MAINTENANCE TECHNICAL SUPPORT CENTER
HEADQUARTERS MAINTENANCE OPERATIONS
UNITED STATES POSTAL SERVICE

Maintenance Management Order

SUBJECT: BDS_AA Preventive and Operational Maintenance (Non-eCBM)

DATE: March 31, 2025

PUB NO: MMO-003-24
TO: All BDS Sites
FILE CODE: 3B
FILE ID: mm24003
REV LEVEL: ae

Online Change Record		
Change #	**Date**	**Description of Change**
1	5/7/2025	Attachment 2, item 30, step 19, made directory name much smaller to fit on one line: cd C:\Installation\Utilities\Calibration_Import_Export

This Maintenance Management Order (MMO) **supersedes MMO-046-10** provides Operational and Preventive Maintenance Guidelines for the Biohazard Detection System (BDS) (non-eCBM). This bulletin applies to Acronym BDS, Class Code AA.

The workhours indicated in the workload estimate (Attachment 1) are a calendar-based schedule to reflect the maximum annual workhours required to maintain each system. 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.

WARNING

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

WARNING

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

WARNING

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

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

Frederick L. Jackson III
Executive Manager
Maintenance Technical Support Center
Asset Maintenance Planning, Performance, and Support

Attachments
1. Summary of Workload Estimate For BDS_AA
2. Master Checklist 03-BDS-AA-001-M – BDS Preventive Maintenance (PM)
3. Master Checklist 09-BDS-AA-001-M – BDS Operational Maintenance (OM)

ATTACHMENT 1

SUMMARY WORKLOAD ESTIMATE

FOR BDS_AA

SUMMARY WORKLOAD ESTIMATES FOR BDS_AA								
Number of mailpieces Processed for 1 Year >			High end estimate					
						Operational Maintenance + Total Servicing		
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)	1 Tour Hrs/Yr OpM x 1	2 Tours Hrs/Yr OpM x 2	3 Tours Hrs/Yr OpM x 3
5 Days	437.35	131.21	568.56	56.86	625.42	651.42	677.42	703.42
6 Days	489.35	146.81	636.16	63.62	699.78	730.98	762.18	793.38
7 Days	541.35	162.41	703.76	70.38	774.14	810.54	846.94	883.34

* 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			OPERATIONAL MAINTENANCE		
Daily	364.00		0 MIN. PER DAY PER MACHINE		
Weekly	134.33		One Tour	Two Tours	Three Tours
Bi-Weekly	22.97	5 Day	26.00	52.00	78.00
Monthly	15.17	6 Day	31.20	62.40	93.60
Quarterly	2.80	7 Day	36.40	72.80	109.20
Semi-Annual	2.00				
Annual	0.08				

	* -- The tasks marked with one asterisk are per unit tasks				
	** -- The tasks marked with two asterisks are critical tasks				
	Frequency Codes (1 AP = 4 Weeks)				
Code	**Frequency**	**Description**	**Code**	**Frequency**	**Description**
A	ANNUAL	Once every 13 APs	B	BI-WEEKLY	Once every half AP
C	BI-MONTHLY	Once every 2 APs	D	DAILY	Once a day; 7 days a week
E	DAILY	Once a day; 6 days a week	F	DAILY	Once a day; 5 days a week
G	DAILY	Once a day; 4 days a week	H	DAILY	Once a day; 3 days a week
J	SEMI-WEEKLY	2 days a week	K	BI-ANNUAL	Once every 26 APs
L	tdl-ANNUAL	Once every 39 APs	M	MONTHLY	Once every AP
N	QUAD-ANNUAL	Once every 52 APs	P	QUINT-ANNUAL	Once every 65 APs
Q	QUARTERLY	4 times every 13 Aps	S	SEMI-ANNUAL	Twice every 13 APs
V	TOURLY	3 times a day; 6 days a week	U	TOURLY	Twice a day; 7 days a week
X	TOURLY	Twice a day; 6 days a week	W	WEEKLY	Once 1/4 AP (a week)
Z	TOURLY	Twice a day; 5 days a week	Y	TOURLY	3 times a day; 5 days a week
WI(*)	WEEKS INTERVAL	Perform a task once every # weeks e.g., WI(60) = Once every 60 weeks			
		# = number of weeks			

