MAINTENANCE TECHNICAL SUPPORT CENTER
HEADQUARTERS MAINTENANCE OPERATIONS
UNITED STATES POSTAL SERVICE

Maintenance Management Order

SUBJECT: Operational, Predictive, & Preventive Maintenance Guidelines for Delivery Bar Code Sorter Phase 3-5 (DBCS) with Letter Automation Update Phase 2 (LAUPH2) using eCBM

TO: Maintenance Managers, LAUPH2 DBCS Phase 3-5 Offices

DATE: February 7, 2020

NO: MMO-148-19

FILE CODE: 2DB

rhay:mm19132ab

Online Change Record		
Change #	**Date**	**Description of Change**
4	1/31/2024	Attachment 2, item 9, added belt tensioning and deleted roller proper adjustments. (Rollers not adjustable.)
3	11/14/2022	Attachment 2, Item 21, Step 2, changed reference from Section 5.2.5 to Section 5.2.4.
2	05/22/2020	Added the Infrared Thermography information after the online change record.
1	03/03/2020	

Infrared Thermography Information for DBCS Based Sorting Equipment – Plug and Receptacle Connectors is located at **MTSC>HELPDESK>Service Portal>Knowledge Base>KB0013384.**

This Maintenance Management Order (MMO) provides Preventive, Predictive, and Operational Maintenance Guidelines for the Delivery Bar Code Sorter Phase 3-5 with Letter Automation Update Phase 2. The acronym is DBCS and the class code is CK.

The workhours indicated in the workload estimate (Attachment 1) reflect the *maximum* annual workhours required to maintain each system. Actual workhour requirements and the frequency of tasks are dependent on pieces processed. Therefore, PM workhour requirements will vary day-to-day based on site specific machine utilization. Management may modify task frequencies to address local conditions.

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

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

WARNING

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

WARNING

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

WARNING

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

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

Frederick L Jackson III
Manager
Maintenance Technical Support Center
HQ Maintenance Operations

Attachments:

1. Summary Workload Estimate for DBCS Phase 3-5 with LAUPH2
2. Master Checklist: 03-DBCS-CK-001-M: Power Off and Power On Tasks
3. Master Checklist: 09-DBCS-CK-001-M: Operational Maintenance

ATTACHMENT 1

SUMMARY

WORKLOAD ESTIMATE

FOR

DBCS Phase 3-5 with LAUPH2

SUMMARY
WORKLOAD ESTIMATE
FOR
DBCS Phase 3-5 with LAUPH2

SUMMARY WORK LOAD ESTIMATES FOR DBCS - CK

Number of mail pieces Processed for 1 Year > **58,000,000** **High end estimate** **For a 110 Stacker Machine**

Operation Days	Routine Servicing per Machine (Hrs/Yr)	Repair Time per Machine (Hrs/Yr) *	Routine Servicing + Repair Time (Hrs/Yr)	Non-Productive Time per Machine (Hrs/Yr) **	Total Servicing per Machine (Hrs/Yr)	Operational Maintenance + Total Servicing		
						1 Tour Hrs/Yr OpM x 1	2 Tours Hrs/Yr OpM x 2	3 Tours Hrs/Yr OpM x 3
5 Days	516.93	155.08	672.01	67.20	739.21	938.54	1,137.88	1,337.21
6 Days	590.60	177.18	767.78	76.78	844.56	1,083.76	1,322.96	1,562.16
7 Days	664.27	199.28	863.55	86.36	949.91	1,228.97	1,508.04	1,787.11

* **Repair maintenance estimates based on 30% of preventive maintenance.**

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

THRESHOLDS and PM TIME SUMMARY Hrs PER Year

Daily	515.67		
Monthly	8.20		
0	0.00	5 Day	199.33
1,100,000	71.18	6 Day	239.20
2,200,000	18.45	7 Day	279.07
4,400,000	34.71		
14,300,000	3.31		
20,000,000	10.59		
57,200,000	2.16		

OPERATIONAL MAINTENANCE
46 MIN. PER DAY PER MACHINE

One Tour	Two Tours	Three Tours
199.33	398.67	598.00
239.20	478.40	717.60
279.07	558.13	837.20

Machine Operating 5 Days/Week

# of Stackers	Routine Servicing per Machine (Hrs/Yr)	Repair Time per Machine (Hrs/yr) *	Routine Servicing + Repair Time (Hrs/Yr)	Non-Productive Time per Machine (Hrs/yr) **	Total Servicing per Machine (Hrs/Yr)	Operational Maintenance + Total Servicing		
						1 Tour Hrs/Yr OpM x 1	2 Tours Hrs/Yr OpM x 2	3 Tours Hrs/Yr OpM x 3
110	516.93	155.08	672.01	67.20	739.21	938.54	1137.88	1337.21
126	527.14	158.14	685.28	68.53	753.81	953.14	1152.48	1351.81
142	541.80	162.54	704.34	70.43	774.77	974.10	1173.44	1372.77
158	556.54	166.96	723.51	72.35	795.86	995.19	1194.53	1393.86
174	571.21	171.36	742.57	74.26	816.83	1016.16	1215.50	1414.83
190	586.03	175.81	761.84	76.18	838.02	1037.35	1236.69	1436.02
206	600.68	180.21	780.89	78.09	858.98	1058.31	1257.65	1456.98
222	615.42	184.63	800.04	80.00	880.04	1079.37	1278.71	1478.04
238	626.12	187.84	813.96	81.40	895.36	1094.69	1294.03	1493.36
254	644.73	193.42	838.15	83.82	921.97	1121.30	1320.64	1519.97
270	659.39	197.82	857.20	85.72	942.92	1142.25	1341.59	1540.92
286	674.11	202.23	876.34	87.63	963.97	1163.30	1362.64	1561.97
302	688.77	206.63	895.41	89.54	984.95	1184.28	1383.62	1582.95

