

MAINTENANCE TECHNICAL SUPPORT CENTER  
HEADQUARTERS MAINTENANCE OPERATIONS  
UNITED STATES POSTAL SERVICE



# Maintenance Management Order

**SUBJECT:** Operational, Predictive, & Preventive  
Maintenance Guidelines for Low Cost Reject  
Encoding Machine (LCREM)

**DATE:** March 29, 2013

**NO:** MMO-040-13

**TO:** Maintenance Manager LCREM Offices

**FILE CODE:** K3

rhau:mm12094ae

This Online Change removes all references to non-IMb codes from the MMO.

This Maintenance Management Order (MMO) provides Operational & Preventive Maintenance (PM) Guidelines for the Low Cost Remote Encoding Machine (LCREM). The acronym is LCREM and the class code is AA.

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

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

## WARNING

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

## WARNING

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

**WARNING**

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



Robert E. Albert  
Manager  
Maintenance Technical Support Center  
HQ Maintenance Operations

- Attachments
1. Summary Workload Estimate For LCREM
  2. LCREM Master Checklist: 03-LCREM-AA-001-M: Daily
  3. LCREM Master Checklist: 03-LCREM-AA-002-M: Weekly
  4. LCREM Master Checklist: 03-LCREM-AA-003-M: Monthly
  5. LCREM Master Checklist: 03-LCREM-AA-004-M: Quarterly
  6. LCREM Master Checklist: 03-LCREM-AA-005-M: Semi-Annually
  7. LCREM Operational Maintenance Procedures:  
09-LCREM-AA-001-M

**ATTACHMENT 1**

**SUMMARY  
WORKLOAD ESTIMATE  
FOR  
LCREM**

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**SUMMARY  
WORKLOAD ESTIMATE  
FOR  
LCREM**

Operation	Routine Servicing (Hrs/Yr)	Repair* (Hrs/Yr)	Routine Servicing + Repair Time (Hrs/Yr)	Non-productive Time** (Hrs/Yr)	Total Servicing Per Machine (Hrs/Yr)	Operational Maintenance + Total Servicing		
						1 Tour (Hrs/Yr)	2 Tours (Hrs/Yr)	3 Tours (Hrs/Yr)
5	475.80	142.74	618.54	61.85	680.39	845.06	1009.73	1174.39
6	557.27	167.18	724.45	72.44	796.89	994.49	1192.09	1389.69
7	638.73	191.62	830.35	83.04	913.39	1143.92	1374.46	1604.99

**NOTES:**

\*Repair estimates based on 30% of servicing.

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

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**ATTACHMENT 2**

**LCREM MASTER CHECKLIST**

**Daily**

03-LCREM-AA-001-M

Time Total: 94 minutes

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	1
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Daily				

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

SAFETY STATEMENT	1.	<b>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.</b>  <b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b> 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 can not be used. Report safety deficiencies to your supervisor immediately upon detection.  <b>WARNING FOR EWP/PPE:</b> Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.	3	ALL			
SYSTEM	2.	<b>Generate and view an End Of Run report.</b> Analyze data provided on this report to determine if any areas of machine are degrading or need attention.	2	10			
	3.	<b>Initiate IJP shutdown.</b>  1. If the printhead is On (square light in upper right corner on Start/Stop key is lit or flashing), press the Start/Stop key on the keyboard to turn the printhead Off. Press F2 to start shutdown. Wait for the printhead shutdown procedure to complete (about 2 minutes). The vacuum gauge will read 0 when the printhead shutdown procedure is complete.  2. Press the AC power switch (located below the keyboard) to the OFF (O) position to turn the AC power off.	4	7			



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		<div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <p><b>Before performing the following steps you must don the appropriate PPE as required by the current Electrical Work Plan (EWP) MMO.</b></p>					
MACHINE	4.	<b>Power down and lockout procedure.</b> Power down the machine and lock out power and compressed air as prescribed by current local lockout instructions providing lockout/restore procedures.	2	ALL			
MACHINE	5.	<b>Open machine, search for mail.</b> 1. Open all machine doors and covers. 2. Remove all machine panels. Search for mail pieces. 3. Remove any mail pieces found. 4. Follow local procedures for returning mail to operations for processing.	5	7			
FEEDER MODULE	6.	<b>Clean Feeder/Jogger Modules.</b> 1. Clean/vacuum outside surfaces of Feeder Module. 2. Clean/vacuum internal areas of Feeder Module. 3. Clean/vacuum outside surfaces of jogger assembly. 4. Clean/vacuum underside surfaces of jogger assembly. Visually check for broken components and loose cabling while cleaning. 5. Search for mail pieces. 6. Remove any mail pieces found. 7. Follow local procedures for returning mail to operations for processing. 8. Clean/vacuum the following items: a. Area around the pickoff belts (Stripper assemblies, Compensator levers, etc.). b. The P-DZ90 and P-LS80.	5	7			

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	7.	<b>Check Feeder.</b> Check Feeder as follows: 1. Check Teflon strip for wear. 2. Check friction strips for proper wear and installation. 3. Check pickoff belts for wear. 4. Replace/repair using work order as required. 5. If Feeder Module cover gas springs are unable to hold cover in uppermost position, replace defective gas spring using work order for additional time.	2	9			
READER MODULE	8.	<b>Clean Reader Module.</b> 1. Clean the letter transport area and interior of the Reader Module, including the 24V power supply and the light barriers (wipe off with micro fiber glove or cloth). 2. Do a visual check for loose, deformed, split, or torn belts; damaged photocells; broken, cut, or frayed cables when cleaning Reader Module. 3. If Reader Module cover gas springs are unable to hold cover in uppermost position, replace defective gas spring using work order for additional time. 4. Search for mail pieces. 5. Remove any mail pieces found. 6. Follow local procedures for returning mail to operations for processing.	5	7			
READER MODULE (CONT.)	9.	<b>Clean WFOV Assembly.</b> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;"> <b>WARNING</b> </div> <p><b>Use extreme caution when working around the WFOV aperture. The edges of the aperture may become extremely sharp during use of the LCREM.</b></p> 1. Following safety precautions, remove the Aperture/Illumination Assembly, loosen the thumbscrew on top, and pull straight up to remove. Check the aperture plates and	6	7			

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		sapphire glass for foreign objects. 2. Remove dust build-up on exterior of camera sapphire glass using dry cotton swabs. If adhesive build-up appears on the sapphire glass, use a swab or soft cloth wetted with an acceptable site approved cleaner. 3. If dust is found inside Aperture/Illumination Assembly refer to MS-212, Appendix A for detailed cleaning instructions. 4. Replace the Aperture/Illumination Assembly. Slide assembly straight down on the front of camera head assembly and tighten thumbscrew.					
READER MODULE (CONT.)	10.	<b>Clean ICS-3 System Read Head.</b> Clean ICS-3 system read head as follows: 1. Clean ICS-3 read head. Recommended cleaner is Riptide, NSN 6850-01-394-0164. 2. Clean read head reflector. Recommended cleaner is Riptide.	1	7			
ENCODE AND PRINT MODULE (EPM)	11.	<b>Clean Encode and Print Module.</b> <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p>Edges of the spiral stacking auger may be sharp. Use extreme caution when working near the spiral-stacking auger.</p> <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p>Use extreme caution in the area of the pocket assembly wear plate. On some machines, the wear plate extends past the edge of its base and into the stacker area, exposing sharp edges.</p> 1. Clean/vacuum the Encode and Print Module (EPM) area. 2. If EPM cover gas springs unable to hold cover in uppermost position, replace defective gas spring using work order for additional time. 3. Clean the letter transport area and interior of the EPM, including the light barriers (wipe off	5	7			

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		with micro fiber glove or cloth).  4. Do a visual check for loose, deformed, split, or torn belts; misaligned photocells; broken, cut, or frayed cables; compressed or missing rubber cushions when cleaning the EPM.  5. Clean verifier lens.  6. Remove any loose label material from the mail transport.  7. Remove any label material from module belts, rollers, diverters, etc.  8. Search for mail pieces.  9. Remove any mail pieces found.  10. Follow local procedures for returning mail to operations for processing.					
LABELER	12.	<b>Clean labeler cutting blades and filter.</b>  <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div>  <b>Use extreme caution when working around labeler cutting blades. The sharp blades could cause bodily injury.</b>  <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div>  <b>Silicone oil will be present when performing procedure. Product must be handled according to instructions in the current Material Data Safety Sheet (MSDS). Failure to do so could result in bodily injury.</b>  1. Clean Bell and Howell labeler cutting blades with silicone oil.  2. Clean filter on Bell and Howell labeler. Replace filter when impacted dirt and debris can not be removed by vacuuming.	4	9			

