MAINTENANCE TECHNICAL SUPPORT CENTER MAINTENANCE OPERATIONS / UNITED STATES POSTAL SERVICE

Maintenance Management Order



SUBJECT: Preventive Maintenance (PM) Guidelines for

Automatic Tray Sleever Updated (ATSU) and

Automatic Tray Sleever II (ATS II)

TO: All ATS II Offices

All ATSU Offices

DATE: November 10, 2011

NO: MMO-132-11

FILE CODE: F10, F10A, F10B

same:mm10040ab

The Summary Workload Estimate has been updated.

This Maintenance Management Order (MMO) supersedes PM guidelines MMO-002-07 and MMO-003-07. This MMO updates Preventive Maintenance (PM) guidelines for the ATS II and the ATS conversion to the ATSU, and adds Infrared and Ultrasound monitoring procedures for the Automatic Tray Sleever II and the Automatic Tray Sleever Updated.

The minimum maintenance skill level to perform each task on the various checklists is included in the Minimum Skill Level column. This does not preclude higher-level employees from performing any of this work.

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

WARNING

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

WARNING

The use of compressed or blown air is prohibited. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used only on optical equipment when other cleaning methods can not be used.

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

Web Access: https://www1.mtsc.usps.gov

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

Robert E. Albert

Manager

Maintenance Technical Support Center

Maintenance Operations

- 1. Summary Workload Estimate
- 2. ATSU & ATS II Master Checklist: 03-****-AA-001-M: Daily
- 3. ATSU & ATS II Master Checklist: 03-****-AA-002-M: Weekly
- 4. ATSU & ATS II Master Checklist: 03-****-AA-003-M: Monthly
- 5. ATSU & ATS II Master Checklist: 03-****-AA-004-M: Quarterly
- 6. ATSU & ATS II Master Checklist: 03-****-AA-005-M: Annual

ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR

ATSU & ATS II

SUMMARY

WORKLOAD ESTIMATE FOR ATSU & ATSII

Days	Routine Servicing (hrs/yr)	Repair* (hrs/yr)	Total Servicing & Repair Time (hrs/yr)	Nonproductive Time ** (hrs/yr)	Total Servicing Per Machine (hrs/yr)
5 Day	414.85	82.97	497.82	49.78	547.60
6 Day	462.52	92.50	555.02	55.50	610.52
7 Day	510.18	102.04	612.22	61.22	673.44

NOTES

- *Repair estimates based on 20% of servicing.
- **Based on 10% of servicing and repair.

Service Condition is based on a five, six, or seven day per week operation.

PM CHECKLIST TIME SUMMARY

Checklist	Checklist Times	Checklist Times	Checklist Times
	(per year) for 5 day PM week	(per year) for 6 day PM week	(per year) for 7 day PM week
	,	•	_
	(minutes)	(minutes)	(minutes)
03-****-AA-001-M: Daily	14300	17160	20020
03-****-AA-002-M: Weekly	8216	8216	8216
03-****-AA-003-M: Monthly	1320	1320	1320
03-****-AA-004-M: Quarterly	1000	1000	1000
03-****-AA-005-M: Annual	55	55	55

ATTACHMENT 2

ATSU & ATS II MASTER CHECKLIST

03-****-AA-001-M

DAILY

Time Total: 55 Minutes

***** = ATSU, ATSII

Refer to MS-295 for ATSU if additional maintenance information is required. Refer to MS-240 for ATS II if additional maintenance information is required.

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		2. Selec	ct Manua	ıl Mod	le.											
		3. Selec	ct Manua	I Scre	en	1.										
		4. Selec	ct Lower	H-Blo	ck.											
ELEVATOR/ SLEEVER CARTS	3.	Remove button. down pus elevators	After sy sh buttor	stem on b	sto oth	ps, pre elevato	ss the	е	elevato	r	2	7				
SYSTEM	4.	Shut down currently computer	SMO-0								1	9				
	5.	Power d the mad pneumat local lock procedur	chine ar ic powe cout instr	id loo ras i	ck pre:	out its scribed	elect by th	tric ne	cal and currer	d t	3	All				
INSERTER	6.	Clean A from the Use a va the ATSU	ATSU /	ATS clear	Π,	includin	g inse	ert	er area	١.	0	7				

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Equipment Nomenclature Automatic Tray Sleever Upgrade Automatic Tray Sleever II	Equipmer	nt Model				E	Bulletin Filer MM100			Freque	,	AILY	

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	ls
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PNEUMATIC AIR SYSTEM ENCLOSURE

- 7. Check for water in pneumatic air system.
 Check for presence of water in regulator mist separator filter water canisters (filter bowls).
 Check for water in filter bowls:
 - Drain, if water present, by opening valve at bottom of filter bowls. Catch water in paper towel or rag.
 - Return water drain valves at the bottom of filter bowls to the closed position after water has been drained from the filter bowls.