Machine Operating 6 Days/Week

# of Stackers	Routine Servicing per Machine (Hrs/Yr)	Repair Time per Machine (Hrs/yr) *	Routine Servicing + Repair Time (Hrs/Yr)	Non-Productive Time per Machine (Hrs/yr) **	Total Servicing per Machine (Hrs/Yr)	Operational Maintenance + Total Servicing		
						1 Tour Hrs/Yr OpM x 1	2 Tours Hrs/Yr OpM x 2	3 Tours Hrs/Yr OpM x 3
110	590.60	177.18	767.78	76.78	844.56	1083.76	1322.96	1562.16
126	601.67	180.50	782.17	78.22	860.39	1099.59	1338.79	1577.99
142	617.20	185.16	802.36	80.24	882.60	1121.80	1361.00	1600.20
158	632.81	189.84	822.65	82.27	904.92	1144.12	1383.32	1622.52
174	648.34	194.50	842.84	84.28	927.12	1166.32	1405.52	1644.72
190	664.03	199.21	863.24	86.32	949.56	1188.76	1427.96	1667.16
206	679.55	203.87	883.42	88.34	971.76	1210.96	1450.16	1689.36
222	695.15	208.55	903.70	90.37	994.07	1233.27	1472.47	1711.67
238	706.72	212.02	918.74	91.87	1010.61	1249.81	1489.01	1728.21
254	726.20	217.86	944.06	94.41	1038.47	1277.67	1516.87	1756.07
270	741.72	222.52	964.24	96.42	1060.66	1299.86	1539.06	1778.26
286	757.31	227.19	984.50	98.45	1082.95	1322.15	1561.35	1800.55
302	772.84	231.85	1004.69	100.47	1105.16	1344.36	1583.56	1822.76

Machine Operating 7 Days/Week

# of Stackers	Routine Servicing per Machine (Hrs/Yr)	Repair Time per Machine (Hrs/yr) *	Routine Servicing + Repair Time (Hrs/Yr)	Non-Productive Time per Machine (Hrs/yr) **	Total Servicing per Machine (Hrs/Yr)	Operational Maintenance + Total Servicing		
						1 Tour Hrs/Yr OpM x 1	2 Tours Hrs/Yr OpM x 2	3 Tours Hrs/Yr OpM x 3
110	664.27	199.28	863.55	86.36	949.91	1228.97	1508.04	1787.11
126	676.20	202.86	879.06	87.91	966.97	1246.03	1525.10	1804.17
142	692.60	207.78	900.38	90.04	990.42	1269.48	1548.55	1827.62
158	709.08	212.72	921.80	92.18	1013.98	1293.05	1572.11	1851.18
174	725.47	217.64	943.12	94.31	1037.43	1316.50	1595.57	1874.63
190	742.03	222.61	964.64	96.46	1061.10	1340.17	1619.24	1898.30
206	758.42	227.53	985.94	98.59	1084.53	1363.60	1642.67	1921.73
222	774.88	232.47	1007.35	100.74	1108.09	1387.15	1666.22	1945.29
238	787.32	236.20	1023.52	102.35	1125.87	1404.94	1684.01	1963.07
254	807.67	242.30	1049.97	105.00	1154.97	1434.03	1713.10	1992.17
270	824.05	247.22	1071.27	107.13	1178.40	1457.46	1736.53	2015.60
286	840.51	252.15	1092.66	109.27	1201.93	1480.99	1760.06	2039.13
302	856.91	257.07	1113.98	111.40	1225.38	1504.44	1783.51	2062.58

Repair maintenance estimates based on		30.00%	**of preventive maintenance.**
	Based on	10.00%	**of total PM and repair.**

Power Off Tasks							
	Threshold ->	**3K**	**1.1M**	**2.2M**	**4.4M**	**4.4M**	
	Item # ->	**5**	**8**	**9**	**10**	**19**	
# Stackers	110	9	35	37	116	21	Minutes
	126	1	5	3	10	3	
	142	2	10	6	20	6	
	158	3	15	9	30	9	
	174	4	20	12	40	12	
	190	5	25	15	50	15	
	206	6	30	18	60	18	
	222	7	35	21	70	21	
	238	8	40	24	80	24	
	254	9	45	27	90	27	
	270	10	50	30	100	30	
	286	11	55	33	110	33	
	302	12	60	36	120	36	

Power On Tasks						
	Threshold ->	**Monthly**	**1.1M**	**14.3M**	**20M**	
	Item # ->	**22**	**28**	**29**	**23**	
# Stackers	110	18	7	14	219	Minutes
	126	2	1	2	10	
	142	4	2	2	20	
	158	6	3	3	30	
	174	8	4	3	40	
	190	10	5	4	52	
	206	12	6	4	62	
	222	14	7	5	72	
	238	16	8	5	82	
	254	18	9	6	90	
	270	20	10	6	100	
	286	22	11	7	110	
	302	24	12	7	120	

