MAINTENANCE TECHNICAL SUPPORT CENTER **HEADQUARTERS MAINTENANCE OPERATIONS**

UNITED STATES POSTAL SERVICE



SUBJECT: Operational & Preventive Maintenance (PM)

Guidelines for the Robotic Containerization

System (RCS)

TO: All RCS Sites DATE: June 2, 2015

> MMO-058-15 NO:

FILE CODE: TM4

dpen: mm14122ad

This Maintenance Management Order (MMO) provides Operational & Preventive Maintenance (PM) Guidelines for the Robotic Containerization System (RCS). This MMO supersedes MMO-071-08 and MMO-120-13. This bulletin applies to acronym RCS and Class Code AA.

The minimum maintenance skill level to perform each task on these 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.

The attached master checklists provides tasks to be performed at periodic intervals (Daily, Weekly, Monthly, Semi-Annual, and Operational Maintenance), time required per task, and the minimum skill level for each task.

WARNING

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

WARNING

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

Web Access: http://mtsc.usps.gov/pdf

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.

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.

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

Andy L. Henderson

Manager (A)

Maintenance Technical Support Center

HQ Maintenance Operations

- 1. Summary, Workload Estimate for Robotic Containerization System
- 2. RCS Master Checklist: 03-RCS-AA-001-M: Daily
- 3. RCS Master Checklist: 03-RCS-AA-002-M: Weekly
- 4. RCS Master Checklist: 03-RCS-AA-003-M: Monthly
- 5. RCS Master Checklist: 03-RCS-AA-004-M: Quarterly
- 6. RCS Master Checklist: 03-RCS-AA-005-M: Annual
- 7. RCS Master Checklist: 03-RCS-AA-006-M: Two Year
- 8. RCS Master Checklist: 03-RCS-AA-007-M: Three Year
- 9. RCS Master Checklist: 09-RCS-AA-001-M: Operational

SUMMARY

WORKLOAD ESTIMATE

FOR

ROBOTIC CONTAINERIZATION SYSTEM

SUMMARY WORKLOAD ESTIMATE FOR RCS

Days of Operation	Routine Servicing (Hrs/Yr)	Repair* (Hrs/Yr)	Total Servicing & Repair Time	Non- Productive Time **	Total Servicing Per Machine	Operation + Total S	nal Mainte ervicing	enance
			(Hrs/Yr)	(Hrs/Yr)	(Hrs/Yr)	1	2	3
						Tour	Tours	Tours
5 Day	339.39	67.88	407.27	40.73	447.99	556.33	664.66	
6 Day	396.59	79.32	475.91	47.59	523.50	653.50	783.50	
7 Day	453.79	90.76	544.55	54.45	599.00	750.67	902.34	

NOTES

*Repair estimates based on 20% of servicing.

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

ITEM	TASK TIME	MULTIPLIER FACTOR	TOTAL MINUTES
1	1	1	1
2	1	1	1
3	1	3	3
4	1	3	3
5	1	3	3
6	1	3	3
7	2	3	6
8	5	1	5
			25

CHECKLIST	TOTAL MINUTES
Daily	66.00
Weekly	35.00
Monthly	65.00
Quarterly	75.00
Annual	86.00
Two Years	321.00
Three Years	171.00

RCS MASTER CHECKLIST

03-RCS-AA-001-M

DAILY

Time Total: 66 Minutes

Refer to MS-192 if additional maintenance information is required.

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	WC	RK			Е	QUIF	MENT				CLA	ASS	N	UMBE	R	TYPE
Maintenance Checklist	CO	CODE		ACRONYM CODE												
	0	3	R	С	S						Α	Α	М			
Equipment Nomenclature	Equipment Model Bu						ulletir	Filer	name	I	Frequency					
Robotic Containerization System									M	M141	122AD)		D	AILY	

		T 1 0 1 1 1 1					
Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill	Run	Threshold Pieces	s Weeks
Component	140	(Compry with all current salety presautions)	Req	Lev	Hours	Fed	VVEEKS
			(min)			(000)	
SAFETY	1.	COMPLY WITH ALL SAFETY PRECAUTIONS.	1	All			
STATEMENT	١.			All			
STATEMENT		Disconnect power and apply lockouts when					
		required by this instruction. Refer to current local lockout procedures to properly shut					
		down and lock out this machine. Open					
		equipment and inspect dust conditions.					
		Check for suspicious dust or unusual debris.					
		If any unusual substance is found, notify					
		supervisor prior to proceeding with any					
		further action on the equipment.					
		THE USE OF COMPRESSED OR BLOWN AIR					
		IS PROHIBITED.					
		When cleaning is required, an alternative					
		cleaning method such as a HEPA filtered					
		vacuum cleaner or a damp rag must be used					
		in place of compressed or blown air. A lint-					
		free cloth or brush may be used on optical					
		equipment only when other cleaning methods					
		cannot be used. Report safety deficiencies to					
		your supervisor immediately upon detection.					
		WARNING FOR EWP/PPE:					
		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.					
		WARNING					
		WARNING					
		Ensure no one is standing in the					
		safeguarded space around the robot					
		and the motion settings for jogging are					
		correctly set. Carelessness can result					
		in personal injury or damage to the					
		equipment.					
		WARNING					
		Be cautious when working around or on			1		
		equipment when power has been			1		
		applied.					
SYSTEM	2.	Check the maintenance and failure log	3	10	+		
O I O I LIVI	۷.	reports.	5	10			
		1. Generate the reports from the Reports screen					