MAIL SEARCH

- Perform mail search of ATSU / ATS II including 5 7 inserter. Perform mail search as follows:
 - 1. Remove covers and panels.
 - 2. Search for mail pieces.
 - Follow local procedures for returning mail to operations for processing.
 - 4. Replace covers and panels.

INSERTER FUNNEL FLAPS

 Check funnel flaps. Check funnel flaps for cracks, broken, loose, or missing hardware, or broken diagonal springs. Ensure free movement of funnel flaps. Report any discrepancies to the supervisor.

SPECIAL

Check belt tensions. Check belt tensions on 10 any belt(s) replaced for 3 days following replacement. The belts are inserter belt/Y Axis, linear belt/horizontal/X Axis, and H-block belt/vertical/Z Axis.

WARNING

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

POWER UP

 Restore electrical and pneumatic power to 3 All equipment. Restore power to equipment as prescribed by current local lockout/tagout procedures.

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PNEUMATIC AIR SYSTEM ENCLOSURE	12.	input air	pressure	on regu	out air press lator mist se 90 +0/-2 PSI	para	tor filter	1	7			
		Read pregauge.	essure or	regulato	or mist separ	ator	filter					
		Report a	ny deficie	encies to	supervisor.							
	13.	Check so			r pressure. e:	Che	eck air	1	7			
		read	pressure	on soft	ady to proce start valve g 0 +0/-2 PSI.							
		2. Press PSI.	s an E-S	top. Pre	ssure should	l go	to 0					
		3. Repo	ort any de	eficiencie	es to the sup	ervis	sor.					
		4. Rese	t E-Stop	and rest	tart machine	•						
	14.				r air pressu or for 68 PSI		Check	1	7			
					tor regulator 3 +0/-2 PSI.		ge.					
		2. Repo	ort any de	eficiencie	es to the sup	ervis	sor.					
ELEVATOR/ SLEEVER CARTS	15.		SU / ATS		s. Install sleetors and retu			3	7			
SYSTEM	16.	Perform equipme normal of machine	peration	rvice . F	check ar Return ATSU a few tray	J / A		3	9			
CLEAN UP	17.		oved fro	m the v	ls, lubricants work area. visor.		gs, etc., port all	3	All			

ATTACHMENT 3

ATSU & ATS II MASTER CHECKLIST

03-****-AA-002-M

WEEKLY

Time Total: 158 Minutes

***** = ATSU, ATSII

Refer to MS-295 for ATSU if additional maintenance information is required. Refer to MS-240 for ATS II if additional maintenance information is required.

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	ls
Component	No	(Comply with all current safety precautions)	Time	Skill			
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			(min)		Hours	Fed	
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SAFETY **STATEMENT**

COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.

THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.

When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lintfree cloth or brush may be used on optical equipment only when other cleaning methods can not be used. Report safety deficiencies to your supervisor immediately upon detection.

SYSTEM

2. Lower H-Block.

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ΑII

- 1. Log in as Maintenance.
- Select Manual Mode.
- Select Manual Screen 1.
- 4. Select Lower H-Block.

ELEVATOR/ SLEEVER CARTS

Remove sleever carts. Press a system stop button. After system stops, press the elevator down push button on both elevators to lower both elevators. Remove the sleever carts.

SYSTEM

- Shut down computer. Follow most recent SMO, currently SMO-014-08, for shutting down the computer.
- 5. **Power down and lock out power.** Power down the machine and lock out its electrical and pneumatic power as prescribed by the current local lockout instructions providing lockout/restore procedures.

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time	Skill			
			Req	Lev	Run	Pieces	Weeks
			(min)		Hours	Fed	
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SYSTEM

- 6. Clean sensors. Wipe off faces of sensors (38) and check that they are properly aligned and secure (including cables). Use care not to bump sensors out of alignment. Using a clean, dry, soft cloth, wipe dust off faces of sensor:
 - 1. PE-1 Half Tray
 - 2. PE-2 EMM Tray
 - 3. PE-3 Tray in Sleever
 - 4. PE-4 Tray at Funnel
 - 5. PE-5 Inserter Arm Down
 - 6. PE-6 Inserter Arm Up
 - 7. PE-7 Extend Overtravel, Inserter
 - 8. PE-8 Home, Inserter
 - 9. PE-9 Retract Overtravel, Inserter
 - 10. PE-10 Zone 4 TPS 1
 - 11. PE-11 Right Elevator Up
 - 12. PE-12 Right Elevator Overtravel
 - 13. PE-13 Right Cart Half Sleeves
 - 14. PE-14 Right Cart Empty
 - 15. PE-15 Left Elevator Up
 - 16. PE-16 Left Elevator Overtravel
 - 17. PE-17 Left Cart Half Sleeves
 - 18. PE-18 Left Cart Empty
 - 19. PE-19 Right Elevator Down
 - 20. PE-20 Left Elevator Down
 - 21. PE-21 Linear Slide Left Overtravel
 - 22. PE-22 Linear Slide Home
 - 23. PE-23 Linear Slide Right Overtravel
 - 24. PE-24 H-Block Down Overtravel
 - 25. PE-25 H-Block Up Overtravel