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INK JET PRINTER (IJP)	13.	<b>Clean IJP print head and guide plate (fence).</b> Clean IJP print head and guide plate (fence) as follows:  <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <b>When disposing of ink or ink saturated waste, refer to procedures outlined in current Material Safety Data Sheets (MSDS).</b>  <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <b>Eye protection (goggles or face shield) must be worn when flushing away contaminants using make-up fluid.</b>  <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>CAUTION</b></div> <b>Use extreme care in charge tunnel area. Do not touch or bump charge tunnel.</b>  1. Remove print head and protective sleeve from deck plate mount. 2. Remove print head from protective sleeve and place in holder aiming it into service tray. 3. Flush away contaminants using make-up fluid. Use solution sparingly. 4. Dry all areas thoroughly including inside of charge tunnel. 5. Re-install print head in protective sleeve. 6. Clean fence using a towel and cleaning solution or make-up fluid. 7. Re-install print head and protective sleeve in deck plate mount.	8	7			
INK JET PRINTER (IJP)	14.	<b>Check/replace low IJP fluid bottles.</b> Check and replace low IJP fluid bottles.  <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <b>When disposing of ink or ink saturated waste, refer to procedures outlined in current Material Safety Data Sheets (MSDS).</b>	4	7			

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		<p align="center"><b>NOTE</b></p> <p>Place the make-up fluid bottle on left.</p> <p align="center"><b>NOTE</b></p> <p>Do not use expired ink or make-up fluid.</p> <ol style="list-style-type: none"> <li>Open printer side panel door.</li> <li>Remove and discard ink bottle if fluid level is low.</li> </ol> <p align="center"><b>CAUTION</b></p> <p><b>When performing next step, do not pour leftover fluid into replacement bottle. Contamination may occur.</b></p> <ol style="list-style-type: none"> <li>Insert new bottle and replace cap.</li> <li>Clean up any spilled or splattered fluid.</li> <li>Close printer door.</li> </ol>					
STACKER MODULE	15.	<p><b>Clean the stacker transport.</b></p> <p align="center"><b>WARNING</b></p> <p><b>Edges of the spiral stacking auger may be sharp. Use extreme caution when working near the spiral-stacking auger.</b></p> <p align="center"><b>WARNING</b></p> <p><b>Use extreme caution in the area of the pocket assembly wear plate. On some machines, the wear plate extends past the edge of its base and into the stacker area, exposing sharp edges.</b></p> <ol style="list-style-type: none"> <li>Clean/vacuum stacker transport area and pocket assemblies, including light barriers (use micro fiber glove or cloth).</li> <li>Search for mail pieces.</li> <li>If Stacker Module cover gas springs are unable to hold cover in uppermost position, replace defective gas spring using work order for additional time.</li> <li>Remove any loose label material from the mail transport.</li> </ol>	5	7			

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		5. Remove any label material from module belts, rollers, diverters, etc. 6. Remove any mail pieces found. 7. Follow local procedures for returning mail to operations for processing.					
MACHINE	16.	<b>Close panels.</b> Close all machine doors, covers, and machine panels.	3	7			
CLEAN UP	17.	<b>Clean up.</b> Ensure tools and materials are removed from the area.  <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <b>Be cautious when working around or on equipment when power has been applied.</b>	1	7			
		<div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <b>Before performing the following steps you must don the appropriate PPE as required by the current Electrical Work Plan (EWP) MMO.</b>					
SYSTEM	18.	<b>Restore power to equipment.</b> Restore power to equipment as prescribed by the current local procedures providing lockout/restore procedures.	3	ALL			
IJP	19.	<b>Power up bar code printer.</b> Press the AC power switch to the ON (I) position to restore the bar code printer to operation. Once the printer has powered on, press the Start/Stop button. Once the printer is up and the Start/Stop button stops blinking, press the Print button.	2	7			
MACHINE	20.	<b>Check basic machine functions.</b> 1. Turn Service Mode switch on Operator Control Panel to Service Mode position. 2. Start machine. Verify when Start switch is pressed, start-up warning indicators around sorter flash. At the same time, start-up warning beepers sound. The beepers sound for 5 seconds and go off, while warning indicators continue to flash for a total of 10 seconds.	4	9			

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		3. Perform a visual and audible check of the machine to verify there are no problems with belt tracking, bearing noise, inappropriate bin gate activity, or any indications of impending or existing machine problems.  4. Proceed to the end stacker and press the Emergency Stop button. Verify that the machine stops.  5. If machine fails to stop, notify supervisor.  6. De-activate E-Stop and turn Maintenance Mode switch back to Normal on Operator Control Panel.					
SYSTEM	21.	<b>Run WFOV test deck</b> (NSN 3915-06-000-8292). 1. Log into the Sort Computer as Maintenance (m) with the appropriate password. 2. From the LCREM Main Menu Select PROCESS MAIL. 3. Select LOAD SORTPLAN. 4. In the PRIMARY SORTATION SORTPLAN FILE SELECTION dialog select TestWfov.prs and press the SELECT button. 5. Select LOAD in the SORTPLAN INFO dialog. 6. Place the WFOV test deck on the jogger and jog it for 30-45 seconds.  <b>NOTE</b>  It is important that the test deck is jogged properly to ensure that none of the mail pieces are shifted away from the leading edge of the envelope. If the mail piece is shifted inside of the envelope, the leading edge of the envelope may bend back or "dog ear" resulting in a portion of the barcode being obscured making it unreadable by the WFOV camera.  7. Slide the WFOV test deck up to the feeder with the address block of the test mail facing way from the pick-off belts and place the Feeder Transport Paddle behind the test deck.  8. Rotate the slide switch to the DISENGAGE	3	9			



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		<p>position.</p> <p>9. Press the start button on the Operator Control Panel (OCP).</p> <p>10. Once the machine has started, rotate the slide switch to the ENGAGE position.</p> <p>11. Let the machine run until all mail pieces have been fed.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>Do not hand-feed the mail! If the machine will not feed the mail on its own, then there are mechanical issues that need to be addressed.</p> <p>12. After all of the mail has fed, press the stop button on the OCP. The machine will stop.</p> <p>13. Select <b>View Interim Report</b> from the top of the screen and verify the results of the run are within specification.</p> <p>Expected Results:</p> <p>Pieces Fed: <b>400</b></p> <p>Machine Acceptance Rate (MAR): <b>100%</b></p> <p>Gross Acceptance Rate (GAR): <b>100%</b></p> <p>Machine Throughput: <b>&gt;=18,500 pph</b></p> <p>Pocket Counts:</p> <p style="padding-left: 40px;"><b>Stacker 1: 0</b></p> <p style="padding-left: 40px;"><b>Stacker 2: 108</b></p> <p style="padding-left: 40px;"><b>Stacker 3: 56</b></p> <p style="padding-left: 40px;"><b>Stacker 4: 115</b></p> <p style="padding-left: 40px;"><b>Stacker 5: 121</b></p> <p>Any deviation from the results above is indicative of machine problems or a problem with the WFOV test deck.</p>					
	22.	<p><b>Run ICS Test Deck</b> (NSN 3915-10-000-6361)</p> <p>1. Log in as Maintenance (<b>m</b>) with the appropriate password.</p> <p>2. From the LCREM Main Menu Select PROCESS MAIL.</p> <p>3. Select LOAD SORTPLAN.</p> <p>4. In the PRIMARY SORTATION SORTPLAN FILE SELECTION dialog Testldtag.prs and press the SELECT button.</p>	2	9			

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		5. Select LOAD in the SORTPLAN INFO dialog. 6. Place the ICS test deck in the feeder with the text on the test pieces facing the pick off belts. Place the Feeder Transport Paddle behind the test deck. 7. Rotate the slide switch to the DISENGAGE position. 8. Press the start button on the Operator Control Panel (OCP). 9. Once the machine has started, rotate the slide switch to the ENGAGE position. 10. Let the machine run until all mail pieces have been fed.  <p style="text-align: center;"><b>NOTE</b></p> <p>Do not hand-feed the mail! If the machine will not feed the mail on its own, then there are mechanical issues that need to be addressed.</p> 11. After all of the mail has fed, press the END OF RUN PRINT REPORT button on the OCP. The machine will stop and the run will end. 12. View the stacker pockets and verify the cards have sorted as follows:  Expected Results:  Pieces Fed: <b>4</b> Machine Acceptance Rate (MAR): <b>100%</b> Gross Acceptance Rate (GAR): <b>75%</b> Stacker Pocket Contents: <b>Stacker 1: Card 1</b> <b>Stacker 2: Card 8</b> <b>Stacker 4: Card 10</b> <b>Stacker 5: Card 5</b>  Any deviation from the results above is indicative of machine problems or a problem with the ICS test deck.					
SYSTEM	23.	<b>OCR Test</b> This function has not yet been implemented in the software.	3	9			