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Equipment Nomenclature	Equipment Model						В	ulletir	Filer	name Frequency						
Robotic Containerization System		MM14122AD DAILY									•					

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Run Hours	Threshold Pieces Fed (000)	s Weeks
		on the Human Machine Interface (HMI).					
		Look for alarms and faults indicating problems with the machine operation.					
SYSTEM	3.	Check warning horns and lights for proper operation. Check warning horns and lights using the HMI lamp test.	3	9			
ROBOT	4.	Check the calibration of Robot 1. Check the calibration of Robot 1 by running the Calibration 840 Routine per instructions in MS-192, Volume B, Section 4.	5	9			
GRIPPER	5.	Jog Robot 1 gripper to an inspection position. Jog Robot 1 gripper to an inspection position per instructions in MS-192, Volume B, Section 4.	1	9			
	6.	Check Robot 1 gripper for proper operation. Check Robot 1 gripper for proper operation using the Griptest Routine per instructions in MS-192, Volume B, Section 4.		9			
ROBOT	7.	Check the calibration of Robot 2. Check the calibration of Robot 2 by running the Calibration 840 Routine per instructions in MS-192, Volume B, Section 4.	5	9			
GRIPPER	8.	Jog Robot 2 gripper to an inspection position. Jog Robot 2 gripper to an inspection position per instructions in MS-192, Volume B, Section 4.	1	9			
	9.	Check Robot 2 gripper for proper operation. Check Robot 2 gripper for proper operation using the Griptest Routine per instructions in MS-192, Volume B, Section 4.	2	9			
PNEUMATIC	10.	Check main pneumatic panel air pressure.	1	7			
SYSTEM		Check main pneumatic panel air pressure gauge for 75-80 PSI.					
		2. Report any deficiencies to supervisor.					
	11.	Check Robot 1 main conveyor air pressure.	1	7			
		Check Robot 1 main conveyor air pressure gauge for 60 ± 3 PSI.					
		2. Report any deficiencies to supervisor.					

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Equipment Nomenclature Robotic Containerization System		Equipment Model									name 122AD		reque	,	AILY	

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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill	Run	Threshold Pieces	s Weeks
Component	140	(Oomply with all current salety precautions)	Req	Lev	Hours	Fed	VVCCKS
			(min)			(000)	
PNUEMATIC	12.	Check Robot 1 gripper air pressure	1	7			
SYSTEM	'						
		1. Check both gripper air gauges for 35 ± 2 PSI.					
		Report any deficiencies to supervisor.					
PNEUMATIC	13.	Check Robot 2 main conveyor air pressure.	1	7			
SYSTEM		 Check Robot 2 main conveyor air pressure gauge for 60 ± 3 PSI. 					
		2. Report any deficiencies to supervisor.					
PNUEMATIC	14.	Check Robot 2 gripper air pressure	1	7			
SYSTEM		1. Check both gripper air gauges for 35 ± 2 PSI.					
		Report any deficiencies to supervisor.					
SYSTEM	15.	• • • • • • • • • • • • • • • • • • • •	15	9		1	
SYSTEM	15.	Power down and lock out power. Power down the machine and lock out its electrical power sources as prescribed by the current local lockout/restore procedures.		9			
ODIDDED	40	<u>'</u>	4	_			
GRIPPER	16.	Robot 1 gripper cleaning and check.	4	7			
		 Clean mail containment plate guide shafts using a clean lint free cloth. Do not lubricate shafts. 					
		Check for smooth operation of the mail containment plate by manually raising and lowering the plate.					
		 Check gripper fingers for visible physical damage. 					
		 Check shelf lowering spring plunger for visible physical damage. 					
		Check shelf lowering fingers for visible physical damage.					
		Check removable harness assembly for visible physical damage.					
CONVEYOR	17.	Check Robot 1 right angle transfer belts.	2	7			
		 Check both Robot 1 right angle transfers for visibly cracked, torn, or missing belts. 					
		2. Report any deficiencies to supervisor.					
GRIPPER	18.	Robot 2 gripper cleaning and check.	4	7		1	
		Clean mail containment plate guide shafts using a clean lint free cloth. Do not lubricate shafts.	-				

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Maintenance Checklist	WC	RK DE					MEN ONYN					ASS DDE	N	UMBE	ΞR	TYPE
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Equipment Nomenclature Robotic Containerization System	Equi	Equipment Model Bulletin Filename Frequency MM14122AD									reque	,	AILY			

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Weeks
		Check for smooth operation of the mail containment plate by manually raising and lowering the plate.					
		3. Check gripper fingers for visible physical damage.					
		4. Check shelf lowering spring plunger for visible physical damage.					
		Check shelf lowering fingers for visible physical damage.					
		Check removable harness assembly for visible physical damage.					
CONVEYOR	19.	Check Robot 2 right angle transfer belts.	2	7			
		Check both Robot 2 right angle transfers for visibly cracked, torn, or missing belts.					
		2. Report any deficiencies to supervisor.					
MAIL SEARCH	20.	Perform a mail search. Search for mail pieces in and under machine.	6	7			
CLEAN UP	21.	Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.		All			
		WARNING					
		Be cautious when working around or on equipment when power has been applied.					
SYSTEM POWER	22.	Restore power. Remove lockouts, restore power, and return machine to operational status as prescribed by the current local lockout instructions providing lockout/restore procedures.		9			

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Equipment Nomenclature	Equipment Model					•	В	ulletir	Filer	name Frequency						
Robotic Containerization System	MM14122AD DAILY							,								

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

03-RCS-AA-002-M

WEEKLY

Time Total: 35 Minutes

Refer to MS-192 if additional maintenance information is required.