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	ls
Component	No	(Comply with all current safety precautions)	Time	Skill			
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- 26. PE-26 H-Block Home
- 27. PE-27 Right Cart EMM Sleeves
- 28. PE-28 Left Cart EMM Sleeves
- 29. PE-29 Zone 4 TPS 2
- 30. PE-30/32 Right Cart in Position
- 31. PE-31/33 Left Cart in Position
- 32. PE-34 Exit TPS
- 33. PE-35 H-Block Up Sensor
- 34. PE-36 Left Cylinder Sleeve Former Up
- 35. PE-37 Right Cylinder Sleeve Former Up
- PE-40 Stand Alone Conveyor Full (optional, customer supplied)

INSERTER

- 7. Clean slide rails. Check that linear/horizontal (Y Axis) slide rails are clean and oiled. Use fine Scotch Brite Pads to remove corrosion. Apply a light coat of Petrochem HYSN FGH-32-001 synthetic oil, Grainger item number 6HXK2, or equivalent 10W ISO 32 Synthetic oil to linear slide rails. Report any scoring to the supervisor.
- 8. Check for scoring and wear of slide rails. Replace slide rails as necessary due to excessive scoring and wear.

INSERTER ARM

9. Check inserter arm adjustments. Check inserter arm down position for proper adjustment and that the cylinder shaft clevis pin locknut is tight. With the inserter arm down, there should be 1/4" to 7/16" between the lowest spot from the inserter arm to the rollers.

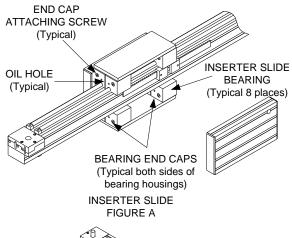
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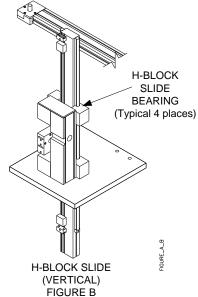
***** = ATSU, ATSII

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time	Skill			
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H-BLOCK

10. Clean horizontal/vertical slide assemblies. Check that the H-Block/horizontal (Y Axis) linear/horizontal (X Axis), and H-Block/vertical (Z Axis) assembly slide rails are clean and oiled. Apply a light coat of Petrochem HYSN FGH-32-001 synthetic oil, Grainger item number 6HXK2, or equivalent 10W ISO 32 Synthetic oil. Refer to Figures A and B.





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***** = ATSU, ATSII

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time	Skill			
			Req	Lev	Run	Pieces	Weeks
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ELEVATORS

- 15. Check elevator belts. Check both elevators, 8 vertical belts per elevator, for wear and proper tension; if required, readjust. Check that lift plates are level. Check belts as follows:
 - Check belts for signs of wear, chafing, or cracking.
 - 2. Check and adjust belt tension as required.
 - 3. Ensure master and slave lift plates are level (not skewed). Adjust belts if necessary.

SYSTEM ROLLER O-RINGS

16. **Clean roller o-rings.** Use Chempads to clean 30 7 roller o-rings.

WARNING

The use of compressed or blown air is prohibited. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used only on optical equipment when other cleaning methods can not be used.

CONTROL CONSOLE

- 17. Clean control console vent filters. Clean and 10 7 treat filters as follows:
 - 1. Remove filters and vacuum.
 - 2. Wash filters in warm soapy water. Rinse and dry thoroughly.
 - Treat filters with Filter Spray Adhesive, P/N A-FLTAD.
 - 4. Reinstall filter.

WARNING

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

SYSTEM

 Restore electrical and pneumatic power to 3 All equipment. Restore power to equipment as prescribed by current local lockout/tagout procedures.

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SYSTEM	22.	Test ATS						10	9			
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		Use ATS	U / ATS	II Manua			peration. s to					
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SYSTEM	23.	Perform equipmenormal of machine	peration	ervice . n. Run		ATSU	return / ATSII to verifying)	9			

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time	Skill			
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CLEAN UP

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

ATTACHMENT 4

ATSU / ATS II MASTER CHECKLIST

03-****-AA-003-M

MONTHLY

Time Total: 110 Minutes

***** = ATSU, ATSII

Refer to MS-295 for ATSU if additional maintenance information is required. Refer to MS-240 for ATS II if additional maintenance information is required.