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

SYSTEM	24.	<b>Label/IJP Test</b>  <b>Verify Label and Barcode Application.</b>  1. Log in to the LCREM application using User: <b>m</b> and enter the appropriate password.  2. From the MAIN menu, select <b>PROCESS MAIL</b> .  3. Select <b>LOAD SORTPLAN</b> .  4. Select <b>TestPrn.prs</b> . Press <b>SELECT</b> and <b>LOAD</b> .  5. Obtain several blank test cards.  6. Press <b>Print Test</b> on the SC. Enter routing code 12345. Click <b>OK</b> .  7. Run the blank cards and verify that a label is applied, a barcode is printed, and the mailpiece sorts to the appropriate bin (not reject). The printed and verified result can be viewed by selecting the <b>MPC Codes</b> button in the upper right hand corner of the screen and looking under the <b>Verifier</b> column.  8. Verify that the front side label and barcode position is correct using label application template NSN: 5220-03-000-5594 and barcode template NSN: 6675-03-000-9366.  <p style="text-align: center;"><b>NOTE</b></p> <p>The barcode and/or label applied to first piece of test mail will be shifted to the left approximately 1/4". This is a known issue with the software. Do not use the first piece of test mail for barcode or label position verification.</p> 9. If the label or barcode position is correct, go to Step 11. If the label or barcode position requires adjustment, perform the following sub-steps:  a. Press <b>CTRL, CTRL, 3</b> on the system keyboard to access the EPMC.  b. The maintenance account will be automatically logged in. Using the menu on the top left corner of the screen, select "System", and then "Log out maint...".	10	10			
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U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M			A	A	0	0	1
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Daily			

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

		<p>c. At the prompt, click "Switch User". The user login screen should appear.</p> <p>d. Log in to the EPMC as <b>Administrator</b> with the appropriate password if not already logged in.</p> <p>e. Log in to the GUI as <b>admin</b> if not already logged in.</p> <p>f. Select the <b>Configuration</b> link in the upper, left-hand corner of the screen.</p> <p>g. Select the <b>Labeler/Printer</b> tab in the EPMC configuration dialogue.</p> <p>h. Adjust the Front Label Delay parameter to a larger value to move the label position to the left, or a smaller value to move the label to the right.</p> <p>i. Adjust the appropriate barcode delay parameter (depends on the type of barcode being printed, i.e. 5-digit, 9-digit, 11-digit). Adjust the parameter to a larger value to move the barcode position to the left, or a smaller value to move the barcode to the right.</p> <p>j. Select <b>Save</b>.</p> <p>k. Run several more test mailpieces to verify the changes took affect.</p> <p>l. Repeat sub-steps g through j until proper label and barcode application has been achieved.</p> <p>10. Return to the SC by pressing <b>CTRL, CTRL, 1</b> on the system keyboard.</p> <p>11. Repeat steps 6 through 10 to verify the position of 9-digit IMb codes and 11-digit IMb codes. Use the following values:</p> <p style="padding-left: 40px;">9-Digit: 123456789</p> <p style="padding-left: 40px;">11-Digit: 12345678901</p> <p style="padding-left: 40px;">Select <b>End Run</b> on the Operator Control panel.</p> <p>12. Select <b>OK</b>.</p>					
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U.S. Postal Service  <b>Maintenance Checklist</b>		IDENTIFICATION													
		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	L	C	R	E	M		A	A	0	0	1	M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Daily			

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

CLEAN UP	25.	<b>Clean up.</b> Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.	2	All			
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U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M			A	A	0	0	1
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Daily			

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

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**ATTACHMENT 3**

**LCREM MASTER CHECKLIST**

**Weekly**

03-LCREM-AA-002-M

Time Total: 35 minutes

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M			A	A	0	0	2
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Weekly			

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

SAFETY STATEMENT	1.	<b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b> Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout 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.  <b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b> 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.  <b>WARNING FOR EWP/PPE:</b> Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.	3	ALL			
		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> Be cautious when working around or on equipment when power has been applied.					
	2.	<b>Check IJP vacuum and positive air pressure.</b> 1. Check that IJP vacuum gauge reads between 12 and 13 inches in vacuum. Refer to MS-224. 2. Check IJP positive air with flow meter for 2.0 ± 0.5 Standard Cubic Feet per Hour (SCFH). 3. Address any deficiencies found.	4	9			



U.S. Postal Service  <b>Maintenance Checklist</b>		IDENTIFICATION												
		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER		TYPE
		0	3	L	C	R	E	M		A	A	0	0	2
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Weekly		

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

LABELER	3.	<b>Clean and check labeler.</b>  <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <b>Use extreme caution when working around labeler cutting blades. The sharp blades could cause bodily injury.</b>  <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <b>Silicone oil will be present when performing procedure. Product must be handled according to instructions in the current Material Data Safety Sheet (MSDS). Failure to do so could result in bodily injury.</b>  1. Remove and clean labeler cutting blades. 2. Check labeler wick for damage or residue. 3. Clean label application roller using Scrubs in a Bucket towelette. 4. Check labeler oil level and replenish as necessary.*	4	9			
	4.	<b>WFOV Installation Calibration From Camera Maintenance Screen:</b> (For detailed instructions refer to MS-212.)  1. Place the LCREM transport in service mode at the Operator Control Panel. 2. Ensure system is Off Line and WFOV Main Screen is displayed. If system is not in Off Line mode, press F3. 3. With WFOV Screen displayed click the System Analysis button or press F5. 4. In WFOV System Analysis screen, click the Camera Maintenance button or press F5. 5. In the WFOV Camera Maintenance screen, click on the Tools menu. 6. From Tools menu, select Installation Calibration. 7. The first Installation Calibration Wizard screen opens. Click the <b>Next</b> button.	6	9			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M		A	A	0	0	2	M
Equipment Nomenclature Low Cost Remote Encoding Machine			Equipment Model LCREM					Bulletin Filename mm12094ae			Occurrence Weekly			

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

		8. The second Installation Calibration Wizard screen opens. At this point, start the transport by pressing the Start button on the Operator Control Panel.  9. Feed the Set-up Calibration Card (P/N 237A082-2) as directed by the on screen instructions.  10. Continue to follow the on screen instructions.  11. Verify correct leading and bottom edge capture in accordance with the MS-212.  12. When the calibration is complete, click Finish as directed by the on screen directions.					
WFOV	5.	<b>WFOV AUTO Calibration. From Camera Maintenance Screen:</b> (For detailed instructions refer to the MTSC LCREM equipment pages.)  1. Ensure system is Off Line and WFOV Main Screen is displayed. If system is not in Off Line mode, press F3.  2. With WFOV Screen displayed click the System Analysis button or press F5.  3. In WFOV System Analysis screen, click the Camera Maintenance button or press F5.  4. Place WFOV Illumination Calibration test card (PSN 3915-06-000-0139) between the transport belt and read head assembly with the card identification facing away from the read head assembly, ensuring the card bottom edge contacts the transport deck along the full length of the edge. Position the card so that the white outer edge of the card is in front of the WFOV aperture, and none of the black printing on the card is exposed to the aperture on either side of the card.  5. In the WFOV Camera Maintenance screen, click on the Tools menu.  6. From Tools menu, select Auto Calibration.  7. The Auto Calibration process takes approximately 1.5 minutes. From the File menu, select Exit.	3	9			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE		
	0	3	L	C	R	E	M			A	A	0	0	2	M	
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Weekly					

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

		<p>8. Remove the illumination card.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>The LCREM WFOV Auto Calibration procedure is different than the procedure for any other MPE. Because the LCREM runs at a slower speed than other MPE utilizing the WFOV, the LCREM requires a calibration card that is a “brighter” white. The back of the Set-Up Calibration card (237A082-2) is also used for this reason for the Auto Calibration.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>Position the WFOV Set-Up calibration card (237A082-2) in front of the WFOV RHA aperture in such a way that the printing on the card will not be in front of the WFOV aperture. The WFOV will read the print through the card and the integrity of the illumination calibration will be comprised if the card is placed improperly.</p> <p>9. Place WFOV Set-Up Calibration test card between the transport belt and read head assembly with the test pattern facing away from the read head assembly, ensuring the card bottom edge contacts the transport deck along the full length of the edge. Position the card so that the white outer edge of the card is in front of the WFOV aperture, and none of the black printing on the card is exposed to the aperture on either side of the card.</p> <p>10. In the WFOV Camera Maintenance screen, click on the Tools menu.</p> <p>11. From Tools menu, select Auto Calibration.</p> <p>12. The Auto Calibration process takes approximately 1.5 minutes. From the File menu, select Exit.</p> <p>13. Click Close or press F12 in the System Analysis screen.</p> <p>14. Click Go On-Line or press F4 in the WFOV Main Screen.</p>					
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U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M			A	A	0	0	2
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Weekly			