THIS PAGE BLANK

ATTACHMENT 2

MASTER CHECKLIST

03-DBCS-CK-001-M

POWER OFF AND POWER ON TASKS

Time Total: See Attachment 1

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
SAFETY STATEMENT	1.	**COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.** **THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.** **When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner, or a damp rag must be used in place of compressed or blown air. 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			
DBCS SYSTEM: REPORT ANALYSIS	2.	**View End of Day and Tracking Report.** Prior to performing the power down lockout procedures analyze data provided on these reports to determine if any areas of machine are degraded or in need of attention.	4	10		1	
DBCS SYSTEM: COMPUTERS	3.	**Shut down the DBCS.** **Shut down the DBCS in accordance with the procedure as outlined in the most recent documentation; presently the MS-298.** As of the date of this writing the detailed steps to properly shut down the system are in MS Handbook MS-298, Volume B, Section 5.2.5. **NOTE** If any problems are encountered while performing these procedures report them to your supervisor.	1	9		1	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
DBCS SYSTEM: POWER DOWN	4.	**Power down and lock out power.** **WARNING** **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 _____.** Power down the machine and lock out its electrical power as prescribed by the current local lockout instructions providing lockout/restore procedures.	1	ALL		1	
DBCS SYSTEM: MAIL SEARCH	5.	**Mail search.** 1. Remove all machine panels, except for diverter plate cover assemblies (Wimpy panels), stacker lower front panel assemblies, and Main Power Distribution panel. 2. Ensure each cover's gas spring and retaining clip is able to hold cover in uppermost position. Report defective components to supervisor or perform work order. 3. Search all base plate areas and module interiors for mail. 4. Remove any mail pieces found. 5. Remove any large amounts of debris while doing this mail search to prevent clogging of the vacuum when doing vacuuming tasks. 6. Follow local procedures for returning mail to Operations for processing.	9	7		3	
DBCS SYSTEM: VACUUM/CLEAN 1	6.	**Vacuum/Clean machine.** **WARNING** **Edges of spiral stacking auger may be sharp. Use extreme caution when working near spiral-stacking auger.**	30	7		60	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	mm19132	ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		WARNING **Use extreme caution in area of pocket assembly wear plate. On some machines, wear plate extends past edge of its base and into stacker area, exposing sharp edges.** **WARNING** **Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.** **NOTE** While performing this task, check for loose, cracked, or damaged hinges in Reader Module. Notify supervisor if problem found. Refer to the most recent MMO, currently MMO-077-03, dealing with this problem. **MTSC>BULLETINS>Bulletins by Year** Vacuum and clean internal and base-plate areas of the machine starting at the front of stacker module #1 and proceed toward the feeder and around the machine to end up and include the rear of stacker module #1. In the process of doing this, ensure the following areas are cleaned: 1. The P-SEN10 and P-LED10 assemblies. 2. Feeder section two power supplies (exterior cage). 3. Outside surfaces of jogger assembly. 4. Exterior of monitor, keyboard, printer, and printer stand. 5. Reader Module 5v power supply and light barriers. 6. Exterior of the System Computer and the WFOV Processor. 7. Tray label printers cleaning and label stock loading.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	mm19132	ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		a. Clean/vacuum interior and exterior of label printers, located on first and eighth stacker modules. b. Ensure label printers are loaded with a sufficient supply of label material to support three tours of operation. If required, load the label printer: 1) Insert label stock between guides into back of label printer. 2) Place wide end of label stock into label printer first, face down. 3) Push print head lever back. 4) Push label stock through until it comes out front of label printer.					
DBCS SYSTEM: VACUUM/CLEAN 2	7.	**Clean and/or Vacuum the following areas of the machine:** **WARNING** **Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.** 1. Clean ICS-3 system electronic enclosure. Clean interior of ICS-3 electronic enclosure and electronic enclosure filters. 2. Clean ICS-3 system read head as follows: a. Clean ICS-3 read head. Recommended cleaner is Riptide, PSN 6850-01-394-0164. b. Clean read head reflector. Recommended cleaner is Riptide. 3. Clean WFOV Assembly. **WARNING** **Use extreme caution when working around the WFOV aperture. The edges of the aperture may become extremely sharp during use of the DBCS.**	8	7		175	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		a. Following safety precautions, remove the Aperture/Illumination assembly. Loosen the thumbscrew on top and pull straight up to remove. Check the aperture plates and sapphire glass for foreign objects. b. Remove dust buildup on exterior of camera sapphire glass using dry cotton swabs. If adhesive buildup appears on the sapphire glass, use a swab or soft cloth wetted with an acceptable site approved cleaner. c. If dust is found inside Aperture/ Illumination assembly refer to most current documentation, currently the MS-212, Appendix A for detailed cleaning instructions. d. Replace Aperture/Illumination assembly. Slide assembly straight down on front of camera head assembly and tighten thumbscrew.					
DBCS SYSTEM: VACUUM/CLEAN 3 STACKERS	8.	**Clean Stacker Modules 2 through to the end module by vacuuming, remove dust and debris as follows:** **WARNING** **Edges of spiral stacking auger may be sharp. Use extreme caution when working near spiral stacking auger.** **WARNING** **Use extreme caution in area of pocket assembly wear plate. On some machines, wear plate extends past edge of its base and into stacker area, exposing sharp edges.** **WARNING** **Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.**	35	7		1100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	mm19132	ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		1. Clean stacker modules #2 through the end of the machine, transport area, interior, and pocket assemblies, including light barriers. This does not include the Wimpy Panels. 2. Ensure light barriers are clean.					
DBCS SYSTEM: BELTS, ROLLERS AND HARDWARE	9.	**Check belts and rollers.** **WARNING** **Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.** Starting at the front of stacker module #1, proceed toward feeder and around the machine to end up and include the rear of stacker module #1. Then proceed down the back of the stacker modules and around the front of the stacker modules to end at the front of stacker #2. 1. Check all belts (drive and letter transport) for indications of wear and proper tension. Create work order to replace worn, deformed, split, torn belts, and tension, as necessary. 2. Check for broken or burred gate flags. 3. Write work orders as needed for replacement of belts and/or gates. 4. Check all rollers / sprockets (drive and idler) for indications of wear and/or dirt buildup. Clean or replace rollers, as necessary. 5. In the Reader Module, clean the motor power unit filter. 6. Create work orders as needed for adjustments, tensioning, cleaning, and/or replacement of rollers and belts.	37	9		2200	