ATTACHMENT 2

BDS PREVENTIVE MAINTENANCE (PM)

NON-ECBM MASTER CHECKLIST

U.S. Postal Service Maintenance Checklist	IDENTIFICATION															
	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	3	B	D	S						A	A	0	0	1	M
Equipment Nomenclature BDS	Equipment Model Biohazard Detection System										Bulletin Filename mm24003					Occurrence Calendar

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. 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 or appropriate EWP PPE and barricade requirements. **WARNING FOR SDS:** 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.	1	All			

Tasks marked with one asterisk after the time required are per unit tasks.
Tasks marked with two asterisks after the item number are critical tasks.

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.
Biohazard Detection System (BDS): Active BDS Cabinet	2	**BDS Start of Day Maintenance** **NOTE: Perform only on the active cabinets.** Perform the following steps for start of day maintenance: 1. At the Login screen, enter User ID and Password. 2. Press the **Submit** button to display the main maintenance menu. 3. Select **Daily Maintenance** button. The Daily Maintenance Check Machine Alarms screen appears. 4. Observe machine alarms. a. Verify that no active alarms are currently present on Check Machine Alarms screen. b. Resolve any active alarms before proceeding. c. Press the **NEXT** button. The Check Buffer Volume screen appears. 5. Inspect buffer volumes. a. Observe buffer volumes screen. If buffer volumes are at acceptable levels (12% for Buffer 1; 21% for Buffer 2; 14.5% for Buffer 3), proceed to Step 5.m. b. If any buffer volume is below acceptable percentages replace buffer bottle by performing the following steps: **WARNING: Must wear chemical proof goggles (with side shields), aprons, and rubber gloves when handling buffers, per USPS requirements. Failure to comply could result in irritation to the eyes and skin. Wear eye protection and gloves while performing the following Steps. Should eye or skin contact occur, flush with water, preferably for a minimum of 15 minutes, and report the incident to the supervisor and the site medical office.** **NOTE: When first logging into the BDS cabinet, you have 15 minutes to open the cabinet doors and replace the fluids, without generating an Authorization alarm. If additional time is required, press the Open Cabinet Door button to reset 15-minute timer.**	44	10			D

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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.
		c. Press the **Replace Fluids** button. The Replace Fluids screen appears. d. Don personal protective gear (apron, eye protection, and gloves) per SDS and USPS local safety guidelines. e. Obtain required replacement buffer bottle(s) and note lot number(s). f. Press **E-Stop** button on the BDS cabinet. g. Unlock and open cabinet doors. h. Remove cap from replacement buffer bottle. i. Put cap on removed empty buffer bottle. j. Insert replacement buffer bottle in tray and screw lid on finger tight. k. Dispose of removed empty buffer bottle(s) in accordance with local safety and waste disposal regulations. l. Record replacement in maintenance logbook. m. If cabinet doors are not already open, press **E-Stop** button on top of the cabinet and unlock and open. n. Visually inspect waste container and empty if it is 75% or more full. o. Visually inspect water box. Verify bag has not collapsed over nozzle. Replace water box if almost empty and record in maintenance logbook. p. Close and lock doors. q. Reset E-Stop button and press the **Start** button on top of the cabinet. **NOTE: It is important to press applicable check boxes in Step 5.r, so an accurate account of the fluid levels is maintained.** r. Select applicable check box(es) for the buffer bottle(s) and/or water box replaced. s. Select the keyboard button at the bottom right of the screen. t. Enter the new buffer lot numbers in the respective fields of buffers that were replaced.					

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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.
		u. Press **Next** button. The Prime Fluid Line screen appears. 6. Prime fluid lines. **NOTE: The Prime Fluid Lines screen will indicate READY the first time this screen appears following a computer reboot. If the prime fluid lines procedure is run a second time during the same computer boot cycle, the screen will indicate the date and time of the previous occurrence of line priming.** **NOTE: The Cartridge Handling System (CHS), blower module, and fluidics and control module work together to prime and rinse the lines.** a. Press the **START** button on the touch screen. b. Observe the left-hand side of the touch screen. Each routine will appear in block letters on the touch screen as it is being accomplished. **NOTE: If preparing more than one BDS for operations, start daily procedures on other cabinets while lines are priming.** c. When all prime and rinse routines have been completed, the screen will show a message indicating that priming is complete. Select the **NEXT** >> button. The Replace Cartridges screen appears. 7. Replace cartridges. a. On the Replace Cartridges screen, select the **Unlock Drawer** button, and open the drawer in the center of the left-hand BDS cabinet door. b. Remove used cartridges, place them in holding area for a minimum of two full standard business days. Keep cartridges upright to avoid drainage. c. Rotate any unused cartridges to the lowest numbered position. This ensures the First In-First Out (FIFO) inventory requirement is met. d. Insert new cartridges into the remaining open positions with the cartridge barcodes facing front.					