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Maintenance Checklist	WC	RK DE					MEN NYM					ASS DE	N	UMBE	ER	TYPE
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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	6
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	Weeks
·			Req (min)	Lev	Hours	Fed (000)	
SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found, notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: 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.	1	All		(000)	
		WARNING Be cautious when working around or on equipment when power has been applied.					
SYSTEM	2.	Power down and lock out power. Power down the machine and lock out its electrical and pneumatic power sources as prescribed by the current local lockout/restore procedures.		9			
CAMERA	3.	Infeed and robot cameras. Clean infeed and robot windows with a clean lint-free cloth.	6	7			
CONVEYOR	4.	Clean SMM tray storage stand photo eyes. Clean SMM tray storage stand photo eyes with a clean lint-free cloth.	8	7			

MMO-058-15

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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Run Hours	Threshold Pieces Fed (000)	s Weeks
CLEAN UP	5.	Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.		All			
		WARNING Be cautious when working around or on equipment when power has been applied.					
SYSTEM	6.	Restore power. Remove lockouts, restore power, and return machine to operational status as prescribed by the current local lockout instructions providing lockout/restore procedures.		9			

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Equipment Nomenclature	Equipment Model							В	ulletir	Filer	name	F	reque	ency		
Robotic Containerization System							MI	M14 ⁻	122AD	1		WE	EKL	Y		

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

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RCS MASTER CHECKLIST

03-RCS-AA-003-M

MONTHLY

Time Total: 65 Minutes

Refer to MS-192 if additional maintenance information is required.

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l	WC	DRK			Е	QUIF	MEN	Γ			CLA	ASS	N	UMBE	ΞR	TYPE
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Equipment Nomenclature	Equ	ipmeı	nt Mo	del				Е	Bulletir	Filer	name		Freque	ency		
Robotic Containerization System									MI	M14	122AD)		10M	NTHI	_Y

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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill	Run	Threshold Pieces	
Component	INO	(Comply with all current salety precautions)	Req	Lev	Hours	Fed	Weeks
			(min)		riours	(000)	
						/	
SAFETY	1.	COMPLY WITH ALL SAFETY PRECAUTIONS.	1	All			
STATEMENT		Disconnect power and apply lockouts when					
		required by this instruction. Refer to current					
		local lockout procedures to properly shut					
		down and lock out this machine. Open					
		equipment and inspect dust conditions.					
		Check for suspicious dust or unusual debris.					
		If any unusual substance is found, notify					
		supervisor prior to proceeding with any					
		further action on the equipment.					
		THE USE OF COMPRESSED OR BLOWN AIR					
		IS PROHIBITED.					
		When cleaning is required, an alternative					
		cleaning method such as a HEPA filtered					
		vacuum cleaner or a damp rag must be used					
		in place of compressed or blown air. A lint-					
		free cloth or brush may be used on optical					
		equipment only when other cleaning methods					
		cannot be used. Report safety deficiencies to					
		your supervisor immediately upon detection.					
		WARNING FOR EWP/PPE:					
		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.					
		<u> </u>					
		WARNING					
		Be cautious when working around or on					
		equipment when power has been					
		applied.					
		•					
SYSTEM	2.	Operate all emergency stops and emergency	8	7			
		stop pull cords to check for proper operation.					
		Verify correct operation of emergency stops and					
		emergency pull cords by:					
		4. Enguring machine stone when the ansarran					
		1. Ensuring machine stops when the emergency					
		stop is pressed or the emergency stop pull					
		cord is pulled.					
		2. Observing emergency stop indicator lamp on					
		the emergency stop switch illuminates when					
		the emergency stop is pressed or emergency					
		stop pull cord is pulled.					
		stop puli coru is pulieu.					
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Equipment Nomenclature	Equ	ipmer	nt Mo	del				E	Bulletir	Filer	name		Freque	ency		
Robotic Containerization System									MI	M14	122AD)		10M	NTH	LY