DBCS SYSTEM: VACUUM/CLEAN 4	10.	**Perform the following steps to ensure all areas of the machine not covered in previous tasks are properly vacuumed and cleaned.** **WARNING** **Edges of spiral stacking auger may be sharp. Use extreme caution when working near spiral stacking auger.**	116	7		4400	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	mm19132	ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		WARNING **Use extreme caution in area of pocket assembly wear plate. On some machines, wear plate extends past edge of its base and into stacker area, exposing sharp edges.** **WARNING** **Discard solvent soaked materials according to local procedures to prevent pollution or spontaneous combustion.** **NOTE** While performing following tasks, do a visual check of wiring harnesses, cabling, and connectors for wear, loose connections, etc., and if any problems are found, write a work order to do corrective maintenance. Open any additional doors including the plate cover assemblies (Wimpy panels) in order to perform the following cleaning steps: 1. Clean Feeder Module. Clean/vacuum all plates, covers, doors, framework, etc., including the vibrator assembly. Verify vibrator motor power cord is not rubbing against frame. 2. Clean Transport Module. a. Clean all plates, covers, doors, and framework. b. Remove and clean the two filters located in the knob of the air compressor, after cleaning reinstall. 3. Reader Module - Clean/vacuum all plates, covers, doors, and framework.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		CAUTION **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.** 4. Using the Dust Containment Unit (PSN 4460-06-000-8366) or an ESD compatible vacuum (eBuy #58656), clean/vacuum System Computer and WFOV Computer. Remove covers from System Computer and WFOV Processor and clean. Re-install covers. 5. Clean stacker modules. Clean/vacuum all plates, covers, doors, framework, diverter plate cover assemblies (Wimpy panels), stacker display panels back and front side.					
DBCS SYSTEM: VACUUM/CLEAN	11.	**Vacuum/Clean top of Reader and Stacker Modules.**	23	7			M
DBCS SYSTEM: SAFETY WARNING LABELS	12.	**Verification of safety warning labels.** **NOTE** Refer to the most recent MMO dealing with safety warning labels; currently, this is MMO-056-09, for label locations and part numbers. **MTSC>BULLETINS>Bulletins by Year** 1. Verify feeder modules have safety warning labels present, correctly located, and in good condition. 2. Verify stacker modules have safety warning labels present, correctly located, and in good condition. 3. Notify supervisor of missing or worn feeder/stacker safety warning labels and initiate a work order to replace or remove and replace as necessary.	2	7		4400	
DBCS SYSTEM: UNDER MACHINE CLEAN/CHECK	13.	**Clean and check for mail under machine.**	58	7		57200	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132				Occurrence: ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds: Run Hours	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		1. Remove foam strips from back side of machine and outer side of Feeder and Transport section. 2. Using a flashlight, start at Transport and look for mail pieces under machine, proceed to check for mail to last stacker. 3. Remove any mail pieces found. 4. Follow local procedures for returning mail to Operations for processing. 5. Starting at the backside of the last stacker, work toward the Transport and Feeder sections cleaning and vacuuming any dust and debris found from under the machine. 6. Reinstall foam strips to backside of machine.					
FEEDER MODULE HARDWARE	14.	**Check Feeder wear and items as follows:** 1. Teflon strip 2. Rubber strippers 3. Pick-off belts 4. Compensator levers 5. Check for recommended gap setting of 5. 6. Generate a Work Order to replace as required. Refer to the most recent Maintenance Management Order, currently MMO-029-08, covering feeder alignment and performance adjustments. **MTSC>BULLETINS>Bulletins by Year**	1	9		173	
FEEDER MODULE: ALIGNMENT CHECK	15.	**Check Feeder alignment.** Check Feeder alignment (those steps that do not require power) using template, PSN 5220-04-000-5005, and in accordance with the most recent Maintenance Management Order, currently MMO-029-08, covering Feeder alignment and performance adjustments. **MTSC>BULLETINS>Bulletins by Year** **NOTE** If any discrepancies are found, write a work order to do a full Feeder alignment in	15	7		1100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		accordance with the most recent MMO, currently MMO-029-08, covering Feeder alignment and performance adjustments.					
FEEDER MODULE: MAIL TRANSPORT HARDWARE	16.	**Check Feeder transport for wear.** 1. Remove bottom feeder panel (clean). 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 DBCS maintenance handbook at completion of this route. 2. Check transport blade, transport blade mounting bracket, and sliding bearing block for loose bolts. 3. Check transport blade assembly for bearing wear. Ensure transport assembly moves smoothly along guide rod. 4. Check pawl for wear.	5	9		2200	
READER MODULE: WFOV FOAM ROLLER	17.	**WFOV foam roller check.** Check WFOV foam roller in Reader module. Replace roller if necessary.	1	9		4400	
READER MODULE: ENCODER COUPLING	18.	**Replace Encoder (Tachometer) Tube Coupler and Hose Clamp.** 1. Remove and replace the Encoder Tube Coupler (PSN 4720-02-000-4060) and Hose Clamp (PSN 4730-01-336-5495) located on the Reader Module Plate. 2. If problems occur while doing these procedures notify your supervisor and if needed generate a work order to resolve those problems.	10	9		14300	
STACKER MODULES: POWER SUPPLIES	19.	**Clean/Vacuum power supplies.** **WARNING** **Use non-metallic ends on the vacuum while cleaning the power supplies.** 1. Remove each cover on stacker module 5/24/42 VDC power supplies.	21	9		4400	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132					Occurrence: ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds: Run Hours	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		2. Verify power supply has two fuse blocks (MSB–022–98). 3. Using an approved vacuum cleaner, clean inside of each power supply assembly. 4. Replace covers.					
STACKER MODULES: FOAM PADS	20.	**Check the foam pads located on every guard finger of the Stacker Fence Assembly in each stacker pocket area all tiers.** **NOTE** For a location reference use MS-298, Vol. C, Figure 11-10, Tier 1 Fence Assembly, Index Number 38. This reference was valid as of the date of this writing, as always use the most recent documentation available. 1. Check the foam pads (PSN 9320-03-000-0023) to see if they are missing, damaged, and/or degraded in any way. 2. Make a list of the foam pads needing replacement and their locations. 3. Generate a Work Order to replace the foam pads found and recorded in Steps 1 and 2 of this instruction.	70	9		57200	
DBCS SYSTEM: POWER UP	21.	**Power Up DBCS system.** 1. Power up preparation. a. Ensure tools and materials are removed from work area. b. Replace all machine panels. c. Close all machine doors and covers. **WARNING** **Be cautious when working around or on equipment when power has been applied. Some of the following tasks require that the machine be running. Take precautions to prevent hair, clothing, tools, and test equipment from being caught in moving parts.**	8	7		1	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		2. Restore power to equipment as prescribed by current local procedure providing lockout/ restore procedures. For detailed steps to properly power up the system refer to MS Handbook MS-298, Volume B, Section 5.2.4. Also ensure all local lockout procedures are adhered to.					
DBCS SYSTEM: INTERLOCKS AND E-STOPS	22.	**Check all system interlocks and emergency stop switches.** **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** **NOTE** When performing this step, check only one interlock switch and one emergency stop switch with machine running. Check all other interlock and E-Stop switches while machine is stopped. **NOTE** This task requires two people. Time is doubled for staffing purposes. Verify light conditions and warning sounds for each E-Stop and interlock. 1. Start machine. Verify that when START switch is pressed, start-up warning indicators around sorter flash amber. At same time, start-up warning horns sound. The horns sound for 5 seconds and go off, while warning indicators flash for a total of 10 seconds. Machine runs. 2. Press EMERG STOP mushroom switch on feeder control panel assembly and note that following occurs: a. Machine stops immediately. b. Lamp lights in EMERG STOP switch.	18	7			M