Tasks marked with one asterisk after the time required are per unit tasks.
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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.
		e. Inspect cartridges to ensure tabs are flat, not bent, or damaged. f. Inspect cartridge label to verify it is fully adhered to the cartridge. g. Select the **Unlock Drawer** button and close the drawer. **NOTE: The automated sequence will inventory all 10 positions and record the serial numbers contained within the barcode label of each cartridge.** h. Verify that all new cartridges show up as green on the screen and that cartridge barcode numbers are shown beneath the cartridge. i. If the barcode for a cartridge does not appear on the screen, unlock, and open the drawer, remove the cartridge, and verify that the label is not smudged or dirty. Replace any cartridge that cannot be read. j. When the automated sequence completes inventory of all 10 positions, select the **Next** >> button. The Check Collection Hood and Tubing screen appears. 8. Inspect collection hood and tubing. a. Inspect hood for structural integrity. Check there are no cracks, dents, holes, or loose or broken hinges. b. Inspect inlet hoses between MPE interface hood, cyclonic filter, and BDS cabinet to ensure that hoses are securely fastened. c. Verify that ground wires are intact and looped inside hose ends to provide an electrical ground to male fitting. d. Inspect that hoses show no signs of kinks, binding, or excessive deterioration. e. Inspect differential pressure hose between MPE interface hood and pressure sensor to ensure that hose is securely fastened and that it shows no sign of kinks, binding, or excessive deterioration.					

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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.
		f. Select the **first check box** on the Daily Maintenance Check Collective Hood and Tubing screen. g. Verify tubing is unobstructed. h. Select the **second check box** on the Daily Maintenance Check Collective Hood and Tubing screen. i. Inspect BDS-to-MPE interface cable for nicks, cuts, scrapes, loose wires, loose connectors, and signs of excessive wear or damage. j. Verify MPE interface cable connections are secure. k. Verify all hose connections between BDS cabinet and MPE are secure. l. Check the **third check box** on the Daily Maintenance Check Collective Hood and Tubing screen. m. Verify that the four channel walls are in place. **NOTE: For the Legacy AFCS only, the rubber seals can be mounted on the collection hood instead of on the LED bank and stripper plate.** n. Ensure that the rubber seals on the four channel walls, the LED bank, and the stripper plate are in place with no tears or gouges. o. Check the remaining two check boxes and then select **Finish** button on the Daily Maintenance Check Collective Hood and Tubing screen. The Maintenance Complete screen appears. p. Select the **Home** button. The main Maintenance screen appears. 9. Record completion of start of day maintenance in the maintenance logbook. 10. Select **Logout** on the main Maintenance screen. 11. Generate a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM2.1.					

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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.
Biohazard Detection System (BDS): Hot Spare BDS Cabinet	3	**Hot Spare Start of Day Maintenance** **NOTE: Perform only on the hot spare cabinets.** 1. At the Login screen, enter your User ID and Password. 2. Press the **Submit** button to display the main maintenance menu. 3. Observe machine alarms. a. On the main maintenance menu, press the **Daily Maintenance** button, the "Check Machine Alarms" screen is displayed. b. On the Check Machine Alarms screen, verify that no active alarms are currently present. c. Resolve any active alarms before proceeding. d. Press the **NEXT** button. The Check Buffer Volume screen appears. 4. Inspect buffer volumes. a. Inspect buffer volumes screen. If buffer volumes are at acceptable levels (12% for Buffer 1; 21% for Buffer 2; 14.5% for Buffer 3), proceed to step 5. b. If any buffer volume is below acceptable percentages replace buffer bottle by performing the following steps: **WARNING: Must wear chemical proof goggles (with side shields), aprons, and rubber gloves when handling buffers, per USPS requirements. Failure to comply could result in irritation to the eyes and skin. Wear eye protection and gloves while performing the following Steps. Should eye or skin contact occur, flush with water, preferably for a minimum of 15 minutes, and report the incident to the supervisor and the site medical office.** **NOTE: When you first log in to the BDS cabinet, you will have 30 minutes to open the cabinet doors and replace the fluids, without generating an Authorization alarm. If additional time is required, press the Open Cabinet Door button to reset 30-minute timer.** c. Press the **Replace Fluids** button. The Replace Fluids screen appears.	44	10			W