Don't are	14	Tools Obstanced and Instruction	F-4	NA:		Th	_
Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill	Run	Threshold Pieces	s Weeks
			Req	Lev	Hours	Fed	
			(min)			(000)	
		3. Observing emergency stop indicator on the					
		Human Machine Interface (HMI) Main screen					
		graphic display. A red indicator will appear at					
		the location of emergency stop or pull cord as represented on HMI Main screen graphic					
		display when emergency stop is pressed or					
		emergency stop pull cord is pulled.					
		4. Report any deficiencies to supervisor.					
	3.	Operate the Lexan door safety interlocks.	4	7			
		Verify correct operation of the Lexan door safety					
		interlocks by:					
		1. Observing Lexan door interlock indicator on					
		the HMI Main screen graphic display. A red					
		indicator box will appear at the location of the Lexan safety door as represented on the HMI					
		Main screen graphic display when the Lexan					
		door safety interlock is operated by opening					
		the Lexan safety door.					
		Report any deficiencies to supervisor.					
CONVEYOR	4.	Check the conveyor drive rollers for proper	12	9			
		speed setting. Check conveyor drive rollers for					
		proper speed setting per instructions in MS-192, Volume B, Section 4.					
0)/07514	-	·	45				
SYSTEM	5.	Power down and lock out power. Power down the machine and lock out its electrical and	15	9			
		pneumatic power sources as prescribed by the					
		current local lockout/restore procedures.					
CONVEYOR	6.	Clean conveyor photo eyes. Clean all main	8	7			
		conveyor photo eye sensors and reflectors with a					
		clean lint-free cloth.					
	7.	Check all main conveyor system roller drive belts.	12	7			
		 Observe if any belts are damaged or missing. 					
		Report any deficiencies to supervisor.					
CLEAN UP	8.	Clean up. Ensure all tools, lubricants, rags, etc.,	2	All			
		are removed from the work area. Report all					
		deficiencies to supervisor.					

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Robotic Containerization System									MI	M14	122AD)		10M	NTHI	_Y

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	Weeks
			Req	Lev	Hours	Fed	
			(min)			(000)	
		WARNING Be cautious when working around or on equipment when power has been applied.					
SYSTEM		Restore power. Remove lockouts, restore	3	9			
		power, and return machine to operational status					
		as prescribed by the current local lockout					
		instructions providing lockout/restore procedures.					

RCS MASTER CHECKLIST

03-RCS-AA-004-M

QUARTERLY

Time Total: 75 Minutes

Refer to MS-192 if additional maintenance information is required.

U.S. Postal Service								ID	ENTIF	ICAT	ION					
Maintenance Checklist	WC	RK DE					MEN ONYN					ASS DE	N	UMBE	ΞR	TYPE
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Equipment Nomenclature Robotic Containerization System	Equipment Model							I	Bulletir MI		name 122AD		reque	ncy UAF	RTE	RLY

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	Weeks
·		, , ,	Req	Lev	Hours	Fed	
SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found, notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: 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.	(min) 1	All		(000)	
SYSTEM	2.	WARNING Be cautious when working around or on equipment when power has been applied. Check uninterruptible power supply. Check	1	7			
CONSOLE		uninterruptible power supply by verifying the Battery OK green LED is lit.	-				
	3.	Check system console cabinet fans. Check system console cabinet fans for proper operation by testing for airflow. Test airflow by feeling for air movement.		9			
CONVEYOR	4.	Check MCP 1 fans for proper operation. Check MCP 1 fans for proper operation by testing for airflow. Test airflow by feeling for air movement.		9			

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Maintenance Checklist	WC CO	RK DE					MEN ¹				CLA CO	ASS DE	N	UMBE	ĒR	TYPE
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Equipment Nomenclature Robotic Containerization System	Equi	Equipment Model						В	Bulletir M l		name 122AD		reque C	,	RTE	RLY

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	Weeks
			Req (min)	Lev	Hours	Fed (000)	
ROBOT	5.	Check Robot 1 S4C Robot Controller fans for proper operation. Check Robot 1 S4C Robot Controller fans for proper operation by testing for airflow. Test airflow by feeling for air movement.	1	9			
CONVEYOR	6.	Check MCP 2 fans for proper operation. Check MCP 2 fans for proper operation by testing for airflow. Test airflow by feeling for air movement.		9			
ROBOT	7.	Check Robot 2 S4C Robot Controller fans for proper operation. Check Robot 2 S4C Robot Controller fans for proper operation by testing for airflow. Test airflow by feeling for air movement.		9			
PNEUMATIC SYSTEM	8.	Conduct ultrasonic scan of pneumatic system. Conduct ultrasonic scan of pneumatic system to identify any air leaks.		9			
SYSTEM	9.	Power down and lockout power. Power down the machine and lock out its electrical power source as prescribed by the current local lockout/restore procedures.		9			
SYSTEM CONSOLE	10.	Clean system console cabinet air filters. Clean by vacuuming system console cabinet air filters.	2	7			
CONVEYOR	11.	Clean MCP 1 air filters. Clean by vacuuming MCP 1 air filters.	2	7			
ROBOT	12.	Clean Robot 1 S4C Robot Controller air filters. Clean by vacuuming Robot 1 S4C Robot Controller air filters.		7			
CONVEYOR	13.	Clean MCP 2 air filters. Clean by vacuuming MCP 2 air filters.	2	7			
ROBOT	14.	Clean Robot 2 S4C Robot Controller air filters. Clean by vacuuming Robot 2 S4C Robot Controller air filters.		7			
ROBOT	15.	Verify MEMOLUB automatic lubricators are operating. Verify the MEMOLUB automatic lubricators are operating by using the indicator labels to confirm the level of grease has changed since the last reading.		7			
CONVEYOR	16.	Lubricate the right angle transfer linear guide bearings. Lubricate the right angle transfer linear guide bearings at all four transfer stations. Apply two strokes (3 gm) of Klüber Microlube GL261 at each of the four (4) grease manifold fittings.		7			

