail stuck in and on top of buckets. 					
		2. Observe that warning lamps, warning horns, and startup delay operate properly.					
		3. Observe that bin indicators and tub present switches function properly.					
		4. Check general condition of powered roller and skate wheel conveyors at end of machine.					
		 Observe bucket assemblies for loose and missing hardware and doors that open prematurely. 					
		 Randomly select mail from tubs and check FICS label position and clarity of IJP sprayed bar code. 					
		7. Check random bin tub labels for clarity.					
DRIVE MODULE:	6.	Check drive module.	1	09			Т
DRIVE MODULE		NOTE: Performed during operational tours, two tours per day.					
		1. Observe power factor controller operation. The power factor controller should be set to achieve unity power factor, signified by a display of 0.95 to 1.00 in the display.					
		2. Observe for excessive voltage fluctuation at the power factor controller panel.					
		3. Listen for unusual noises emanating from drive module.					
ATHS: ATHS	7.	Check ATHS.	2	09			Т
		NOTE: Performed during operational tours, two tours per day.					
		 Observe general operation of the ATHS system. 					

			Est.	Min	Thresholds			
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.	
		2. Observe the tracking of all ATHS belts starting at the accumulation module and work around to the discharge module.						
		 Observe the ATHS printer apply labels and verify the labels are applied properly. 						
MAIN MACHINE: ENTIRE SYSTEM	8.	Note deficiencies found and repairs performed in the Maintenance logbook.	5	09			Т	
		NOTE: Performed during operational tours, two tours per day.						
		Notify supervisor and/or generate work orders per local SOP to document/ initiate corrective maintenance activity for deficiencies found.						

Tasks marked with one asterisk*, after the time required, are per unit tasks.

Tasks marked with two asterisks**, after the item number, are critical tasks.

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AFSM100 (ATHS AND NON-ATHS) MASTER CHECKLIST

09-AFSM100-**-003-M

** = Class Codes AB AND AC

OPERATIONAL MAINTENANCE

Performed During Operational Tour, 1 Hour Prior To AFSM100 Shutdown for Preventive Maintenance

Time Total: 25 Minutes

U.S. Posta	IDENTIFICATION																		
Maintenance	e Chec	klist	WC CO	DRK DE			E		PMEN DNYM	Т			CI C	LASS ODE	NU	MB	ER	TYPE	
Equipment No	menclat	ure	0	9	A Fauir	F	S nt Mor	M del	1	0	0 Bul	etin F	* ilenar	ne *	0	0	3 Surrence	M	
Automated Flat Sor	ting Ma	achine 100		/ATI	ا ^{سہ} ہ۔ Al	FSN	И100 Nop		5)		n	nm2(0138		eCBM				
				(ATI	чэ а	na	NON-	AIH	3)										
		-		<u> </u>								E	st.	Min.	[]	Thr	esholo	ds	
Part or Component	Item No	l (Compl	nply with all current safety precautions) Req (min)									Skill Lev	Run Hours	Р ; (ieces Fed 000)	Freq.			
SAFETY STATEMENT	1.	COMPLY V Disconnect required by lockout pro- out this ma unusual dei notify super further action THE USE C PROHIBITI When clear method suc a damp rag or blown ait on optical e methods ca deficiencies detection. WARNING this bulleti Work Plan Equipment MMO or ap requirement MMO or ap requirement MMO or ap requirement MMO or ap requirement Son file a reordering current SD appropriat	VITH pow this cedu chind bris. rviso on or DF C ED. ning ch as r. A equipanno sto y FOF n ma (EW t (PF ppro n ts. : Vai ts (S ce o e cur nd a suc S be e pe	I AL ver a inst inst ires e. C If a rprin st be com is ref is ref is ref is ref vour R EV vour R EV (P) F PE). priat is DS) of the crent vails is a f the crent is a f the crent i i i i i i i i i i i i i i i i i i i	L SA nd a ruction to proceed it op or to or to or to pRE quire free of te EV PRE quire free of to onl used supe vP/P equire case vP/P equire te EV sproceed able proce ques nal p	AFE pply on. opec for nus pro- nus solution solu	TY F y lock References r sussion ceerences r sussion r s	PREC kouts brut c picio ubst ding PR B terna vacu ce of brush othe trush othe st vacu ce of brush othe see o otect ce of otect ce of otect ce of othe see o otect ce of othe see o otect ce of othe see o otect ce of otect ce of ce of	CAU s whe curred lown us di ance with LOW ative comta f Ele ive rent iring duri this rodu pyees ggess o SE puipr	FION en le anc ust c is fi any N A clea clea clea clea clea pres y be anin ly u the EW rica Saf bull uct u s. V sted OS fo nen	NS. ocal l loci or ounc ounc uner ssed e use g pon cal P de ine cal P de ised Vher that or t.	, (, 3 , d	1	All					
GENERAL		The intent of performance actions req optimize eq	of thi e an uirec juipn	s ch id ide d dur nent	eckli entify ing t relia	st is y ar he abilit	s to a nd do next ty.	analy cum PM v	ze e ent c winde	quip orre ow te	men ective o	t							
		or on equi	IG: Be cautious when working around quipment when power has been applied.									i .							

			Est.	Min	Т	hreshold	ds
Part or Component	ltem No	Task Statement and Instruction (Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Freq.
SUPERVISOR WORK STATION	2.	Generate and print End of Run and End of Day reports.	12	10			D
MIS COMPUTER		Compile and analyze reports. Check for read rates, throughputs, jam rates and locations, reject rates, and maintenance functions.					
SUPERVISOR WORK STATION MIS COMPUTER	3.	Perform trend analysis at the MIS computer. Perform trend analysis at the MIS computer, using maintenance bus information, to identify signs of degraded equipment performance. Check for and record all real-time errors reported on the AFSM100 graphical display for red or yellow indicators and lower portion of the MIS screen for maintenance log messages indicating error conditions (photocell low gain warnings, etc.).	12	10			D
		 Observe bucket screen on MIS computer. Identify malfunctions and mail stuck in buckets. 					
		 Check equipment logbook for entries. Investigate problems. Initiate corrective action to address deficiencies in accordance with local SOP. 					