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

		15. Remove the Set-Up Calibration card.					
	6.	<b>Verifier Calibration Verification</b>  1. Log in as Maintenance (user <b>m</b> ) with the appropriate password. 2. From the LCREM Main menu, select <b>PROCESS MAIL</b> . 3. Select <b>LOAD SORTPLAN</b> . 4. In the PRIMARY SORTATION SORTPLAN FILE SELECTION dialog, select <b>Testlvt.prs</b> and press the <b>SELECT</b> button. 5. Select <b>LOAD</b> in the SORTPLAN INFO dialog. 6. Place the Bar Code Verifier Calibration Test Card (66.0032.001-01 Rev. A) against the pick-off belts with the print facing away from the belts. Place the feeder paddle in front of the test card. 7. Rotate the slide switch to the DISENGAGE position. 8. Press the <b>Start</b> button on the Operator Control Panel (OCP). 9. Once the machine has started, rotate the slide switch to the ENGAGE position. 10. The test card should feed. After the test card has sorted to a pocket, press the <b>Stop</b> button on the OCP. 11. If the test card was recognized and read successfully by the verifier, then it should have sorted to Pocket 2. If the test card was not recognized and read successfully by the verifier, then it should have sorted to Pocket 1. 12. For verification, switch over to the EPMC by selecting <b>CTRL, CTRL, 3</b> on the system keyboard. 13. Open a new browser tab by selecting File, and then New Tab.	5	9			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M			A	A	0	0	2
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Weekly			

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

		14. Select the Home button. 15. Log into the Graphical User Interface (GUI) as admin user. 16. Go to the left side of the screen and select the Diagnostics Link in the Verifier Image tab. 17. Select Get Image. 18. The verifier image download will take 2-3 minutes. The image will be displayed once the upload is complete. 19. The verifier recognizes the calibration card by its barcode. When the verifier reads the barcode, it automatically attempts to measure the distance between the vertical lines on the leading and trailing edges of the card. If the measurements are correct, the <b>Verifier Result Type</b> field will read <b>0x07 – IVT Test Target Found</b> . If the measurements are incorrect, the <b>Verifier Result Type</b> field will read <b>0x08 – IVT Test Target Found – Calibration Required</b> . 20. When finished, select <b>System, Log Out maint</b> , then select <b>Log Out</b> . This will log you out of the GUI and the default maint screen will come back up.					
	7.	<b>Touch Screen Calibration.</b> 1. From the Main Menu of the LCREM application software on the LCREM sort computer select Shutdown. 2. Select OK. 3. The LCREM Application software will shut down. At the Login prompt enter calibrate. 4. Follow the instructions on the screen. 5. Select Exit. 6. Cycle power on the LCREM sort Computer.	5	9			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	2
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Weekly				

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

	8.	<b>Check Date and Time on the LCREM Sort, WFOV, and EPM computers.</b> <ol style="list-style-type: none"> <li>Press <b>ctrl, ctrl, 1</b> on the system key to access the LCREM Sort Computer board.</li> <li>At the CSBCS login screen, login as Maintenance (<b>m</b>) with the appropriated password and press Enter.</li> <li>Select <b>SYSTEM MANAGEMENT</b>.</li> <li>Select <b>CONFIGURATION</b>.</li> <li>Select <b>SET DATE/TIME</b>.</li> <li>Verify date &amp; time and enter the correct Date and Time if necessary.</li> <li>Press <b>OK</b>.</li> <li>Select <b>BACK</b>.</li> <li>Select <b>BACK</b>.</li> <li>Select <b>LOGOUT</b>.</li> <li>Press <b>ctrl, ctrl, 2</b> on the system keyboard to access the WFOV Computer.</li> <li>Verify that the date and time in the lower right hand corner of the screen are correct. Enter the correct date and time if necessary.</li> <li>Press <b>ctrl, ctrl, 3</b> on the system keyboard to access the Encode and Print Module Computer.</li> <li>Log in to the application software as user <b>admin</b> with the appropriate password.</li> <li>Verify that the date and time in the upper right hand corner of the screen are correct. Enter the correct date and time if necessary.</li> </ol>	3	10			
CLEAN UP	9.	<b>Clean up.</b> Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.	2	All			

**ATTACHMENT 4**

**LCREM MASTER CHECKLIST**

03-LCREM-AA-003-M

MONTHLY

Time Total: 102 Minutes

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	3
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Monthly				

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

SAFETY STATEMENT	1.	<p><b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b>            Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.</p> <p><b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b>            When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection.</p> <p><b>WARNING FOR EWP/PPE:</b>            Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.</p>	3	ALL			
	2.	<p><b>Initiate IJP shutdown.</b></p> <ol style="list-style-type: none"> <li>1. If the printhead is On (square light in upper right corner on Start/Stop key is lit or flashing), press the Start/Stop key on the keyboard to turn the printhead Off. Press F2 button to start shutdown. Wait for the printhead shut-down procedure to complete (about 2 minutes). The vacuum gauge will read 0 when the printhead shutdown procedure is complete.</li> <li>2. Press the AC power switch (located below the keyboard) to the OFF (O) position to turn the AC power off.</li> </ol>	4	7			



U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION															
	WORK CODE			EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	3	M
Equipment Nomenclature <b>Low Cost Remote Encoding Machine</b>			Equipment Model <b>LCREM</b>						Bulletin Filename <b>mm12094ae</b>				Occurrence <b>Monthly</b>			

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

		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p>Steps contained in this bulletin may require the use of <b>Personal Protective Equipment (PPE)</b>. Refer to the current <b>Electrical Work Plan (EWP) MMO</b> for appropriate PPE requirements.</p>					
MACHINE	3.	<b>Power down and lockout procedure.</b> Power down the machine and lock out power and compressed air as prescribed by the current local lockout instructions providing lockout/restore procedures.	2	ALL			
IJP	4.	<b>Replace vacuum filter.</b> Replace vacuum filter as follows: <div style="border: 1px solid black; padding: 2px; text-align: center; margin: 10px 0;"><b>WARNING</b></div> <p><b>When disposing of ink or ink saturated waste, refer to procedures outlined in current Material Safety Data Sheet (MSDS).</b></p> <p style="text-align: center;"><b>NOTE</b></p> <p>Refer to MS-224 for illustrations and information related to replacing vacuum filter.</p> <ol style="list-style-type: none"> <li>Turn the fitting located on top of the vacuum filter counterclockwise one turn, and remove the fitting from the filter.</li> <li>Pull the vacuum tube (attached to the top of the vacuum filter) off of the barbed fitting located behind the vacuum filter.</li> </ol> <p style="text-align: center;"><b>NOTE</b></p> <p>Some ink may spill from the bottom of the vacuum filter once it has been removed. Have absorbent towels on hand to clean any ink spillage.</p> <ol style="list-style-type: none"> <li>Remove the vacuum filter from the top of the ink module by turning the filter counterclockwise until it becomes loose.</li> <li>Discard the old vacuum filter and attached</li> </ol>	7	7			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	3
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Monthly				

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

		tubing.  5. Make certain that the "O" ring is in place on the filter, then thread the new vacuum filter into the top of the ink module until it is finger tight. Do not over tighten.  6. Push the tube (supplied with the filter) onto the stem on top of the vacuum filter, and insert the opposite end of the tube onto the barbed fitting located behind the vacuum filter.  7. Install the fitting removed in step #3 into the top of the new vacuum filter.					
	5.	<b>Clean bar code printer cabinet.</b> Clean interior and exterior of bar code printer cabinet as follows:  1. Open printer door.  2. Wipe interior and exterior of printer cabinet using lint free rags and make-up fluid.  3. Close printer door.  4. Dispose of rags.	2	7			
	6.	<b>Clean light barriers adjacent to bar code printer print head.</b> Clean light barriers adjacent to bar code printer print head by wiping away ink buildup from light barrier lens using a cotton swab and Videojet make-up or cleaning solution.	3	7			
FEED TABLE	7.	<b>Check for wear.</b>  1. Check transport belt for splits, tears, and deformity. Check drive chain for stretch, sprockets for broken teeth and sprocket teeth wear. If chain needs lubrication, refer to LCREM Maintenance Handbook at completion of this route.  2. Check transport paddle, transport paddle mounting bracket, clutch.	8	9			
FEED TABLE	8.	<b>Check Transport Paddle Adjustments. Refer to MS-267 for detailed instructions.</b>	8	7			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M			A	A	0	0	3	M
Equipment Nomenclature <b>Low Cost Remote Encoding Machine</b>	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Monthly				