U.S. Postal Service								ID	ENTIF	ICAT	ION					
Maintenance Checklist	WC	RK DE					MEN ONYN					ASS DE	N	UMBE	ΞR	TYPE
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Equipment Nomenclature Robotic Containerization System	Equipment Model							I	Bulletir MI		name 122AD		reque	ncy UAF	RTE	RLY

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Weeks
	17.	Lubricate the tray tub lift linear guide bearings. Lubricate the tray tub lift linear guide bearings at both lift stations. Apply 1 ml of ISO VG 10 to 20 weight oil at each of the two (2) oil fittings.		7			
CLEAN UP	18.	Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.		All			
		WARNING Be cautious when working around or on equipment when power has been applied.					
SYSTEM	19.	Restore power. Remove lockouts, restore power, and return machine to operational status as prescribed by the current local lockout instructions providing lockout/restore procedures.		9			

RCS MASTER CHECKLIST

03-RCS-AA-005-M

ANNUAL

Time Total: 86 Minutes

Refer to MS-192 if additional maintenance information is required.

U.S. Postal Service								IDE	NTIF	ICATI	ON					
Maintenance Checklist		DRK			_		MEN					ASS	N	UMBE	ΞR	TYPE
Maintenance Checklist	CC	DE				ACRO	MYM				CO	DE				
	0	3	R	С	S						Α	Α	0	0	5	М
Equipment Nomenclature	Equ	ipmer	nt Mo	del				В	ulletir	Filer	name	F	Freque	ency		
Robotic Containerization System									M	M141	122AD			ΑN	NUA	L

Part or	Itom	Task Statement and Instruction	Est.	Min.		Throchold	
Component	Item No	(Comply with all current safety precautions)	Time	Skill	Run	Threshold Pieces	s Weeks
γ		(23.11,4)	Req	Lev	Hours	Fed	Wooks
			(min)			(000)	
SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found, notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: 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	1	All			
		WARNING Ensure no one is standing in the safeguarded space around the robot and that the motion settings for jogging are correctly set. Carelessness can result in personal injury or damage to the equipment.					
		WARNING Be cautious when working around or on equipment when power has been applied.					
SYSTEM	2.	Conduct thermal scan of the power distribution panel.	14	9			
		Don PPE as required by current EWP MMO.					

MMO-058-15

U.S. Postal Service								IDE	NTIF	ICATI	ON					
Maintenance Checklist	WC					QUIF					CLA		N	UMBE	ΞR	TYPE
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	0	3	R	С	S						Α	Α	0	0	5	М
Equipment Nomenclature	Equ	Equipment Model							ulletir	Filer	name	F	reque	ency		
Robotic Containerization System								MI	M14 ²	122AD			ΑN	NUA	ιL	

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	<u> </u>
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	Weeks
	_		Req (min)	Lev	Hours	Fed (000)	
		2. Power down the machine.					
		Open the power distribution panel.					
		Restore power and return machine to operational status.					
		5. Scan the interior of the power distribution panel using a thermal imaging camera.					
		Look for anomalies indicating a high resistance connection or other problem.					
		7. Close power distribution panel.					
SYSTEM	3.	Power Down And Lockout Power. Power down the machine and lockout its power as prescribed by the current local lockout instructions providing lockout/restore procedures.	14	9			
ROBOT	4.	Check Robot 1 axis 1 belts.	10	9			
		Check for dirt and grease buildup.					
		2. Check for wear or damage.					
		3. Check for proper alignment and tracking.					
	5.	Check Robot 1 axis 2 belts.	4	9			
		Check for dirt and grease buildup.					
		2. Check for wear or damage.					
		3. Check for proper alignment and tracking.					
	6.	Check Robot 1 axis 3 belts.	4	9			
		Check for dirt and grease buildup.					
		2. Check for wear or damage.					
		3. Check for proper alignment and tracking.					
	7.	Check Robot 2 axis 1 belts.	10	9			
		Check for dirt and grease buildup.					
		2. Check for wear or damage.					
		3. Check for proper alignment and tracking.					
	8.	Check Robot 2 axis 2 belts.	4	9			
		Check for dirt and grease buildup.					
		2. Check for wear or damage.					

U.S. Postal Service								IDE	NTIF	ICAT	ION					
	WC	RK			Е	QUIF	MEN	Γ			CLA	ASS	N	UMBI	ΞR	TYPE
Maintenance Checklist	CC	DE				ACRO	MYNC				CC	DE				
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Equipment Nomenclature	Equ	ipmer	nt Mo	del				В	ulletir	Filer	name		Freque	ency		
Robotic Containerization System									MI	M14	122AD)		AN	NUA	L

Component	No	(Comply with all current safety precautions)	Time Req	Skill	Run	Pieces	Weeks
			Rea i				vveeks
			(min)	Lev	Hours	Fed (000)	
		2. Check for manner alignment and treating	1	1			
	_	Check for proper alignment and tracking.					
	9.	Check Robot 2 axis 3 belts.	4	9			
		Check for dirt and grease buildup.					
		2. Check for wear or damage.					
		3. Check for proper alignment and tracking.					
		WARNING					
		Discard solvent soaked materials according to local procedures to prevent spontaneous combustion.					
ROBOT		Check Robot 1, axis 1, gearbox for proper oil level.	4	7			
		Clean immediate area around the axis 1 gearbox oil level plug.					
		Loosen and remove axis 1 gearbox oil level plug.					
		Ensure the oil is at the level of the plug opening threads.					
		 Fill as needed with Shell Tivela S-220 or Klüber GH 6-220 lubricant. 					
		5. Replace plug and tighten securely.					
		6. Clean up any spilled oil.					
		Check Robot 1, axis 2, gearbox for proper oil level.	4	7			
		Clean immediate area around the axis 2 gearbox oil level plug.					
		Loosen and remove axis 2 gearbox oil level plug.					
		Ensure the oil is at the level of the plug opening threads.					
		 Fill as needed with Shell Tivela S-220 or Klüber GH 6-220 lubricant. 					
		5. Replace plug and tighten securely.					
		6. Clean up any spilled oil.					