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		c. Red EMERG STOP indicator lights on appropriate system control panel column. d. READY lamp goes out on system control panel. e. Pressing Start pushbutton does not start machine. 3. Reset EMERG STOP mushroom switch and note that following occurs: a. System READY lamp illuminates on system control panel. b. Red EMERG STOP indicator goes out on appropriate system control panel column. c. Lamp goes out in module control panel EMERG STOP switch. d. Machine can now be started. e. Start machine. Verify that when START switch is pressed, start-up warning indicators around sorter flash amber. At same time, start-up warning horns sound. The horns sound for 5 seconds and go off, while warning indicators flash for a total of 10 seconds. Machine runs. f. Open Reader Module front panel door and note that the following occurs: 1) Machine stops immediately. 2) Red EMERG STOP indicator lights on appropriate system control panel column. 3) READY lamp goes out on system control panel. 4) Pressing Start pushbutton does not start machine. g. Close Reader Module front panel door and note that the following occurs: 1) System READY lamp illuminates on system control panel.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132				Occurrence: ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds: Run Hours	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		2) Red EMERG STOP indicator goes out on appropriate system control panel column. h. Machine can now be started. 4. Without starting and stopping machine, check all remaining EMERG STOP mushroom switches one at time to ensure that each one causes actions as described in items 2-b, c, and d above to occur when pressed and actions described in items 3-a, b, and c above to occur when they are reset. 5. Without starting and stopping machine, check interlocks one at a time, by opening of panel or door, to ensure that each one causes actions described in items 2-c and d above to occur when opened and actions described in items 3-a and c occur when panel or door is closed. When an interlock is activated in stacker there will be an indication on stacker display panel. Red full bin lights will flash on top row of panel. When interlock is deactivated, lights will go out. 6. If any problems are found, notify supervisor.					
DBCS SYSTEM: PREDICTIVE MAINTENANCE	23.	**Perform predictive maintenance tasks and procedures.** **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** **NOTE** While performing all of the PdM tasks, make a note of any area where excessive vibration, noise, and/or heat are detected. Initiate a work order to cover any annotated area that requires additional investigation. 1. Prepare machine**.**	219	9		20000	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		a. Shut down the DBCS System in accordance with the following reference: 1) For detailed steps to properly shut down the system refer to MS Handbook MS-298 Volume B, Section 5.2.4. 2) Power down the machine as prescribed by the current local lockout instruction providing lockout/restore procedures. b. Open covers and then remove panels. Open all machine doors including Main AC Power Panel, Feeder Distribution Panel, and Motor Distribution Panel. Open or remove all machine panels, this includes diverter plate cover assemblies (Wimpy panels). Override interlock switches. Rear Main Power Unit must by-pass magnetic contacts for DBCS to run. **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** **NOTE** Rear Main Power Unit must by-pass the magnetic contacts for DBCS to run. c. Restore power to equipment as prescribed by the current local procedure providing lockout/restore procedures. d. Start the DBCS machine. **NOTE**					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132				Occurrence: ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		Machine must have been running for a minimum of 15 minutes prior to doing the ultrasonic and infrared scans. 2. Ultrasonic scans. **NOTE** Use the Long Range Module (cone) on the Ultra-Probe when doing the ultrasonic scans. a. Use ultrasonic detector to monitor all bearing assemblies, top and bottom of the Feeder, for excessive vibration and noise. b. Use ultrasonic detector to monitor all bearing assemblies, top and bottom of the Transport, for excessive vibration and noise. c. Use ultrasonic detector to monitor all bearing assemblies, top and bottom of the Reader module, for excessive vibration and noise. d. Use ultrasonic detector to monitor all bearing assemblies, top and bottom of Motor Power Distribution, for excessive vibration and noise. e. Use ultrasonic detector to monitor all bearing assemblies, top and bottom of Tiers 1-4 of the Stacker modules, for excessive vibration and noise. 3. Infrared scans. a. Use non-contact infrared to scan Main Power Unit front and rear (magnetic interlock on panel), scan all terminal connections and connector plugs. b. Use non-contact infrared to monitor all motors, terminal connections, and connector plugs in the Feeder for abnormal temperature. c. Use non-contact infrared to monitor all terminal connections and connection plugs in the Feeder Distribution Panel for abnormal temperature.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		d. Use non-contact infrared to monitor all motors, terminal connections, and connector plugs in the Transport for abnormal temperature. e. Use non-contact infrared to monitor all terminal connections and connection plugs in Reader module for abnormal temperature. f. Use non-contact infrared to monitor all terminal connections and connector plugs in the Motor Distribution Panel for abnormal temperature. g. Use non-contact infrared to monitor all terminal connections and connector plugs in the Stacker Modules, Tiers 1-4 for abnormal temperature. 4. Restore equipment to ready status. a. Shut down the DBCS System in accordance with the following reference: 1) For detailed steps to properly shut down the system refer to MS Handbook, MS-298, Volume B, Section 5.2.4. 2) Power down the machine as prescribed by the current local lockout instruction providing lockout/restore procedures. b. Replace all panels and doors. Ensure tools and materials are removed from work area. Replace all machine panels. Close all machine doors and covers. **WARNING** **Be cautious when working around or on equipment when power has been applied.** c. Restore power to equipment as prescribed by the current local procedure providing lockout/restore procedures.					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132				Occurrence: ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds: Run Hours	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		d. Power on computer systems using current local computer restore procedures.					