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

		Check transport paddle adjustments to include: <ul style="list-style-type: none"> <li>• Transport Paddle Clutch Pressure Adjustment.</li> <li>• Transport Paddle Stop Screw Adjustment.</li> <li>• Transport Paddle Belt Tension Adjustment.</li> <li>• Transport Paddle Chain Tension Distance.</li> </ul> Write work orders as needed to address any deficiencies found.					
		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p><b>Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.</b></p>					
FEEDER MODULE	9.	<b>Check Feeder Module.</b> <ol style="list-style-type: none"> <li>1. Check all belts (drive and letter transport) for proper adjustment and indications of wear. Replace worn, deformed, split, or torn belts.</li> <li>2. Check all rollers (drive/idler) for proper adjustment and indications of wear. Replace and/or adjust rollers as required.</li> <li>3. Clean any dirt or glue buildup from rollers using cleaning solvent.</li> <li>4. Write work orders as needed for replacement of belts, rollers, etc.</li> </ol>	3	9			
		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p><b>Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.</b></p>					
READER MODULE	10.	<b>Check Reader Module.</b> <ol style="list-style-type: none"> <li>1. Check all belts (drive and letter transport) for proper adjustment and indications of wear. Replace worn, deformed, split, or torn belts.</li> </ol>	4	9			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	3
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Monthly				

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

		2. Check all rollers (drive and idler) for proper adjustment and indications of wear. Replace and adjust rollers as required.  3. Clean any dirt or glue buildup from rollers.  4. Write work orders as needed for replacement of belts, rollers, etc.					
ENCODE AND PRINT MODULE	11.	<b>Check Encode and Print Module.</b>  <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <b>The edges of the spiral stacking auger may be sharp. Use extreme caution when working near the spiral stacking auger.</b>  <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <b>Use extreme caution in the area of the pocket assembly wear plate. On some machines, the wear plate extends past the edge of its base and into the stacker area, exposing sharp edges.</b>  1. Check all belts (drive and letter transport) for proper adjustment and indications of wear. Replace worn, deformed, split, or torn belts.  2. Check all rollers (drive/idler) for proper adjustment and indications of wear. Replace and/or adjust rollers as required.  3. Check that the label press roller is adjusted properly. See MS-267 for detailed adjustment procedures.  4. Clean any dirt or glue buildup from rollers using cleaning solvent.  5. Write work orders as needed for replacement of belts, rollers, etc.	4	9			
		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div>  <b>Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.</b>					

U.S. Postal Service  <b>Maintenance Checklist</b>		IDENTIFICATION													
		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	L	C	R	E	M		A	A	0	0	3	M
Equipment Nomenclature <b>Low Cost Remote Encoding Machine</b>		Equipment Model <b>LCREM</b>						Bulletin Filename <b>mm12094ae</b>			Occurrence <b>Monthly</b>				

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

STACKER/TURN MODULE	12.	<b>Check Stacker/Turn Module.</b> <ol style="list-style-type: none"> <li>1. Check all belts (drive and letter transport) for proper adjustment. Replace worn, deformed, split, or torn belts.</li> <li>2. Check gate flags for cuts, nicks, and burrs.</li> <li>3. Check all rollers (drive and idler) for proper adjustment and indications of wear.</li> <li>4. Write work orders for replacement of gates, belts, rollers, etc.</li> </ol>	5	9			
FEEDER	13.	<b>Check Feeder alignment. Refer to MS-267 for detailed instructions.</b> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;"> <b>WARNING</b> </div> <p><b>All mechanical adjustments that do not require power to machine in order to perform the adjustments should be done with the machine locked out.</b></p> <p>Check feeder alignment to include:</p> <ul style="list-style-type: none"> <li>• Mail Guide Stripper Length Adjustment.</li> <li>• Mail Guide Gap Adjustment.</li> <li>• 60D Drive Pulley Height Adjustment.</li> <li>• Feeder Belt Tension Adjustment.</li> <li>• Swing Arm Angle Adjustment.</li> <li>• Swing Arm Spring Pressure Adjustment.</li> <li>• Swing Arm Travel Adjustment.</li> <li>• Bottom Transport Belt Proximity Switch Gap Adjustment.</li> <li>• Compensator Levers Vertical Position Adjustment.</li> <li>• Compensator Levers Horizontal Position.</li> <li>• Slide Plate Adjustable Grooved Pulley Adjustment.</li> </ul>	30	7			

U.S. Postal Service <b>Maintenance Checklist</b>		IDENTIFICATION													
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		0	3	L	C	R	E	M		A	A	0	0	3	M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Monthly			

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

		<ul style="list-style-type: none"> <li>Slide Plate Gap Adjustment.</li> <li>Large Stripper Spring Pressure Adjustment.</li> <li>Stripper Finger Assembly Vertical Position.</li> <li>Rubber Idler Roller -2 Position Adjustment.</li> <li>Rubber Idler Roller -1 Travel Adjustment.</li> <li>P-DZ90 and P-LS80 Vertical Position Adjustment.</li> <li>P-DZ90 and P-LS80 Horizontal Position Adjustment.</li> <li>Guide Roller Assembly Position Adjustment.</li> <li>Guide Roller (1) Distance and Pressure Adjustment.</li> <li>Guide Roller (2) Distance and Pressure Adjustment.</li> <li>Guide Roller (3) Distance and Pressure Adjustment.</li> </ul> <p>Write work orders to address any deficiencies found.</p>					
MACHINE	14.	<b>Close panels.</b> Close all machine doors and machine panels.	3	7			
CLEAN UP	15.	<b>Clean up.</b> Remove tools and materials from the LCREM area.	1	ALL			
		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p><b>Be cautious when working around or on equipment when power has been applied.</b></p>					

U.S. Postal Service  <b>Maintenance Checklist</b>		IDENTIFICATION													
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		0	3	L	C	R	E	M		A	A	0	0	3	M
Equipment Nomenclature <b>Low Cost Remote Encoding Machine</b>		Equipment Model <b>LCREM</b>						Bulletin Filename <b>mm12094ae</b>			Occurrence <b>Monthly</b>				

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

		<div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <p><b>Before performing the following steps you must don the appropriate PPE as required by the current Electrical Work Plan (EWP) MMO.</b></p>					
MACHINE	16.	<b>Restore power to equipment.</b> Restore power to equipment as prescribed by the current local procedures providing lockout/restore procedures.	3	ALL			
IJP	17.	<b>Power up bar code printer.</b> Press the AC power switch to the ON (I) position to restore the bar code printer to operation. Once the printer has powered on, press the Start/Stop button. Once the printer Start/Stop button stops blinking, press the Print button.	2	7			
FEEDER MODULE	18.	<p><b>Check the following adjustments with power applied. Refer to MS-267 for detailed instructions.</b></p> <ul style="list-style-type: none"> <li>• Transport Paddle Switch Activation Adjustment.</li> <li>• Transport Belt Tracking Adjustment.</li> <li>• Letter Present Proximity Switch Length Adjustment.</li> <li>• Bottom Transport Belt Proximity Switch Actuation.</li> <li>• Slide Plate Slide Switch Activation Adjustment.</li> <li>• Servo-Drive Motor Adjustment.</li> </ul> <p>Write work orders to address any deficiencies found.</p>	8	7			
CLEAN UP	19.	<b>Clean up.</b> Ensure all tools, lubricants; rags, etc. are removed from the work area. Report all deficiencies to supervisor.	2	All			

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	0	3	L	C	R	E	M			A	A	0	0	3	M	
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Monthly					

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

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**ATTACHMENT 5**

**LCREM MASTER CHECKLIST**

03-LCREM-AA-004-M

QUARTERLY

Time Total: 218

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	4
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Quarterly				