U.S. Postal Service								IDE	NTIF	ICAT	ION					
Maintenance Checklist	CO	RK DE					MEN MYMC					ASS DE	N	UMBE	ER	TYPE
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Equipment Nomenclature	Equ	ipmer	nt Mo	del				Е	ulletir	n Filer	name	F	reque	ency		
Robotic Containerization System									MI	M14	122AD)		ΑN	NUA	L

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Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold:	
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	Weeks
			Req (min)	Lev	Hours	Fed (000)	
			(111111)			(000)	
	12.	Check Robot 2, axis 1, gearbox for proper oil	4	7			
		level.		'			
		icvoi.					
		1. Clean immediate area around the axis 1					
		gearbox oil level plug.					
		2. Loosen and remove axis 1 gearbox oil level					
		plug.					
		3. Ensure the oil is at the level of the plug					
		opening threads.					
		4. Fill as needed with Shell Tivela S-220 or					
		Klüber GH 6-220 lubricant.					
		5. Replace plug and tighten securely.					
		6. Clean up any spilled oil.					
		WARNING					
		Discard solvent soaked materials					
		according to local procedures to					
		prevent spontaneous combustion.					
	13.	Check Robot 2, axis 2, gearbox for proper oil	4	7		1	1
	.0.	level.	-	'			
		1. Clean immediate area around the axis 2					
		gearbox oil level plug.					
		2. Loosen and remove axis 2 gearbox oil level					
		plug.					
		3. Ensure the oil is at the level of the plug					
		opening threads.					
		4. Fill as needed with Shell Tivela S-220 or					
		Klüber GH 6-220 lubricant.					
		Clean up any spilled oil.					
CLEAN UP	14.	Clean up. Ensure all tools, lubricants, rags,	2	All			
		etc., are removed from the work area. Report	_	'			
		all deficiencies to supervisor.					
							1
		WARNING					
		WARNING					
		Be cautious when working around or on					
		equipment when power has been					
		applied.					
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U.S. Postal Service								IDE	NTIF	ICAT	ION					
Maintenance Checklist		RK DE			_		MEN ⁻ NYM	-				ASS DE	N	UMBI	ER	TYPE
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Equipment Nomenclature	Equipment Model							В	ulletir	File	name	ı	reque	ency		
Robotic Containerization System							M	M14	122AD			ΑN	NUA	L		

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	S
Component	No	(Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Weeks
SYSTEM	15.	Restore power. Remove lockouts, restore power, and return machine to operational status as prescribed by the current local lockout instructions providing lockout/restore procedures.	3	9			

RCS MASTER CHECKLIST

03-RCS-AA-006-M

TWO YEAR

Time Total: 321 Minutes

Refer to MS-192 if additional maintenance information is required.

U.S. Postal Service								IDE	NTIF	ICAT	ION					
	WC	RK			Е	QUIF	MEN	Γ			CLA	ASS	N	UMBE	₽R	TYPE
Maintenance Checklist	CC	DE				ACRO	MYNC				CC	DE				
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Equipment Nomenclature	Equ	ipmer	nt Mo	del				В	ulletir	Filer	name		Freque	ency		
Robotic Containerization System									MI	M14	122AD)	-	TWC	YE,	4R

Dort or	Itam	Took Statement and Instruction	Гat	Min		Throobold	
Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill	Run	Threshold Pieces	s Weeks
23		(5.114, 1.11,	Req (min)	Lev	Hours	Fed (000)	rrooko
SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found, notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: 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.		All			
SYSTEM	2.	Ensure no one is standing in the safeguarded space around the robot and that the motion settings for jogging are correctly set. Carelessness can result in personal injury or damage to the equipment. Power down and lock out power. Power down the machine and lock out its electrical and pneumatic power sources as prescribed by the current local lockout/restore procedures. WARNING		9			
		Discard or dispose of chemical soaked materials according to MSDS and in accordance with local procedures.					