FEEDER MODULE: ALIGNMENT CHECK	24.	**Check Feeder alignment.** **WARNING** **Be cautious when working around or on equipment when power has been applied.** Check Feeder alignment (Power On steps) using template, PSN 5220-04-000-5005, and in accordance with most recent MMO, currently MMO-029-08, covering feeder alignment and performance adjustments. **NOTE** If any discrepancies are found, write a work order to do a full feeder alignment in accordance with the most recent MMO, currently MMO-029-08, covering feeder alignment and performance adjustments. **MTSC>BULLETINS>Bulletins by Year**	15	7		1100	
TRANSPORT MODULE: ICS ELECTRICAL ENCLOSURE	25.	**ID Tag Reader System electrical enclosure inspection.** **WARNING** **Be cautious when working around or on equipment when power has been applied.** Use the most recent MMO covering ICS ID Tag reader system electrical enclosure inspection to perform procedures on ICS reader in order to locate enclosures with defective power supplies, switches not configured properly, incorrect lamps, and lamps not installed properly. **MTSC>BULLETINS>Bulletins by Year**	10	10		4400	
READER MODULE: WFOV ALIGNMENT	26.	**Perform the following on the WFOV Read Head Assembly on the DBCS.** **WARNING** **Be cautious when working around or on equipment when power has been applied.**	8	10		4400	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132					Occurrence: ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds: Run Hours	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		1. The WFOV Read Head Assembly (RHA) is position-mounted on a spacer plate. On the DBCS, DIOSS, and CIOSS the spacer plate is secured to a mounting plate. Ensure the spacer plate is properly aligned in accordance with the most recent documentation covering this procedure, currently this will be MS-212 Section 5.2.1. 2. Perform the WFOV Installation Alignment in accordance with the most recent documentation covering this procedure, currently this will be MS-212 Section 5.2.2.1. 3. If any problems arise necessitating corrective actions, write a work order to document the time and events associated with those problems.					
READER MODULE: POWER SUPPLY	27.	**Power supply PS1 (5VDC Reader) check.** **WARNING** **Be cautious when working around or on equipment when power has been applied.** 1. Open Reader lower left door. 2. Place multimeter leads with clips on connectors J14 and J15 of Reader card cage backplane. 3. A reading of 5.0 to 5.1 VDC should be present, if not the power supply should be replaced because it is out of specification. 4. Close door. 5. If power supply needs to be replaced, notify supervisor of the out of specification power supply and initiate a work order to replace the power supply.	5	9		14300	
STACKER MODULES: BIN SWITCH TEST	28.	**Stacker bin-full switch checks.** **WARNING** **Be cautious when working around or on equipment when power has been applied.**	7	7		1100	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132				Occurrence: ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds: Run Hours	Thresholds: Pieces Fed (000)	Thresholds: Freq.
		1. Pull each stacker blade to its 3/4 full position and note that its associated red indicator on stacker module display panel flashes and stacker module horn beeps. Note defective stacker switches. 2. Pull each stacker blade to its full position and note that its associated red indicator on stacker module display panel is illuminated and stacker module horn beeps. Note defective stacker switches. 3. Verify stacker blade rides smoothly on the guide rod. 4. Notify supervisor of defective stacker switches and/or blades and initiate a work order to repair or replace as necessary.					
STACKER MODULES: POWER SUPPLY	29.	**Power supply adjust PS1 - 5 volts (stackers).** **WARNING** **Be cautious when working around or on equipment when power has been applied.** 1. Place multimeter leads with clips on connectors J10 and J11 of the stacker backplane. 2. A reading of 5.1 VDC should be present, if not adjust the power supply potentiometer to obtain a reading of +5.0 VDC (+0.1/-0.0 VDC).	14	9		14300	
STACKER MODULES: GATE SOLENOID PUSHERS	30.	**Gate and solenoid pusher assembly test.** **WARNING** **Be cautious when working around or on equipment when power has been applied.** **NOTE** Gate and pusher solenoid testing should be performed from the Stacker Integrated Solenoid Driver Assembly (S-ISDA). The S-ISDA is comprised of 1 P-TC08 (power and machine interface) and 4 P-TSD08 (driver module) circuit cards. Each	20	9		14300	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature: Delivery Bar Code Sorter	Equipment Model: DBCS Phase 3-5 with LAUPH2										Bulletin Filename: mm19132				Occurrence: ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		P-TSD08 contains a built in test function that is user activated. 1. Open the rear doors on the selected Stacker module to be tested. 2. Lower the S-ISDA to gain access to the test push buttons. **NOTE** Identify visually inoperative solenoid pusher assemblies and gates by monitoring each stacker module one by one. 3. One tier on each stacker module will be tested at a time, energizing every gate and solenoid pusher assembly sequentially, repeatedly. By pushing the corresponding test button on a P-TSD08 circuit board, the circuit board will perform a built in test to toggle each gate and pusher solenoid 14 times sequentially and will repeat for a total of 3 cycles. The testing will be identical for each stacker module. **NOTE** Pushing the test button while a test cycle is active will end the test cycle. a. Push the test button on the Tier 1 P-TSD08 circuit board. All LEDs on the board will illuminate for approximately 3 seconds and then all will cycle on and off for approximately 4 seconds except for LED DS101 which is the power indicator for the board. b. The P-TSD08 will test each gate and pusher solenoid on the selected tier in the following order: • Gate 1 • DS201 – Gate activation • DS202 – Gate power • Pusher Solenoid 1 • DS301 –Pusher activation • DS302 – Pusher power					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	mm19132	ECBM