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SYSTEM	2.	Lower H	-Block.	Pr	ocedu	ire to	low	er the	e H	l-Bl	ock:	2	9				
		1. Log i	n as Ma	inte	enanc	е											
		2. Sele	ct Manu	al N	∕lode.												
		3. Selec	ct Manu	al S	Screer	ո 1.											
		4. Selec	ct Lower	· H-	Block												
ELEVATOR/ SLEEVER CARTS	3.	Remove button. down pus elevators	After system	yste n o	em st n botl	ops, n ele	pre vato	ss the rs to l	е	elev	vator		7				
SYSTEM	4.	Shut dov currently computer	SMO-0									1	9				
SYSTEM	5.	Power d the mad pneumat local lock procedur	chine a ic powe cout inst	nd er a	lock as pre	out escril	its bed	elect by th	tric ne	cal cu	and rrent	3	All				
GENERAL	6.	Check A machine air leaks discrepar	Checl	k fo ten	r loos as r	se bo	olts, ssar	air fit	tin	gs,	and		7				

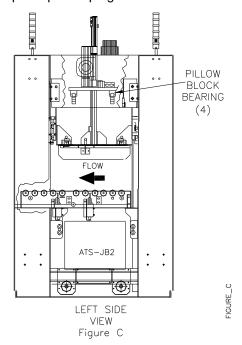
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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time	Skill			
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H-BLOCK

- 7. Lubricate H-Block carriage pillow block 5 bearings. Lubricate 4 horizontal (H-block) carriage pillow block bearings. Refer to Figure C. Lubricate as follows:
 - 1. Remove small plastic plug from side of each bearing housing.
 - If using the pump spray bottle, spray Petrochem HYSN FGH-32-001 synthetic oil, Grainger item number 6HXK2, or equivalent 10W ISO 32 Synthetic oil into orifice in bearing housing (1 or 2 trigger depressions).
 - 3. If using a gallon bottle, apply Petrochem HYSN FGH-32-001 synthetic oil into orifice in bearing housing until slight seepage is visible.
 - 4. Replace plastic plug.



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SYSTEM

8. Lubricate Macron slide and elevator belts. Lubricate teeth and backsides of Macron slide belts for the linear belt/horizontal (X Axis), the H-block belt/vertical (Z Axis), the 8 vertical elevator belts/ vertical (Z Axis), and, inserter belt (Y Axis) with 3-in-1 Oil. Clean oil from the rails and apply locally approved 10W spindle oil. Procedure for lubricating Macron slide belts:

NOTE

Ensure there is no overspray on the sensors.

- Rotate vertical elevator belts on bottom section of actuator (inside each of 4 elevator cabinets) 45 degrees. Apply 3-in-1 Oil, using pump sprayer, to belt teeth up to drive assembly and down to belt tensioner.
- Rotate the H-block belt/vertical (Z Axis) 45
 degrees and apply 3-in-1 Oil, using a pump
 sprayer, to the belt teeth up to the drive
 assembly and down to the belt tensioner.
- Let belt relax and spray the backside of the belt up to the drive assembly and down to the belt tensioner.
- Wipe off any excess lubricant. If any 3-in-1
 Oil gets on the Z Axis rails, wipe it off and
 apply any locally approved 10W spindle oil to
 the rails.
- Lubricate the linear belt/horizontal (X Axis) and the inserter belt (Y Axis) in the same manner (steps 2 through 4 above).

ELEVATORS

9. Check and oil crossover chains. Apply Mobil 30 SHC 630 synthetic gear oil, Grainger item number 6Y778, or equivalent Grade 90, ISO 220, Synthetic Gear Oil, to elevator crossover chains and check tension. Remove crossover chain cover, and ensure there is no slack in the horizontal crossover chain. If there is slack, loosen two nylock nuts securing both idler sprocket lift arm assemblies. Raise both idlers equally until the slack is removed from the horizontal cross over chain. Tighten two locknuts

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securing idler sprocket lift arm assembly.

ELEVATOR/ SLEEVER CARTS Install both sleever carts. Install sleever carts in 3 7 both ATSU / ATS II elevators.

WARNING

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

SYSTEM

 Restore electrical and pneumatic power to 3 All equipment. Restore power to equipment as prescribed by current local lockout/tagout procedures.

CAUTION

Do not activate E-Stop switches, access door interlock switches, or Stop switch during the homing sequence. If these switches are activated before the green stack light is illuminated, the H-Block will suddenly drop, and damage will occur to the machine.