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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.
		d. Don personal protective gear (apron, eye protection, and gloves) per SDS and USPS local safety guidelines. e. Obtain required replacement buffer bottle(s) and note the lot number(s). f. Press **E-Stop** button on the BDS cabinet. g. Unlock and open cabinet doors. h. Unscrew lid and remove empty buffer bottle from buffer tray.' i. Remove cap from replacement bottle. j. Place cap on removed empty buffer bottle. k. Insert replacement buffer bottle in tray and screw lid on finger tight. l. Dispose of removed empty buffer bottle(s) in accordance with local safety and waste disposal regulations. m. If cabinet doors are not already open, press E-Stop button on top of the cabinet and unlock and open. n. Visually inspect waste container and empty if it is 75% or more full. o. Visually inspect water box. Verify bag has not collapsed over nozzle. Replace water box if almost empty and record in maintenance logbook. p. Close and lock doors. q. Reset E-Stop button and press the **Start** button on top of the cabinet. r. Record replacement in maintenance logbook. **NOTE: It is important to press applicable check boxes in Step 4.s, so an accurate account of the fluid levels is maintained.** s. Select applicable **check box(es)** relative to the buffer bottle(s) and/or water. t. Select the **keyboard** button at the bottom right of the screen. u. Enter the new buffer lot numbers in the respective fields of the buffers that were replaced.					

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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.
		v. Press **Next** button. The Prime Fluid Line screen appears. 5. Prime fluid lines. **NOTE: The Prime Fluid Lines screen will indicate READY the first time this screen appears following a computer reboot. If the prime fluid lines procedure is run a second time during the same computer boot cycle, the screen will indicate the date and time of the previous occurrence of line priming.** **NOTE: The Cartridge Handling System (CHS), blower module, and fluidics and control module work together to prime and rinse the lines.** a. Press the **START** button on the touch screen. b. Observe the left-hand side of the touch screen. Each routine will appear in block letters on the touch screen as it is being accomplished. **NOTE: If preparing more than one BDS for operations, start daily procedures on other cabinets while lines are priming.** c. When all prime and rinse routines have been completed, the screen will show a message indicating that priming is complete. Select the **NEXT >>** button. The Replace Cartridges screen appears. 6. Replace cartridges. a. On the Replace Cartridges screen, select the **Unlock Drawer** button, and open the drawer in the center of the left-hand BDS cabinet door. b. Remove and retain used cartridges for 24 hours, then dispose of them in accordance with local safety and waste disposal regulations. Keep cartridges upright to avoid drainage. c. Rotate any unused cartridges to the lowest numbered position. This ensures the First In-First Out (FIFO) inventory requirement is met. d. Insert new cartridges into the remaining open positions with the cartridges barcodes facing front.					

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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.
		e. Inspect cartridges to ensure tabs are flat, not bent, or damaged. f. Inspect cartridge label to verify it is fully adhered to the cartridge. g. Select the **Unlock Drawer** button and close the drawer. **NOTE: The automated sequence will inventory all 10 positions and record the serial numbers contained within the barcode label of each cartridge.** **NOTE: The next step is a conditional step that will not require action unless the defined conditions are met.** h. Verify that all new cartridges show up as green on the screen and that cartridge barcode numbers are shown beneath the cartridge. i. If the barcode for a cartridge does not appear on the screen, unlock, and open the drawer, remove the cartridge, and verify that the label is not smudged or dirty. Replace any cartridge that cannot be read. j. When the automated sequence completes inventory of all 10 positions, select the **Next >>** button. The Check Collection Hood and Tubing screen appears. 7. Record completion of start of day maintenance in the maintenance logbook. 8. Select **Logout** on the main Maintenance screen. 9. Generate a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM2.1.					
Biohazard Detection System (BDS): BDS Cabinet	4	**Perform BDS Cabinet Maintenance.** 1. On Login screen, enter User ID and Password. Press **Submit** button; the main Maintenance screen appears. 2. On main Maintenance screen, select **Weekly Maintenance**. The Check Machine Alarms screen appears.	30	10			W