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

		• Gate 2
		  • DS203 – Gate activation
		  • DS204 – Gate power
		• Pusher Solenoid 2
		  • DS303 – Pusher activation
		  • DS304 – Pusher power
		• Gate 3
		  • DS205 – Gate activation
		  • DS206 – Gate power
		• Pusher Solenoid 3
		  • DS305 – Pusher activation
		  • DS306 – Pusher power
		• Gate 4
		  • DS207 – Gate activation
		  • DS208 – Gate power
		• Pusher Solenoid 4
		  • DS307 – Pusher activation
		  • DS308 – Pusher power
		As each gate or pusher solenoid is being tested, the P-TSD08 will toggle each one 15 times with 2 rapid toggles in the middle. The whole test will cycle 3 times which will take approximately 2 minutes to complete.
		c. Repeat sub-steps 3a and 3b until each tier in the selected Stacker module has been tested.
		4. If the red status led (DS102 comes on when a gate or pusher is being tested it is an indication there is a fault with the particular gate or pusher that was being tested at that time. The fault could be in one of the following:
		• The gate or pusher					

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		• The gate or pusher under deck harness assembly • The gate or pusher cable assembly • The P–TSD08 circuit board. Note which gate or pusher caused the P-TSD08 to indicate an error status and submit a work order for repairs to be made. 5. Raise S- ISDA into upright position. 6. Close Stacker module rear doors. 7. Repeat testing for next Stacker module until all have been tested.					
DBCS VALIDATION: MACHINE VALIDATION	31.	**Perform the mail path validation by checking basic machine functions as follows:** **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** 1. Turn Maintenance Mode key switch on operator control panel to MAINT position. 2. Start machine. Verify when START switch is pressed, start-up warning indicators around sorter flash amber. At same time, start-up warning horns sound. Horns sound for 5 seconds and go off, while warning indicators continue to flash for a total of 10 seconds. 3. Do a visual and audible check of 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 end stacker and press Emergency Stop button. Verify machine stops. 5. If machine fails to stop, notify supervisor. Refer to the most recent Maintenance Management Order, currently MMO-002-03,	4	9		3	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132					Occurrence ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		concerning failure to stop. **MTSC>BULLETINS>Bulletins by Year** 6. De-activate E-Stop and turn Maintenance Mode switch back to NORMAL on operator control panel.					
DBCS VALIDATION: LABEL PRINTER	32.	**Check label printer. Verify label quality.** **WARNING** **Be cautious when working around or on equipment when power has been applied.** 1. On label printer, press LINE FEED button one time. Label printer will print out test label. 2. Verify test label has good quality print (not blurred) and is readable to human eye. 3. If the quality of the print is unacceptable, write a work order to troubleshoot and/or clean the thermal head using cleaning kit, PSN 7930-07-000-1593.	2	7		3	
DBCS VALIDATION: WFOV TEST DECK	33.	**Run WFOV test deck (PSN 3915-06-000-8292) as follows:** **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** 1. Set up machine in DBCS Mode. 2. Load Run information. 3. Enter Operation number (750). 4. Select F2 to accept. 5. Load sort plan WFOV_TDK.EBF 6. Select “Start Mail Processing”. 7. Select Display ZIP/Pkts and On Line Display.	9	9		3	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename mm19132				Occurrence ECBM	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		8. Start machine and process WFOV test deck. Ensure WFOV has a GAR that equals 99% or greater. If the GAR is lower than 99%, check read reject bins for any test cards that may have unreadable bar codes. If necessary, perform a WFOV auto-calibration. 9. Verify the Certified Mail portion of the test deck sorts properly. 10. If any additional time is needed to correct ZIP result discrepancies and/or GAR issues, including auto-calibration, initiate a work order.					
DBCS VALIDATION: ICS STRESS DECK	34.	**ICS reader validation.** **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** Verify the ICS-3 reader as follows: 1. Set machine up to run in DBCS mode, use sort plan ICSTSTI.ebf. 2. From ON LINE MAIL PROCESSING screen, select Display ZIPs/Pkts. 3. From Select Display Option screen, select On-Line Display. 4. Start machine and run the stress deck, PSN 3915-10-000-6361. 5. At on line display screen, verify that ICS-3 Reader detected all ID Tags present and they read same. 6. Stop machine. 7. Retrieve and verify cards sorted correctly. Refer to the most recent MMO, currently, MMO-144-15, dealing with sorting problems. **MTSC>BULLETINS>Bulletins by Year** 8. Notify supervisor of any problems found.	5	9		3	

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	mm19132	ECBM

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
DBCS VALIDATION: UAA INTERCEPT BARCODE	35.	**Verify that the OCR engine in the DBCS mode can intercept UAA mail.** **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** Using the Xanadu Test Deck, PSN 9310-08-000-3864, P/N 66.1026.034-00, do the following: From the Main Menu: 1. Select Mode Select. 2. Select DBCS. 3. Load Run Information. 4. Enter Operation Number (750). 5. Select F2 to accept. 6. Load a sortplan that has a confirmed UAA pocket assigned (ParsSpecial Pockets.ebf assigns pocket 39 for UAA). 7. Start mail processing and run UAA test deck. 8. Print or view the End of Run report. 9. Calculate the intercept rate (# confirmed UAA test pieces divided by the total # of test pieces fed, multiplied by 100). 10. Verify that at least 90% of the UAA test deck was intercepted. 11. Log off the system computer.	9	9		1100	
FINAL CLEAN UP	36.	**Clean up.** Ensure all tools, lubricants, rags, etc., are removed from the work area. Report all deficiencies to supervisor.	2	ALL			