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

SAFETY STATEMENT	1.	<p><b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b> Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shutdown and lockout this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.</p> <p><b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b> When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods cannot be used. Report safety deficiencies to your supervisor immediately upon detection.</p> <p><b>WARNING FOR EWP/PPE:</b> Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.</p>	3	All			
IJP MODULE	2.	<p><b>Initiate IJP shutdown.</b></p> <p>1. If the printhead is on (light in upper right corner on Start/Stop key is lit or flashing), press the Start/Stop key and the F2 button on the keyboard to turn the printhead Off. Wait for the printhead shut-down procedure to complete (about 2 minutes). The vacuum gauge will read 0 when the printhead shutdown procedure is complete.</p> <p>2. Press the AC power switch (located below the keyboard) to the OFF (O) position to turn the AC power off.</p>	4	7			
	3.	<p><b>Power down and lockout procedure.</b> Power down the machine and lock out power and compressed air as prescribed by the current local lockout instructions providing lockout/restore procedures.</p>	2	ALL			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
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	0	3	L	C	R	E	M			A	A	0	0	4
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Quarterly		

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

		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p><b>Electrical power will always be present at the input of the disconnect device unless the circuit is disabled at the facility power distribution panel located at _____.</b></p>					
MACHINE	4.	<b>Open panels.</b> Open/remove all machine panels and doors. Override interlock switches.	5	7			
MACHINE	5.	<b>CLEAN LCREM PRINTED CIRCUIT CARDS. -</b> Clean all LCREM printed circuit cards as follows: <div style="border: 1px solid black; padding: 2px; text-align: center; margin: 10px 0;"><b>CAUTION</b></div> <p><b>Extreme care should be taken that rules regarding electro-static-discharge (ESD) are strictly followed when handling all printed circuit boards, including those in logic racks, system computers, etc. This includes the use of wrist straps and ESD pads.</b></p> <ol style="list-style-type: none"> <li>1. Remove all covers necessary to gain access to all system printed circuit cards.</li> <li>2. Vacuum all system printed circuit cards.</li> <li>3. Do not replace covers.</li> </ol>	20	7			
LCREM SORT COMPUTER	6.	<b>VACUUM INTERIOR SURFACES.</b> Vacuum the computer interior surfaces as follows: <ol style="list-style-type: none"> <li>1. Disconnect all cables from computer.</li> <li>2. Remove computer from machine.</li> <li>3. Remove computer cover.</li> <li>4. Vacuum all computer interior surfaces.</li> <li>5. Replace computer cover.</li> <li>6. Reinstall computer in machine.</li> <li>7. Reconnect all computer cables.</li> </ol>	25	7			

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		0	3	L	C	R	E	M		A	A	0	0	4 M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae			Occurrence Quarterly			

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

WFOV COMPUTER	7.	<b>VACUUM INTERIOR SURFACES.</b> Vacuum the computer interior surfaces as follows: 1. Disconnect all cables from computer. 2. Remove computer from machine. 3. Remove computer cover. 4. Vacuum all computer interior surfaces. 5. Replace computer cover. 6. Clean replace exterior filter as needed. 7. Reinstall computer in machine. 8. Reconnect all computer cables.	20	7			
ENCODE AND PRINT MODULE COMPUTER	8.	<b>VACUUM INTERIOR SURFACES.</b> Vacuum the computer interior surfaces as follows: 1. Disconnect all cables from computer. 2. Remove computer from machine. 3. Remove computer cover. 4. Vacuum all computer interior surfaces. 5. Replace computer cover. 6. Clean replace exterior filter as needed. 7. Reinstall computer in machine. 8. Reconnect all computer cables.	20	7			
POWER DISTRIBUTION ASSEMBLY	9.	<b>VACUUM INTERIOR SURFACES.</b> Vacuum interior surfaces of the Power Distribution Assembly as follows: 1. Open power distribution assembly. 2. Vacuum all interior surfaces. 3. Close power distribution assembly.	15	7			
READER MODULE	10.	<b>Clean/vacuum power supply.</b> Vacuum 24 VDC power supply.	2	7			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
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	0	3	L	C	R	E	M			A	A	0	0	4
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Quarterly		

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

		<div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <p><b>Be cautious when working around or on equipment when power has been applied.</b></p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 20px;"><b>WARNING</b></div> <p><b>Before performing the following steps you must don the appropriate PPE as required by the current Electrical Work Plan (EWP) MMO.</b></p>					
MACHINE	11.	<b>Restore power to equipment.</b> Restore power to equipment as prescribed by the current local procedures providing lockout/restore procedures.	3	ALL			
IJP	12.	<b>Power up bar code printer.</b> Press the AC power switch to the ON (I) position to restore the bar code printer to operation. Once the printer has powered on, press the Start/Stop button. Once the printer Start/Stop button stops blinking, press the Print button.	2	7			
MACHINE	13.	<b>Check E-Stops and Switches.</b> Check all system interlocks and emergency stop switches. Verify light conditions and warning sounds for each E-stop and interlock. <ol style="list-style-type: none"> <li>Switch the Service Mode switch to the Service Position. Start the machine. Verify that when Start switch is pressed, the start-up warning indicators around the sorter flash. At the same time, the start-up warning beepers sound. The beepers sound for 5 seconds and go off, while the warning indicators flash for a total of 10 seconds. Machine runs.</li> <li>Press EMERG. Stop mushroom switch on feeder Transport assembly and note that the following occurs:               <ol style="list-style-type: none"> <li>Machine stops immediately.</li> <li>Lamp lights in EMERG. STOP switch.</li> <li>Red EMERG. STOP indicator lights on Operator Control Panel.</li> </ol> </li> </ol>	15	9			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
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	0	3	L	C	R	E	M			A	A	0	0	4
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Quarterly			

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

		d. Pressing Start pushbutton does not start machine.  3. Reset EMERG. STOP mushroom switch and note that the following occurs: a. Red EMERG. STOP indicator goes out on Operator Control Panel. b. Lamp goes out in module EMERG. STOP switch. c. Machine can now be started.  4. Check all remaining machine switches by performing a switch test: a. Switch the Service Mode switch to the Normal Position. b. Login as maintenance (user <b>m</b> ) with the appropriate password. c. From the Main Menu select System Management-Maintenance-LCREM Diag-Next-Switch Test. d. In the "Switch Name" dialog box select ALL. e. Select the Start button in the Switch Test Utility. f. Follow the instructions on the screen to verify that each switch is functioning correctly. g. Once testing has completed, address any deficiencies found.					
MACHINE	14.	<b>Check All Machine Lamps.</b> Check all system lamps.  1. Check all machine lamps by performing a lamp test: a. From the Main Menu select System Management-Maintenance-LCREM Diag-Lamp Test. b. Select the Start button in the Lamp Test Utility. c. Verify that each lamp is functioning	10	9			

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		0	3	L	C	R	E	M		A	A	0	0	4 M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae			Occurrence Quarterly			

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					Run Hours	Pieces Fed (000)	Freq.

		<p>correctly.</p> <p>d. Screen should display test result: Test State/Result: Past.</p> <p>e. Click exit.</p> <p>2. Once testing has completed, address any deficiencies found.</p>					
MACHINE	15.	<p><b>Check All Machine Beepers.</b> Check all system Beepers.</p> <p>1. Check all machine beepers by performing a beeper test:</p> <p>a. From the Main Menu select System Management-Maintenance-LCREM Diag-Next-Beeper Test.</p> <p>b. In the "Beeper Name" dialog box select the beeper you wish to test (0, 1, or 2).</p> <p>c. Select the Start button in the Beeper Test Utility.</p> <p>d. Verify that the beeper functions correctly by selecting Yes.</p> <p>e. Press STOP button.</p> <p>f. Repeat the procedures for each Beeper to verify they are all functioning correctly.</p> <p>g. Select Exit.</p> <p>2. Pull bin 1 paddle in the stacker module to the 100% full position. Verify that an alarm sounds when the bin full switch is depressed.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>During this test only bin 1 will report. All stacker bin 100% full positions can only be tested if logged in and have a sort plan selected. Then pull each bin paddle in the stacker module to the 100% full position. Verify that an alarm sounds when the bin full switch is depressed.</p> <p>3. Once testing has completed, address any deficiencies found.</p>	10	9			

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Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Quarterly			