SYSTEM

12. Perform E-Stop switches, access door interlock switches, and stop switch, and GUI functionality tests.

NOTE

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7

The ATSU / ATS II has two Stop switches, six E-Stop switches, and six access door interlock switches.

- 1. Operate both Stop switches, one at a time with the machine running.
 - a. Observe graphic user interface (GUI) display operator menu screen for proper change of state.

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- b. Restart machine and check second stop switch.
- 2. Check each E-Stop switch.
 - a. Activate an E-Stop after ATSU / ATS II has started and green stack light is on.
 - 1) Machine stops.
 - 2) Red stack light illuminates.
 - Observe graphic user interface (GUI) display operator menu screen for proper change of state.
 - b. De-activate the E-Stop.
 - c. Start machine.
 - 1) Green stack light illuminates.
 - Observe graphic user interface (GUI) display operator menu screen for proper change of state.
 - d. Repeat sub-steps a thru c until all E-Stops have been checked.
- Check all access door interlock switches one at a time while the machine is running and not processing letter mail trays.
 - Activate an access door interlock switch after the ATSU / ATS II has started and the green stack light is on.
 - 1) Machine stops.
 - 2) Red stack light illuminates.
 - Observe graphic user interface (GUI) display operator menu screen for proper change of state.
 - b. Close door to de-activate the access door interlock switch.
 - c. Start machine.
 - 1) Green stack light illuminates.
 - Observe graphic user interface (GUI) display operator menu screen for proper change of state.

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	Component	No	(Comply with all current safety precautions)	Time	Skill			
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- d. Repeat sub-steps a thru c until all access door interlocks have been checked.
- 2. Report any discrepancies to the supervisor.
- 13. Perform functional check and return 3 9 equipment to service. Return the ATSU / ATS II to normal operation. Run a few trays to verify machine operation.

CLEAN UP

Clean up. Ensure all tools, lubricants, rags, etc., 3 All are removed from the work area. Report all deficiencies to your supervisor.

Maintenance Technical Support Center

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time	Skill			
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ATTACHMENT 5

ATSU & ATSII MASTER CHECKLIST

03-****-AA-004-M

QUARTERLY

Time Total: 250 Minutes

***** = ATSU, ATSII

Refer to MS-295 for ATSU if additional maintenance information is required. Refer to MS-240 for ATS II if additional maintenance information is required.

PNEUMATIC AIR

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		2. Sele	ct Manu	ıal N	∕lode.										
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		4. Sele	ct Lowe	r H-	Block										
ELEVATOR/ SLEEVER CARTS	3.	Remove button. down puselevators	After s sh butto	syste on o	em st n botl	ops, h ele	pre evato	ss the	е	elevator		7			
SYSTEM	4.	Shut dov currently compute	SMO-									9			
SYSTEM	5.	Power d the mad pneumat local lock	chine a	and er a	lock as pre	out escri	its bed	elect	tri	cal and		All			
GENERAL	6.	Check e supplies, connection for tightn	circuons for	uit ove	boar rheat	ds, ing.	an Che	d tr	ar on	nsformer nections		9			

2 Attachment 5

7. **Replace mufflers.** Replace OSHA lockout valve 10 7

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	ls
Component	No	(Comply with all current safety precautions)	Time	Skill			
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SYSTEM **ENCLOSURE**

air muffler and soft start valve air muffler.

PNEUMATIC AIR SYSTEM **ENCLOSURE**

- 7 8. Replace filters and baffle. Replace air filter and 10 mist separator filters and baffles (kit).
- SYSTEM
- Check servo assemblies and couplings. 45 9. 9 Check 5 servo assemblies and couplings as follows:
 - Remove each servo motor coupling access plates to gain access to coupling screws.
 - 2. Tighten both shaft set screws to specified torque value.
 - a. Torque the motor shaft side set screw to 325 in/lbs.
 - b. Torque the pulley shaft side set screw to 170 in/lbs.
 - 3. Replace damaged parts as necessary.

ELEVATOR EQUIPMENT

Check sleever carts. Check all sleever carts for 20 loose or worn hardware, including universal cart Report any deficiencies to the mechanism. supervisor.

ELEVATORS

Lubricate elevator ball screws and guides. Lubricate the left and right elevator ball screws and the four elevator lift guides. Apply a light coating of Petrochem HYSN FGH-32-001 synthetic oil, Grainger item number 6HXK2, or equivalent 10W ISO 32 Synthetic oil.