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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.
		3. Check machine alarms. a. Verify that no active alarms are currently present on Check Machine Alarms screen. If alarms are present, resolve and acknowledge each one prior to proceeding with the remainder of this procedure. **NOTE: Always follow local USPS procedures and local environmental ordinances and regulations for the handling and disposal of waste materials.** b. Press the **Next** button; the Empty Cyclone Debris screen appears. 4. Empty Cyclonic Filter Debris Cup. a. For active cabinets, follow on-screen instructions and press **all three checkboxes** when completed. b. For hot spare cabinets, press **all three checkboxes**. **NOTE: The Next button remains grayed out and inactive until all three checkboxes have been checked.** c. Press the **Next** button; the Inspect the Air Filter screen appears. 5. Inspect Air Conditioner Filter. **NOTE: Inspection of the filter does not require the BDS cabinet to be shut down and can be accomplished during normal operations.** **NOTE: If there is moderate discoloration, i.e., a brown or gray discoloration, it can still be used but first needs to be flipped upside down with the more discolored portion of the filter (should be the top) now at the bottom. When the filter is fully discolored (from top-to-bottom), it needs to be replaced.** a. If inspection reveals the need to rotate or replace the air conditioner filter, perform steps in procedure BDS Operation and Maintenance Handbook, Volume 2a, SM6.1. b. Press the **Next** button; the Check Archives screen appears. 6. Inspect Archive Bottles Tray.					

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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.
		a. On Check Archives screen, follow instructions to verify that archive bottles are present and clean. **NOTE: It is possible that archives 1-4 may contain fluid while the Archive Status screen says they are empty. It is for this reason that the Archive Status screen must not be used to check for archive contents. Instead, perform a visual check.** **NOTE: Archives 1-4 are general purpose. Archives 5-7 are for Single Sequence Amplification (SSA). Archive 8 is for presumptive positive.** b. If any contents are found in archives 5-7, immediately suspend this procedure. Return and finish this procedure only after running the Retrieval of Single Sequence Amplification (SSA) Cartridges and Samples procedure in KB0021921. c. If any of the archive bottles are used, remove bottle, mark, and dispose in accordance with existing local procedures. Replace removed archive bottle with a new one. d. Press **Reset Archives**, then press the **Next >>** button. The Clean Contactor screen appears. 7. Clean Contactor. a. Using a T-15 Torx wrench, remove two quick-acting 1/4-turn screws that secure ACD blower cover. b. Carefully lift blower cover and set it aside. c. Locate the two latches on the power plug side of blower motor. Pull up on inside latch while pulling down on outer latch to open the two latches on the right and left sides of blower. **WARNING: Ensure that E-Stop button is in the down position before performing the next step. Otherwise, blower motor may start. Failure to comply may result in personal injury or damage to equipment.** d. Press **E-Stop** button to the down position.					

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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.
		e. Lift blower motor and tilt motor back on its hinges until it rests on cabinet. f. A new blower motor may have a black, epoxy finish on the bottom of the motor. If so, clean the bottom of motor casing by wiping with a soft cloth only. Do not use the utility scrub brush. Using the utility scrub brush may damage the epoxy finish on the bottom of the blower motor. g. Inspect bottom of motor casing for rust and deterioration. Use utility scrub brush to remove any rust or debris on bottom of motor casing. **NOTE: Expect a slight amount of deterioration of the motor casing due to moisture getting under the vacuum motor gasket.** h. If gasket has excessive deterioration, do not attempt to replace the gasket. Instead, replace the blower module using procedure BDS Operation and Maintenance Handbook, Volume 2b, RR13. **NOTE: If the gasket is held in place with adhesive only (no screws), the gasket may become deformed because of lifting and lowering the blower on its hinge. If the blower is still sealing against the gasket, and there are no other problems, leave in place. If the gasket is peeling off and doesn't seem like it will stay in place for long, or if the cabinet is generating alarms or having other problems (e.g., difficulty calibrating airflow or sample volumes, gasket interfering with closing of blower hinge), then the blower module should be replaced.** **NOTE: In the following step, the three gasket screws may have been removed with the gasket being secured with an adhesive. If the gasket is being secured in this manner, do not reinstall any screws. If the screws are present, do not remove them.** **CAUTION: Over-tightening gasket screws can damage the gasket.**					