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

MACHINE	16.	<b>Gate and Solenoid Test.</b> <ol style="list-style-type: none"> <li>From the Main Menu, select System Management-Maintenance-LCREM DIAG-Next-Gate Test.</li> <li>In the Gate Test Utility select Single and enter the gate to be tested in the gate selection box.</li> <li>Select the Start button.</li> <li>The specified gate should begin to cycle. Verify that it does, and that it is not striking the transport fence when it is in the open position.</li> <li>Select Stop.</li> <li>Repeat steps 2-5 for the remaining gates.</li> <li>Exit the Gate Test Utility.</li> </ol>	3	9			
MACHINE	17.	<b>Lightbarrier Distance Test.</b> <ol style="list-style-type: none"> <li>From the Main Menu select: System Management-Maintenance-LCREM DIAG-LB Distance.</li> <li>Select Start from the Lightbarrier Distance Test Utility.</li> <li>Press the Start button on the Operator Control Panel.</li> <li>The machine will start. Feed a single piece of test mail.</li> <li>Once the test mail has fed through the machine the transport motors will stop. Verify that the Test/state result: line indicates "passed".</li> <li>Select View.</li> <li>If the Test /state result: line indicated failed in the previous step, find the LB position that failed. If the previous step passed, look through the results for any distances that are approaching the upper or lower limits.</li> <li>Address any deficiencies found with a work order.</li> </ol>	5	10			



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Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Quarterly		

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
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		<div style="border: 1px solid black; padding: 2px; text-align: center;"><b>WARNING</b></div> <p><b>Comply with local safety procedures for operating system with power panel door open.</b></p>					
		<p style="text-align: center;"><b>NOTE</b></p> <p>The machine must be running a minimum of 15 minutes before using non-contact infrared thermometer in items 18 through 22.</p>					
MAIN POWER DISTRIBUTION	18.	<p><b>Infrared scan.</b> Use non-contact infrared to scan the interior of the Power Distribution Assembly.</p> <ol style="list-style-type: none"> <li>1. Start LCREM machine.</li> <li>2. Scan all terminal connections and connector plugs.</li> <li>3. Investigate cause of any abnormal temperature and notify supervisor of necessary corrective action.</li> </ol>	5	9			
FEEDER	19.	<p><b>Infrared scan.</b> Use non-contact infrared to monitor the Feeder for abnormal temperature.</p> <ol style="list-style-type: none"> <li>1. Scan all circuit cards, motors, terminal connections, and connector plugs.</li> <li>2. Investigate cause of any abnormal temperature and notify supervisor of necessary corrective action.</li> </ol>	2	9			
READER	20.	<p><b>Infrared scan.</b> Use non-contact infrared to monitor the Reader for abnormal temperature.</p> <ol style="list-style-type: none"> <li>1. Scan all circuit cards, motors, terminal connections, and connector plugs.</li> <li>2. Investigate cause of any abnormal temperature and notify supervisor of necessary corrective action.</li> </ol>	2	9			
ENCODE AND PRINT MODULE	21.	<p><b>Infrared scan.</b> Use non-contact infrared to monitor the Transport for abnormal temperature.</p> <ol style="list-style-type: none"> <li>1. Scan all circuit cards, terminal connections, and connector plugs.</li> </ol>	4	9			

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Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae			Occurrence Quarterly			

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

		2. Investigate cause of any abnormal temperature and notify supervisor of necessary corrective action.					
STACKERS/TURN MODULE	22.	<b>Infrared scan.</b> Use non-contact infrared to monitor stackers for abnormal temperature.  1. Scan all circuit cards, terminal connections, and connector plugs.  2. Investigate cause of abnormal temperature and notify supervisor of necessary corrective action.	5	9			
		<b>NOTE</b>  Do not use contact probe for checks in items 23 through 26. Use focusing probe or airborne technique.					
FEEDER	23.	<b>Ultrasonic scan.</b> Use ultrasonic detector to monitor all bearing assemblies top and bottom of the Feeder for excessive vibration and noise. Label and date all bad bearings/assemblies found and submit work order.	5	9			
READER	24.	<b>Ultrasonic scan.</b> Use ultrasonic detector to monitor all bearing assemblies top and bottom of the Reader for excessive vibration and noise. Label and date all bad bearings/assemblies found and submit work order.	5	9			
ENCODE AND PRINT MODULE	25.	<b>Ultrasonic scan.</b> Use ultrasonic detector to monitor all bearing assemblies top and bottom of the Transport for excessive vibration and noise. Check IJP and Labeler pneumatics for air leakage. Label and date all bad bearings/assemblies found and submit work order.	8	9			
STACKER/TURN MODULE	26.	<b>Ultrasonic scan.</b>  <b>NOTE</b>  Stacker work sheets are available for down load from MTSC Web site (PDM Site Map) for use in keeping track of location of bad bearings in stacker modules.	8	9			

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Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae			Occurrence Quarterly				

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					Run Hours	Pieces Fed (000)	Freq.

		Use ultrasonic detector to monitor all bearing assemblies top and bottom of the Stacker Module for excessive vibration and noise. Label and date all bad bearings/assemblies found and submit work order.					
MACHINE	27.	<b>Close panels. Replace or close all machine panels, doors, and covers.</b>	5	7			
	28.	<b>Restore power to equipment.</b> Restore power to equipment as prescribed by the current local procedures providing lockout/restore procedures.	3	All			
CLEAN UP	29.	<b>Clean up.</b> Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.	2	7			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M			A	A	0	0	4
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Quarterly			

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

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**ATTACHMENT 6**

**LCREM MASTER CHECKLIST**

SEMI-ANNUAL

03-LCREM-AA-005-M

Time Total: 96 Minutes

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M				A	A	0	0	5
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Semi-Annual				

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

SAFETY STATEMENT	1.	<p><b>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.</b></p> <p><b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b></p> <p>When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner or a damp rag must be used in place of compressed or blown air. A lint-free cloth or brush may be used on optical equipment only when other cleaning methods can not be used. Report safety deficiencies to your supervisor immediately upon detection.</p> <p><b>WARNING FOR EWP/PPE:</b></p> <p>Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.</p>	3	All			
IJP	2.	<p><b>Initiate IJP shutdown.</b></p> <p>1. If the printhead is On (square light in upper right corner on Start/Stop key is lit or flashing), press the Start/Stop key on the keyboard to turn the printhead Off. Press F2 to start shutdown. Wait for the printhead shut-down procedure to complete (about 2 minutes). The vacuum gauge will read 0 when the printhead shutdown procedure is complete.</p> <p>2. Press the AC power switch (located below the keyboard) to the OFF (O) position to turn the AC power off.</p>	4	7			
SYSTEM POWER DOWN	3.	<p><b>Power down and lockout procedure.</b> Power down the machine and lock out power and compressed air as prescribed by the current local lockout instructions providing lockout/restore</p>	2	ALL			

U.S. Postal Service  <b>Maintenance Checklist</b>		IDENTIFICATION													
		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	L	C	R	E	M		A	A	0	0	5	M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae			Occurrence Semi-Annual				

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

		procedures.					
MACHINE	4.	<b>Check for mail under machine.</b> 1. Using a flashlight, start at the Feeder Module and look for mail pieces under machine, proceed to check for mail to last stacker. 2. Remove any mail pieces found. 3. Follow local procedures for returning mail to operations for processing.	8	7			
	5.	<b>Clean under machine.</b> Clean/vacuum any dust and debris found from under machine, recommend start at backside of last stacker and work back to Transport and Feeder.	12	7			
MACHINE	6.	<b>Open panels and remove covers.</b> Open/remove all machine panels, doors, circuit card covers, and doors, including Main Power Distribution Assembly.	18	7			
MAIN POWER DISTRIBUTION	7.	<b>Main AC power distribution.</b> Check for loose connections and discoloration of cables due to heat. 1. Verify all terminal connections are tight. 2. Verify all cable connections are properly seated. 3. Look for any cable or wiring discoloration due to heat.	16	9			
FEEDER	8.	<b>Feeder.</b> Check for loose connections and discoloration of cables due to heat. 1. Verify all terminal connections are tight. 2. Verify all cable connections are properly seated. 3. Look for any cable or wiring discoloration due to heat.	2	9			
READER	9.	<b>Reader.</b> Check for loose connections and discoloration of cables due to heat. 1. Verify all terminal connections are tight. 2. Verify all cable connections properly seated.	5	9			

U.S. Postal Service <b>Maintenance Checklist</b>		IDENTIFICATION													
		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	L	C	R	E	M		A	A	0	0	5	M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Semi-Annual			