H-BLOCK **ASSEMBLY**

- 12. Inspect the H-Block assembly vacuum 10 9 multi-port ejectors, distribution block assembly, and associated wiring.
 - 1. Inspect vacuum ejectors connections to the multi-port distribution block assembly for cracks and signs of excessive heat.
 - 2. Verify the vacuum ejectors connect to the correct port of the multi-port distribution block assembly.
 - 3. Inspect the wiring associated with the vacuum ejectors for cracks, cuts, and nicks that might lead to a short circuit condition.
 - 4. Verify cables are properly dressed and

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time	Skill			
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secured and not in contact with any moving parts.

ELEVATOR/ SLEEVER CARTS 13. **Install both sleever carts.** Install sleever carts in 3 7 both ATS II / ATSU elevators.

WARNING

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

SYSTEM

14. Restore electrical and pneumatic power to 3 All equipment. Restore power to equipment as prescribed by current local lockout/tagout procedures.

NOTE

The machine must have been running for a minimum of 15 minutes and remain running when using the non-contact infrared to obtain a meaningful scan. Investigate the cause of an abnormal temperature and notify your supervisor of necessary corrective action.

INSERTER ASSEMBLY

15. Infrared Scan.

5 9

Use non-contact infrared to monitor and scan the following for abnormal temperatures:

- 1. JB1
 - a. Momentum module (MM2) top hat and hase
 - b. PNP/NPN converter (only ATSU)
 - c. Relay
 - d. Fuse blocks
 - e. Jumpers
- 2. Inserter housing assembly
- 3. Inserter servo motor (MS3)
- 4. Inserter conveyor assembly, 3 power rollers
- Ancillary input conveyor assembly, 2 power rollers

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	ls
Component	No	(Comply with all current safety precautions)	Time	Skill			
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- 6. Transformer box (optional)
- 7. Terminal connections
- 8. Connectors
- 9. Jumpers

WARNING

Do not cross the vertical plane of the sides of ATSU / ATS II. Moving ATSU / ATS II parts can cause injury or death.

DUAL ELEVATOR ASSEMBLY

16. Infrared Scan.

4 9

From a ladder or work platform use non-contact infrared to monitor and scan the following dual elevator assemblies:

- 1. Dual elevator assembly, Horizontal servo motor (MS1) and Vertical servo motor (MS2)
- MS2 Z Axis servo motor power/ brake cable that runs in the plastic carrier chain
- 3. Six port distribution block

DUAL ELEVATOR ASSEMBLY

17. Infrared Scan.

5 9

Use non-contact infrared to monitor and scan the following for abnormal temperatures:

- 1. Elevator conveyor assembly 3 power rollers
- 2. Exit conveyor power roller
- 3. Terminal connections
- 4. Connectors
- 5. Jumpers
- 6. Air system assembly pressure switch
- 7. JB7
 - a. Momentum module 7 base and top hat
 - b. Terminal blocks
 - c. Fuse blocks
 - d. Relays
 - e. Terminal strip connectors

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
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f. PNP/NPN converter (only on ATSU)

ELEVATOR/ SLEEVER CARTS

SYSTEM

- 18. **Remove sleever carts.** Press a system stop button. After system stops, press the elevator down push button on both elevators to lower both elevators. Remove the sleever carts.
- SYSTEM 19. **Shut down computer.** Follow most recent SMO, 1 9 currently SMO-014-08, for shutting down the computer.
 - 20. **Power down and lockout power.** Power down 3 All the machine and lock out its electrical and

pneumatic power as prescribed by the current local lockout/restore procedures.

SYSTEM 21. Infrared Scan.

Infrared Scan. 25
Use non-contact infrared to monitor and scan the

Use non-contact infrared to monitor and scan the following for abnormal temperatures:

- 1. JB3 (only on ATSU)
 - a. JB3 relays
 - b. Left stack light assembly
- 2. Left back panel assembly (JB6)
 - a. Momentum module 4 base and top hat
 - b. Terminal blocks
 - c. Fuse blocks
 - d. PNP/NPN converters (only on ATSU)
- JB4 & Right stack light assembly (only on ATSU)
- 4. Right back panel assembly (JB5)
 - a. Momentum module 3 base and top hat
 - b. Terminal blocks
 - c. Fuse blocks
 - d. PNP/NPN converters (only on ATSU)
- 5. JB2
 - a. Momentum modules 5 & 6 bases and top hats