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					Run Hours	Pieces Fed (000)	Freq.
		i. If all three screws are present, tighten the screws, but do not over-tighten them. Make sure the three screws on the gasket are secure. Keep screws flush with top of gasket. **CAUTION: Be very careful when using the vacuum cleaner nozzle to remove debris from the contactor. Vacuum cleaner nozzle impact or excessive side pressure can break the glass contactor.** j. Using a wet/dry vacuum cleaner, remove debris inside contactor before proceeding. Turn vacuum nozzle around gently on bottom of contactor. k. Use wash bottle to spray water on debris at bottom of contactor jar below slit. Make sure not to spray any water on slit, as it will spill into contactor box. l. Place utility scrub brush inside contactor jar. Rotate brush while moving it up and down, paying special attention to the slit. m. Use small utility brush to wipe slit (especially bottom of slit). n. Use a syringe to remove any excess water in bottom of contactor jar. o. Repeat Steps 7.j through 7.n until all debris is removed from contactor jar. p. Tilt blower motor back into position. Ensure that motor is in complete contact with gasket. q. Place one hand on top of blower motor, press down, and reset the two latches that hold motor to mounting plate with other hand. r. Carefully place motor cover over motor and tighten the two quick-acting 1/4-turn screws (use a T-15 Torx wrench.) 8. Pull up E-Stop and press **START** button on top of the cabinet. 9. Press the **Next** button; the Clean the Reservoir screen appears. 10. Clean reservoir.					

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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.
		a. Remove the cap from the top of the reservoir. Click on the **top checkbox** on the screen. **CAUTION: Be very careful when cleaning the reservoir with the small cylinder brush. Water can splash onto the circuit board of the fluidics and control module causing a short circuit. This will render the fluidics module inoperable.** b. Clean the reservoir using the small cylinder brush. c. Wipe any debris from the sipper tube and RVS pressure sensor tube. Ensure that no fluid or debris remains inside either tube. d. Click the middle checkbox on the screen when done. e. Replace the reservoir cap. f. Click the bottom checkbox. g. Press the **Next** button; the Rinse Contactor and Flush Fluid Lines screen appears. 11. Rinse Contactor and Flush Fluid Lines. a. Press **Start** button. b. Observe left side of touch screen. Completion Day, Date, and Time will appear. c. When all routines have been completed, press the **Next** button. The “Empty Waste” screen appears. 12. Empty Waste Bottle. **NOTE: Environmentally sensitive materials are subject to federal, state, and local regulations. For all matters concerning the on-site handling, storage, and recycling or disposal of waste material, cleaners, or other environmentally sensitive materials, consult Safety Data Sheets and follow the USPS environmental procedures at the local site.** a. Inspect and empty the waste bottle in accordance with SDS and local procedures.					

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.
		b. When completed, press the **Next** button. The "Inspect Cabinet for Fluid Spills" screen appears. 13. Inspect cabinet for fluid leaks and spills. a. Inspect BDS cabinet and, using lint-free rags or paper towels, clean up any spilled fluids. b. If any spills are observed in or under the BDS cabinet, inspect for leaks (in components, fluid hoses, etc.) and repair, as necessary. c. Press **Finish** button. The Maintenance Complete screen appears with the message, "You have now completed maintenance. Would you like to log out of the system or return to the main maintenance screen?" d. Press the **Home** button to return to the main Maintenance screen. 14. Make an entry in maintenance logbook that weekly maintenance has been performed. 15. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.					
Biohazard Detection System (BDS): BDS Cabinet	5	**Inspect Interior of BIM for Debris.** 1. Inspect interior of BIM for blue cartridge shavings or tiny glass beads. If found, use a lint free rag to remove debris. 2. If blue shavings are found, this can indicate an issue with the cartridge or the I/E alignment. Generate a work order to inspect BIM installation and to perform I/E alignment in accordance with BDS Operation and Maintenance Handbook, Volume 2a, AAC16. 3. If glass beads are found, this would indicate an issue with the cartridge. Notify MTSC and advise them of a cartridge issue. 4. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.10.	2	10			W