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

		3. Look for any cable or wiring discoloration due to heat. 4. Verify all terminal connections are tight. 5. Verify all cable connections are properly seated. 6. Look for any cable or wiring discoloration due to heat. 7. Close the door on power distribution assembly.					
ENCODE AND PRINT MODULE	10.	<b>Check for loose connections and discoloration of cables due to heat.</b> 1. Verify all terminal connections are tight. 2. Verify all cable connections are properly seated. 3. Look for any cable or wiring discoloration due to heat.	1	9			
STACKERS/TURN MODULE	11.	<b>Check for loose connections and discoloration of cables due to heat.</b> 1. Verify all terminal connections are tight. 2. Verify all cable connections are properly seated. 3. Look for any cable or wiring discoloration due to heat.	3	9			
IJP	12.	<b>Replace Filter Tube Assemblies.</b> Complete the following steps to replace the filter tube assemblies in both the ink and make-up fluid bottles:  <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;"> <b>WARNING</b> </div> <b>When disposing of ink or ink saturated waste, refer to procedures outlined in current Material Safety Data Sheet (MSDS).</b> 1. Pull the bottle (ink or make-up) which you are replacing the filter tube assembly away from the fluid pan.	5	7			



U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M			A	A	0	0	5	M
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Semi-Annual				

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

		<p align="center"><b>NOTE</b></p> <p>If you are replacing the filter tube assembly in the ink bottle, have absorbent towels on hand to clean any ink that may spill.</p> <ol style="list-style-type: none"> <li>Pull the cap off of the bottle, and slide the attached filter tube assembly out of the bottle. Place the bottle aside.</li> <li>Remove the fitting from the top of the cap by turning counterclockwise one full turn.</li> <li>Pull the line with attached rubber tube off of the top of the cap.</li> <li>Discard the old filter tube assembly.</li> <li>Install the fitting (removed in step #5) onto the top of the cap on the new filter tube assembly.</li> <li>Install the line with attached rubber tube (removed in step #6) onto the top of the cap on the new filter tube assembly.</li> <li>Insert the filter tube assembly into the bottle, and push the cap down to secure the assembly. Place the bottle into the fluid pan.</li> <li>Repeat steps 2-8 to replace the filter tube assembly in the other bottle.</li> </ol>					
IJP	13.	<p><b>Replace Primary Ink Filter.</b> Complete the following steps to replace the primary ink filter:</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;"><b>WARNING</b></div> <p><b>When disposing of ink or ink saturated waste, refer to procedures outlined in current Material Safety Data Sheets (MSDS).</b></p> <ol style="list-style-type: none"> <li>Place absorbent towels below the ink module to catch any ink that may spill when removing the primary ink filter.</li> <li>Remove the fitting from the bottom of the primary ink filter by turning with a 7/16-inch wrench.</li> </ol>	5	10			

U.S. Postal Service <b>Maintenance Checklist</b>		IDENTIFICATION													
		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	3	L	C	R	E	M		A	A	0	0	5	M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Semi-Annual			

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

		3. Unscrew the primary ink filter from the bottom of the ink module. 4. Wipe excess ink from the bottom of the ink module mounting hole with absorbent towels and cleaning solution or make-up fluid. 5. Discard the old primary ink filter. 6. Install the new primary ink filter into the bottom of the ink module until finger tight. Do not over tighten. Hand-tighten only. 7. Install the fitting into the bottom of the primary ink filter.  <p style="text-align: center;"><b>NOTE</b></p> <p>The printer will compensate for any ink that was lost during this procedure, therefore, no priming is required.</p>					
IJP	14.	<b>Check Input Air Filter.</b> Complete the following steps to check and/or replace the input air filter: 1. Use a wrench to loosen the black nut at the top of the elbow fitting. 2. Use a dull, pointed instrument to pull the input air filter out of the bottom of the air manifold. 3. Check the input air filter for dirt and damage. Replace the input air filter if necessary. If questionable, replace the filter to ensure proper printer operation. 4. Install the new or existing input air filter into the bottom of the air manifold. 5. Thread the elbow fitting back into the bottom of the air manifold, and tighten the nut to secure the fitting. Do not over tighten.	3	10			
		<p style="text-align: center;"><b>WARNING</b></p> <p><b>Be cautious when working around or on equipment when power has been applied.</b></p>					

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION														
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE	
	0	3	L	C	R	E	M			A	A	0	0	5	M
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Semi-Annual				

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

		<div>WARNING</div> <p>Before performing the following steps you must don the appropriate PPE as required by the current Electrical Work Plan (EWP) MMO.</p>					
SYSTEM	15.	<b>Restore power to equipment.</b> Restore power to equipment as prescribed by the current local procedures providing lockout/restore procedures.	3	ALL			
IJP	16.	<b>Power up bar code printer.</b> Press the AC power switch to the ON (I) position to turn the AC power On.	4	7			
CLEAN UP	17.	<b>Clean up.</b> Ensure all tools, lubricants, rags, etc. are removed from work area. Close/replace all machine covers and doors. Report all deficiencies to supervisor.	2	All			

U.S. Postal Service  <b>Maintenance Checklist</b>	IDENTIFICATION													
	WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
	0	3	L	C	R	E	M			A	A	0	0	5
Equipment Nomenclature Low Cost Remote Encoding Machine	Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Semi-Annual			

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

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**ATTACHMENT 7**

**LCREM OPERATIONAL MAINTENANCE PROCEDURES**

OPERATIONAL TOUR

09-LCREM-AA-001-M

Time Total: 38 Minutes

U.S. Postal Service		IDENTIFICATION											
<b>Maintenance Checklist</b>		WORK CODE		EQUIPMENT ACRONYM				CLASS CODE		NUMBER		TYPE	
		0	9	L	C	R	E	M	A	A	0	0	1
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM					Bulletin Filename mm12094ae			Occurrence Tour			

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

SAFETY STATEMENT	1.	<p><b>COMPLY WITH ALL SAFETY PRECAUTIONS.</b> Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.</p> <p><b>THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.</b> 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 can not be used. Report safety deficiencies to your supervisor immediately upon detection.</p> <p><b>WARNING FOR EWP/PPE:</b> Steps contained in this bulletin may require the use of Personal Protective Equipment (PPE). Refer to the current Electrical Work Plan (EWP) MMO for appropriate PPE requirements.</p>	1	All			
		<p><b>NOTE</b></p> <p>Operational checks must be made with machine processing mail in a normal operating mode.</p>					
MACHINE LOGBOOK	2.	<b>Examine machine logbook.</b> Examine log and bring forward any unresolved problems from the previous tour.	Begin Tour	9			
MACHINE SAFETY	3.	<b>Be alert for unusual sounds or odors.</b> While performing listed operational maintenance tasks, be alert for unusual sounds, odors, or other indications of potential failure conditions in the machine.	Every 2 Hrs	9			
MACHINE SAFETY	4.	<b>Observe warning beepers and indicators.</b> Watch for proper operation of warning beepers and indicators on machine start-ups.	Every 2Hrs	9			

U.S. Postal Service  <b>Maintenance Checklist</b>		IDENTIFICATION													
		WORK CODE		EQUIPMENT ACRONYM						CLASS CODE		NUMBER			TYPE
		0	9	L	C	R	E	M		A	A	0	0	1	M
Equipment Nomenclature Low Cost Remote Encoding Machine		Equipment Model LCREM						Bulletin Filename mm12094ae				Occurrence Tour			

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

MACHINE SAFETY	5.	<b>Lamps.</b> Watch for proper functionality of all indicator lamps during normal machine operations. Correct deficiencies as soon as practical.	Every 2Hrs	9			
OPERATORS	6.	<b>Observe feeder for proper operation, while checking to see if operators are having excessive processing problems.</b> Investigate as necessary. Initiate corrective action as appropriate.	Every 2 Hrs	9			
VIDEO DISPLAY TERMINAL WFOV	7.	<b>Check mail processing screen.</b> Check current read value and fault indicators. Ensure current sort plan, operating mode, and read rate values are correct for the mail being processed. If MAR or GAR is below acceptable values, check for dust/debris accumulations on WFOV faceplate. Check cooling fan filter for accumulated dust and debris on WFOV computer. Correct as necessary.	Every 2 Hrs	9			
INK JET PRINTER	8.	<b>Check for dirt/ink accumulations.</b> Check IMB ink jet printer to ensure there is no build-up of foreign material or accumulation of ink at the print head. Clean as necessary.	Every 2 Hrs	9			
SORTING STACKERS	9.	<b>Check for mis-sorts.</b> Sample check stackers for correct sortation. Verify that the bar code matches with the address block and scheme. Verify mail pieces enter stacker in a uniform manner.	Every 2 Hrs	9			
ACE/MKAT COMPUTER	10.	<b>Check WebEOR reports.</b> Check for, jams and fault indications and ensure all performance metrics are meeting their target.	Once per shift	9			
MACHINE LOGBOOK AND SMO	11.	<b>Log problems discovered and work performed.</b> Report unresolved problems at the end of tour to the SMO and generate appropriate work orders.	Tour	9			