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		b. I	Ethernet h	nub								
		c. I	Fuse bloc	ks								
		d. I	Relay									
		e. I	PNP/NPN	conver	ter (only	on AT	SU)					
		f.	Terminal b	olocks	, ,		,					
ELEVATOR/ SLEEVER CARTS	22.		left and ri	ight slee	ve carts	•		3	7			
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			L	WARN	IING							
					orking a power		or on been					
SYSTEM	23.	Restore equipme prescribe procedui	ent. Re ed by		ower to	equip	ower to oment as out/tagout		All			
DUAL ELEVATOR	24.	Run ATS	SU / ATS	II in Ma	nual Mo	de Op	eration.	15	9			
ASSEMBLY			s ALT-A				me menu, Screen					
		2. Ente	r mainten	ance pa	ssword	and cli	ck OK.					
		3. Sele	ct Manua	l Mode.								
			nately op			Right	Elevators					
SYSTEM	25.		SMO-0				ent SMO, down the	1	9			
SYSTEM	26.	the made	chine and	d lock as pre	out its escribed	elect	wer down rical and e current		All			
DUAL ELEVATOR ASSEMBLY	27.	Use non					scan the	5	9			

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- 1. Left elevator
 - a. Servo motor (MS5)
 - b. Coupler
 - c. Ball nut and screw
 - d. Pillow bearing blocks (in both left elevator cabinets)
- 2. Right elevator
 - a. Servo motor (MS6)
 - b. Coupler
 - c. Ball nut and screw
 - d. Pillow bearing blocks (in both right elevator cabinets)

WARNING

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

SYSTEM

28. Restore electrical and pneumatic power to equipment. Restore power to equipment as prescribed by current local lockout/tagout procedures. Replace left and right sleeve carts.

CONSOLE ASSEMBLY 29. Infrared Scan.

5 9

ΑII

Use non-contact infrared to monitor and scan the following for abnormal temperatures:

- 1. Back panel 1 assembly
 - a. Fan 1
 - b. Main power circuit breaker (MCB)
 - c. 3 phase circuit breakers
 - d. Motor contactor (C1)
 - e. Power filter (F1)
 - f. Servo amplifiers SA1 thru SA5
 - 1) Linear slide SA1
 - 2) H-block SA2

8

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U.S. Postal Service		IDENTIFICATION														
Maintenance Checklist		DRK					MEN				CLA		N	JMBE	₽R	TYPE
waintenance Checklist	CC	DE				ACRO	MYNC				C	DE				
	0	0 3 * * * * * *									A A		0	0	4	М
Equipment Nomenclature Automatic Tray Sleever Upgrade	Equ	ipmer	nt Mo	del				Ві			name 040AB		reque	ncy UAF	RTEI	RLY
Automatic Tray Sleever II																

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	ls
Component	No	(Comply with all current safety precautions)	Time	Skill			
			Req	Lev	Run	Pieces	Weeks
			(min)		Hours	Fed	
						(000)	

- 3) Inserter SA3
- 4) Right Elevator SA4
- 5) Left Elevator SA5
- g. PS1 power supply
- h. Fuse blocks
- i. Relays
- j. Terminal blocks
- k. Connectors
- I. Jumpers
- 2. Back panel 2 assembly
 - a. Fan 2
 - b. Ethernet hub
 - c. Safety relays
 - d. Control relay with base
 - e. Fuse blocks
 - f. PS2 power supply
 - g. Momentum module 1 base and top hat
 - h. PNP/NPN converter (only on ATSU)
 - i. Terminal connections
 - j. Connectors
 - k. Jumpers

INSERTER ASSEMBLY

30. Ultrasound Scan.

2 9

Using ultrasound detector scan the following:

- 1. Inserter housing Y Axis assembly air cylinder
- 2. Air lines
- 3. Connections
- 4. Fittings

DUAL ELEVATOR ASSEMBLY

31. Ultrasound Scan.

5 9

Using ultrasonic detector scan the following:

1. Dual elevator assembly

U.S. Postal Service	IDENTIFICATION															
Maintenance Checklist		WORK EQUIPMENT CODE ACRONYM							CLASS CODE				NUMBER			TYPE
	0	3	*	*	*	*	*				Α	Α	0	0	4	М
Equipment Nomenclature Automatic Tray Sleever Upgrade Automatic Tray Sleever II	Equ	ipmer	ent Model						Bulletin Filena MM100					ncy UAF	RLY	

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	ls
Component	No	(Comply with all current safety precautions)	Time	Skill			
			Req	Lev	Run	Pieces	Weeks
			(min)		Hours	Fed	
						(000)	

- 2. Air system assembly
- 3. Manifold valve
- 4. Solenoid valve
- 5. Soft start valve
- 6. OSHA lockout valve
- 7. Regulator
- 8. Sleeve former assembly
- 9. Inline flow control valve
- 10. Left vacuum assembly
- 11. Right vacuum assembly
- 12. Air cylinder assembly
- 13. Multi-stage ejector vacuum assembly
 - a. Airlines
 - b. Fittings
 - c. Connections

SYSTEM 32. Perform functional check and return 3 9 equipment to service. Return ATSU / ATS II to normal operation. Run a few trays verifying machine operation.