U.S. Postal Service								IDE	NTIF	ICATI	ON					
Maintenance Checklist		RK DE					MEN'				CLA CO		N	UMBE	ΞR	TYPE
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Equipment Nomenclature Robotic Containerization System	Equipment Model						В	ulletir MI		name 122AD		Freque	ency TWC) YE	AR	

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Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time	Min. Skill	Run	Threshold: Pieces	s Weeks
Component	110	(Comply Will all current salety prosauliency	Req	Lev	Hours	Fed	VVCCR3
			(min)			(000)	
ROBOT	3.	Lubricata Babat 1 axis 3 75mm bolt upper	60	9			
RUBUT	ა.	Lubricate Robot 1, axis 3, 75mm belt upper		9			
		roller bearing. Lubricate Robot 1, axis 3, 75mm					
		belt upper roller bearing per instructions in Axis 3 Lube Point Maintenance placard or MS-192,					
		Volume B, Section 3. Use Shell Albida LC2					
		grease.					
	4.	Lubricate Robot 1, axis 3, bearing blocks, and	60	9			
	٠.	Front Lubrication Units (FLUs). Lubricate		"			
		Robot 1, axis 3, bearing blocks, and FLUs per					
		instructions in Axis 3 Lube Point Maintenance					
		placard or MS-192, Volume B, Section 3. Use					
		Mobile SHC639 oil and Optimal Longtime PD2					
		grease.					
	5.	Lubricate Robot 2, axis 3, 75mm belt upper	60	9			
	٥.	roller bearing. Lubricate Robot 2, axis 3, 75mm ben upper					
		belt upper roller bearing per instructions in Axis 3					
		Lube Point Maintenance placard or MS-192,					
		Volume B, Section 3. Use Shell Albida LC2					
		grease.					
	6		60	9			
	6.	Lubricate Robot 2, axis 3, bearing blocks, and FLUs. Lubricate Robot 2, axis 3, bearing blocks,		9			
		and FLUs per instructions in Axis 3 Lube Point					
		Maintenance placard or MS-192, Volume B,					
		Section 3. Use Mobile SHC639 oil and Optimal					
		Longtime PD2 grease.					
	-			_			
	7.	Replace MEMOLUB automatic lubricator		9			
		pouches and batteries. Replace MEMOLUB					
		automatic lubricator pouches and batteries per instructions in MS-192, Volume B, Section 3.					
		Use MEMOLUB Refill Kit, GIGA 480, PSN 4730-					
		06-000-9841 (8 required for each RCS) and					
		MEMOLUB Refill Kit, MEGA 240, PSN 4730-06-					
		000-9842 (2 required for each RCS).					
OLEAN LIB		· · ·		A 11		-	
CLEAN UP	8.	Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all		All			
		deficiencies to supervisor.					
		delibiolicios to supervisor.					
		WARNING					
		WARNING					
		Be cautious when working around or on					
		equipment when power has been					
		applied.		1			
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U.S. Postal Service								IDI	ENTIF	ICATI	ON					
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Maintenance Checklist	CC	DE				ACR(<u>MYNC</u>				CC	DE				
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Equipment Nomenclature Robotic Containerization System	Equipment Model							E	Bulletir M l		name 122AD)	Freque	,	YE.	AR

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Weeks
SYSTEM	9.	Restore power. Remove lockouts, restore power, and return machine to operational status as prescribed by the current local lockout instructions providing lockout/restore procedures.		9			

RCS MASTER CHECKLIST

03-RCS-AA-007-M

THREE YEAR

Time Total: 171 Minutes

Refer to MS-192 if additional maintenance information is required.

U.S. Postal Service								IDE	NTIF	ICATI	ON					
Maintenance Checklist	CO	RK DE			_		MEN ⁻ NYM	-				ASS DE	N	UMBE	ĒR	TYPE
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Equipment Nomenclature	Equi	ipmer	nt Mo	del				В	Bulletir	ı Filer	name	1	reque	ency		
Robotic Containerization System								M	M14 ²	122AD)	T	HRE	E Y	EAR	

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	-
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	s Weeks
·			Req (min)	Lev	Hours	Fed (000)	
SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found, notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: 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.	1	All			
SYSTEM	2.	Power down and lock out power. Power down the machine and lock out its electrical and pneumatic power sources as prescribed by the current local lockout/restore procedures.		9			
PNUEMATIC SYSTEM	3.	Replace coalescing filter. 1. Turn filter holder clockwise to remove. 2. Unscrew filter and remove. 3. Screw new filter in place to secure it. 4. Install filter holder. Turn counterclockwise to lock in place.	2	7			
SYSTEM CONSOLE	4.	Replace uninterrupted power supply (UPS) battery. Replace UPS battery per instructions in MS-192, Volume B, Section 5.		9			
	5.	Replace computer BIOS battery. Replace computer BIOS battery per instructions in MS-192, Volume B, Section 5.		10			

MMO-058-15

U.S. Postal Service		IDENTIFICATION														
Maintanana Obaaldiat	WC						MEN				CLA		NUMBER			TYPE
Maintenance Checklist	CO	DE				ACRONYM					CODE					
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Equipment Nomenclature	Equ	Equipment Model					E	Bulletin Filename					Frequency			
Robotic Containerization System						MM14122AD				THREE YEA			EAR			