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	mm19132	ECBM

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

THIS PAGE BLANK

ATTACHMENT 3

MASTER CHECKLIST

09-DBCS-CK-001-M

Operational Maintenance

Time Total: 46 minutes

Task Item Number	Basic Task Time Min.	Times Done During Tour	Total Time per Tour Min.
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	2	3	6
9	1	3	3
10	5	3	15
11	2	2	2
		Total OPM Time	46

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	MM19132	Tourly

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
SAFETY STATEMENT	1.	**COMPLY WITH ALL SAFETY PRECAUTIONS. Disconnect power and apply lockouts when required by this instruction. Refer to current local lockout procedures to properly shut down and lock out this machine. Open equipment and inspect dust conditions. Check for suspicious dust or unusual debris. If any unusual substance is found notify supervisor prior to proceeding with any further action on the equipment.** **THE USE OF COMPRESSED OR BLOWN AIR IS PROHIBITED.** **When cleaning is required, an alternative cleaning method such as a HEPA filtered vacuum cleaner, or a damp rag must be used in place of compressed or blown air. 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			T
DBCS OPM: MACHINE LOGBOOK	2.	**At the beginning of operation, examine machine log.** **WARNING** **Be cautious when working around or on equipment when power has been applied. This task requires that the machine be running. Take precautions to prevent hair, clothing, jewelry, tools, and test equipment from being caught in moving parts.** **NOTE** While performing listed operational maintenance tasks, be alert for unusual sounds, odors, or other indications of potential failure conditions in the machine.	1	9			T

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	D	B	C	S					C	K	0	0	1	M
Equipment Nomenclature Delivery Bar Code Sorter	Equipment Model DBCS Phase 3-5 with LAUPH2										Bulletin Filename MM19132				Occurrence Tourly	

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
		Examine log and document any unresolved problems from the previous tour. **NOTE** Operational checks must be made with machine processing mail in a normal operating mode.					
DBCS OPM: MACHINE SAFETY	3.	**Every two hours observe warning horn and beacons.** Watch for proper operation of warning horn and beacons on machine start-ups.	1	9			T
DBCS OPM: MACHINE INDICATOR LAMPS	4.	**Every two hours check lamps.** Watch for proper functionality of indicator lamps used during normal machine operations. Correct deficiencies as soon as practical.	1	9			T
DBCS OPM: OPERATORS	5.	**Every two hours observe Feeder and check with operator.** Observe the Feeder operation and inquire if operators are having excessive processing problems. Investigate, as necessary. Initiate corrective action as appropriate.	1	9			T
DBCS OPM: VIDEO DISPLAY TERMINAL WFOV	6.	**Every two hours check mail processing screen.** 1. Check current Accept Rate Value on the GUI to ensure the sort plan, operating mode, and Accept Rate is correct for the mail being processed in accordance with the following: a. Operation 918 and 919 - 99.1% GAR b. All other Operations 98.8% GAR 2. If MAR or GAR is below acceptable values: a. Check for degraded image and/or dust/debris accumulations on WFOV faceplate by observing the thumbnail image on the upper left on the GUI. b. If the image is degraded or if problems are noted take appropriate corrective action.	1	9			T

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	MM19132	Tourly

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
DBCS OPM: OVERFLOW STACKER	7.	**Every two hours check mail in the Overflow/Reject Stacker.** Check type of mail present in overflow stacker to determine which area(s) of the machine might be malfunctioning. Check for indications of double feeds, one particular code, a single gate, or mail path blockage problem. Document any problems found and if needed write a work order.	2	9			T
DBCS OPM: SORTING STACKERS	8.	**Every two hours check for missorts.** Take a sample from at least 5 stackers and verify the address block matches the scheme for that pocket. Verify mail pieces enter stacker in a uniform manner. Document any problems found and if needed write a work order.	2	9			T
DBCS OPM: READER, ICS-3	9.	**Every two hours examine the Message Relay Log by pressing "alt-tab" on the host VDT GUI for excessive ID TAG ERROR messages and if needed do the following:** 1. Check ICS-3 ID tag reader exterior for accumulated dust, dirt, and debris or loose/worn belts, paying particular attention to the aperture and to the raised portion of the faceplate. 2. Document any problems found and if needed write a work order.	1	9			T
DBCS OPM: ACE/MKAT LAPTOP COMPUTER	10.	**Every 2 hours check all performance indicators displayed on the MPEWatch Realtime Maintenance View Screen including the following items:** 1. Key Performance Indicators (KPI) report. **NOTE** Access to KPI can be done by clicking on the hyperlink located in the column titled "KPI%". 2. Unplanned Events. 3. DPS Information. 4. Take appropriate action to investigate and correct any abnormalities detected in viewing MPEWatch. Generate a work order for further maintenance actions if required.	5	9			T

U.S. Postal Service **Maintenance Checklist**	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	D	B	C	S					C	K	0	0	1	M

Equipment Nomenclature	Equipment Model	Bulletin Filename	Occurrence
Delivery Bar Code Sorter	DBCS Phase 3-5 with LAUPH2	MM19132	Tourly

Part or Component	Item No	Task Statement and Instruction (Comply with all current safety precautions)	Est. Time Req (min)	Min. Skill Lev	Thresholds		
					Run Hours	Pieces Fed (000)	Freq.
DBCS OPM: ADMINISTRATIVE	11.	**At the end of the operation tour, compile the following information:** 1. Route sheet information. 2. Any work orders generated. 3. Make entries in Machine Logbook of any discrepancies found during the mail run. 4. Turn this information in to Maintenance Supervision. Brief personnel coming on duty.	2	9			T