CLEAN UP 33. Clean up. Ensure all tools, lubricants, rags, etc., 3 All are removed from the work area. Report all deficiencies to your supervisor.

ATTACHMENT 6

ATSU & ATS II MASTER CHECKLIST

03-****-AA-005-M

ANNUAL

Time Total: 55 Minutes

***** = ATSU, ATSII

Refer to MS-295 for ATSU if additional maintenance information is required. Refer to MS-240 for ATS II if additional maintenance information is required.

MINO-132-11													recii	IIICai	Sup	port	Center		
U.S. Postal S	IDENTIFICATION OF THE PROPERTY									100	N I	TVDF							
Maintenance Checklist			WORK EQUIPMENT CODE ACRONYM								_ASS ODE	N	TYPE						
			0 3			*	*	*				Α	Α	0	0	5	М		
Equipment Nomenclature Automatic Tray Sle Automatic Tray	ever l		Equipme	ent M	lodel				В			name 1040A	В	Freque		INUA	L		
***** = ATSU, ATSII		1												1					
Part or Component	Item No	(6	Task Comply w			and Ins			ns)			Est. Time	Min. Skill			resholo	esholds		
Compansin		,					, p. o		,			Req (min)	Lev	Run Hours		ieces Fed 000)	Weeks		
SAFETY STATEMENT	1.	COMPLY Disconnate required local loc	ect por by this ckout nd locent an or susp unusua sor pri action o E OF CO IIBITED cleaning methor cleane of con th or b ent only be used	werrs in property of the control of	and estruction to the equivalent of the equivale	applytion. res this rect country ance proceduipme SED Country as amp rect or be ther country be tt safe	y lo Re o p mac dust r ur is edir ent. OR l a a l a a g us clea	eckou efer to prope thine to co nusua four ng v HEPA must rn air ed o ning defici	uts o cerly ond al cond with WN Iter on cond ien ien ien	where we will be to the control of t	nent hut pen ons. ris. tify any R tive red int-ical pds s to	5	All						
SYSTEM	2.	Lower H	-Block.									2	9						
		1. Log i	n as Ma	inte	enance	э.													
		2. Selec	ct Manu	al M	lode.														
		3. Selec	ct Manu	al S	creen	1.													
		4. Selec	ct Lowe	r H-	Block														
ELEVATOR/ SLEEVER CARTS	3.	Remove button. down pus elevators	After s sh butto	yste n o	em ste n both	ops, p n eleva	ores ator	s the s to l	е	leva	ator	2	7						
SYSTEM	4.	Shut dov currently computer	SMO-	•								1	9						
SYSTEM	5.	Power d the mad pneumati local lock procedur	chine a ic powe cout inst	nd er a	lock is pre	out scribe	its ed l	elect	trica	al a curi	and rent	3	All						
SYSTEM	6.	Replace inserter lubricatin both en	felt pa slide g end d	Ma aps	acron (NSI	bea N 5340	ring 0-06	js. 6-000	R 0-01	epl 10)	ace on	30	7						

ΑII

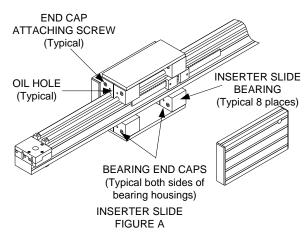
3

U.S. Postal Service Maintenance Checklist		IDENTIFICATION														
		RK DE		EQUIPMENT ACRONYM							CLASS CODE		NUMBER		TYPE	
	0	3	*	*	*	*	*				Α	Α	0	0	5	М
Equipment Nomenclature Automatic Tray Sleever Upgrade Automatic Tray Sleever II				ment Model						Bulletin Filename MM10040AB			Frequency ANNUAL			L

***** = ATSU, ATSII

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time	Skill			
			Req	Lev	Run	Pieces	Weeks
			(min)		Hours	Fed	
						(000)	

bearings on inserter slide; 4 bearings on H-Block vertical slide). Caps are attached by a single Phillips head screw. See Figure A.



WARNING

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

ELEVATOR/ SLEEVER CARTS Install both sleever carts. Install sleever carts in both ATSU / ATS II elevators.

SYSTEM

Restore electrical and pneumatic power to equipment. Restore power to equipment as prescribed by current local lockout/tagout procedures.

SYSTEM

MAINTENANCE MANAGEMENT ORDER

Perform functional 9 check and return 3 equipment to service. Return ATSU /ATS II to normal operation. Run a few trays verifying machine operation.

CLEAN UP

10. Clean up. Ensure all tools, lubricants, rags, etc., ΑII are removed from the work area. Report all deficiencies to your supervisor.