	.,	T 1 0 1 1 1 1	ask Statement and Instruction Est. Min. Thresholds y with all current safety precautions) Time Skill Run Pieces							
Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)					s Weeks			
Component	NO	(Comply with all current salety precautions)	Req (min)	Lev	Hours	Fed (000)	vveeks			
ROBOT	6.	Replace Robot 1 S4C batteries. Replace Robot 1 S4C batteries with cable per instructions in MS-192, Volume B, Section 5.		10						
	7.	Replace Robot 1 serial measurement board lithium battery pack. Replace Robot 1 serial measurement board lithium battery pack per instructions in MS-192, Volume B, Section 5.		10						
	8.	Replace Robot 2 S4C batteries . Replace Robot 2 S4C batteries with cable per instructions in MS-192, Volume B, Section 5.		10						
	9.	Replace Robot 2 serial measurement board lithium battery pack. Replace Robot 2 serial measurement board lithium battery pack per instructions in MS-192, Volume B, Section 5.		10						
		WARNING								
		Discard or dispose of chemical soaked materials according to MSDS and in accordance with local procedures.								
	10.	Change Robot 1, axis 1, gearbox oil. Change Robot 1, axis 1, gearbox oil per instructions in MMO-026-06 or MS-192, Volume B, Section 3. Use Shell Tivela S-220 or Klüber GH 6-220 lubricant.		9						
	11.	Change Robot 1, axis 2, gearbox oil. Change Robot 1, axis 2, gearbox oil per instructions in MMO-026-06 or MS-192, Volume B, Section 3. Use Shell Tivela S-220 or Klüber GH 6-220 lubricant.		9						
	12.	Change Robot 2, axis 1, gearbox oil. Change Robot 2, axis 1, gearbox oil per instructions in MMO-026-06 or MS-192, Volume B, Section 3. Use Shell Tivela S-220 or Klüber GH 6-220 lubricant.		9						
	13.	Change Robot 2, axis 2, gearbox oil. Change Robot 2, axis 2, gearbox oil per instructions in MMO-026-06 or MS-192, Volume B, Section 3. Use Shell Tivela S-220 or Klüber GH 6-220 lubricant.		9						

U.S. Postal Service		IDENTIFICATION														
Maintenance Checklist	WORK EQUIPMENT CODE ACRONYM											ASS DE	NUMBER			TYPE
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Equipment Nomenclature Robotic Containerization System	Equ	ipmer	nt Mo	del				E	Bulletir MI		name 122AD		reque T	,	E YI	EAR

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	
Component	No	(Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Weeks
CLEAN UP	14.	Clean up. Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.		All			
		WARNING Be cautious when working around or on equipment when power has been applied.					
SYSTEM	15.	Restore power. Remove lockouts, restore power, and return machine to operational status as prescribed by the current local lockout instructions providing lockout/restore procedures.		9			

RCS MASTER CHECKLIST

09-RCS-AA-001-M

OPERATIONAL MAINTENANCE TWO TOURS PER DAY

Time Total: 25 Minutes

Refer to MS-192 if additional maintenance information is required.

ITEM	TASK	MULTIPLIER	TOTAL
	TIME	FACTOR	MINUTES
1	1	1	1
2	1	1	1
3	1	3	3
4	1	3	3
5	1	3	3
6	1	3	3
7	2	3	6
8	5	1	5
	-		25

U.S. Postal Service		IDENTIFICATION														
Maintananaa Chaakliat	WC					QUIF						ASS	NUMBER			TYPE
Maintenance Checklist		CODE ACRONYM							CODE							
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Equipment Nomenclature	Equ	ipmer	nt Mo	t Model					Bulletin Filename				Frequency			
Robotic Containerization System									M	M14	122AD)				

Part or	Item	Task Statement and Instruction	Est.	Min.		Threshold	s
Component	No	(Comply with all current safety precautions)	Time	Skill	Run	Pieces	Weeks
			Req (min)	Lev	Hours	Fed (000)	
SAFETY STATEMENT	1.	COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found, notify supervisor prior to proceeding with any further action on the equipment. THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED. When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection. WARNING FOR EWP/PPE: 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.	1	All		(000)	
MACHINE LOG	2.	At the beginning of the tour examine machine log. Examine log and bring forward any unresolved problems from the previous tour. NOTE Operational checks must be made with machine processing mail in a normal operating mode.		9			
SYSTEM GENERAL	3.	Every two hours check for unusual sounds, odors. Be alert for unusual sounds, odors, or other indication of potential failure of the RCS.		9			
SYSTEM SAFETY INDICATORS	4.	Every two hours check warning horn and beacons. Check for proper operation of warning horns and beacons on start-ups.		9			

U.S. Postal Service		IDENTIFICATION														
Maintenance Checklist		-					EQUIPMENT ACRONYM						NUMBER			TYPE
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Equipment Nomenclature Robotic Containerization System	Equ	Equipment Model					1	I	Bulletir Ml		name 122AD		reque			

Part or	Item	Task Statement and Instruction	Est.	Min.	-	Threshold	s
Component	No	(Comply with all current safety precautions)	Time Req (min)	Skill Lev	Run Hours	Pieces Fed (000)	Weeks
SYSTEM INDICATORS	5.	Every two hours check lamps. Watch for proper functionality of all indicator lamps during normal machine operations. Correct deficiencies as soon as practical.		9			
REJECTS	6.	Every two hours check rejects. Check the RCS for rejects. Determine if they are due to tray/label hygiene or scan issues. Take appropriate action as practical.		9			
ACE COMPUTER	7.	Every two hours check MPEWatch. Check to ensure RCS is connected, transmitting Unit Load Transactions (ULX), and read rate is acceptable.		9			
ADMINISTRATIVE	8.	At the end of tour compile the following information: • Any work orders generated • Make entries in Machine Logbook of any discrepancies found during the tour Turn this information into Maintenance Supervision. Brief personnel coming on duty		9			