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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.
Biohazard Detection System (BDS): Active BDS Cabinet	6	**Verify Pump Settings** **NOTE: Perform only on the active cabinets.** 1. Verify setting controlling pump volumes of the following pumps per paragraphs listed: a. Buffer 1 Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC5. b. Buffer 2 Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC6. c. Buffer 3 Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC7. d. Analysis Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC8. 2. Use the Weekly PM sticker to record entry in maintenance logbook that Buffer and Analysis pump volumes have been verified. 3. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.11.	10	10			W
Biohazard Detection System (BDS): Active BDS Cabinet	7	**Verify ACD Contactor Fluid Level** 1. Verify that the ACD contactor fluid level during aerosol collection is 12 ± 0.5 ml per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC3. 2. Make an entry in maintenance logbook that sample volume has been verified. 3. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.12.	2	10			W
Biohazard Detection System (BDS): BDS Cabinet	8	**Inspect BDS Cabinet Exterior** 1. Inspect BDS cabinet and Site Controller exteriors for the following damage: • Scratches • Dings	2	10			W

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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.
		• Dents • Punctures • Missing nuts or bolts • Warping • Torn or missing gaskets 2. Inspect the Power On (green) indicator to ensure that it lights when the cabinet power is on. 3. Inspect the Emergency Stop (red) indicator to ensure that it lights when the switch is pressed down. 4. Inspect the four anti-tamper labels on the BDS cabinet stack light for indications of tampering (PSN 7690-19-000-1054). 5. If evidence of tampering is found: a. Note tampering incident in both the maintenance logbook. b. Report to local Maintenance Manager and MTSC. c. Initiate test of BDS cabinet stack light per BDS Handbook Volume 2a, SM5.4. d. Replace each damaged label. Completely remove old label and clean off any remaining adhesive and/or dirt with an alcohol wipe. Place new initialed and dated tamper-proof label on affected stack light section. 6. Use a damp cloth (with no cleaning solution) to wipe down exterior of BDS cabinet. 7. Record exterior inspection in maintenance logbook. 8. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.13.					
Biohazard Detection System (BDS): BDS Cabinet	9	**Inspect Locks and Electrical Connections** 1. Ensure that front BDS cabinet doors are locked. 2. Ensure that power panel door is locked.	1	10			W

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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.
		3. Inspect BDS cabinet power cord for nicks, cuts, abrasions, or other damage. Repair or replace as required. 4. Ensure that UPS cover door is closed and locked. 5. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.14.					
Biohazard Detection System (BDS): BDS Cabinet	10	**Reboot Local Controller Computer** 1. Log into Local Controller computer by entering User ID and Password. **NOTE: To ensure the creation of a log file, the reboot function must be carried out using the BDS software, not the Windows operating system.** 2. Select **Reboot o**n the Local Controller Main Maintenance screen. 3. Select **Yes** on popup menu. 4. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.15.	2	10			W
Biohazard Detection System (BDS): Active BDS Cabinet	11	**Adjust Blower Procedure.** **NOTE: Perform only on the active cabinets.** **NOTE: This procedure is not to be run on the cabinet in the hot spare configuration. Instead, a hot spare being placed in service should have its blower adjusted immediately upon connection and thereafter only weeks when the Aerosol System Calibration is not performed.** 1. Perform Adjust Blower (ACD Collector) procedure BDS Operation and Maintenance Handbook, Volume 2, AAC2. 2. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.16.	15	10			W
Biohazard Detection System (BDS): Active BDS Cabinet/	12	**Inspect AFCS Standoffs.**	12	10			W

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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.
AFCS/AFCS 200 Collection Hood		1. Inspect each AFCS to ensure standoffs are present and properly installed. **NOTE: The hood side covers for the AFCS 200, and Legacy AFCS are different. The AFCS 200 hood side cover has a hole to allow the collection hose to pass through, whereas the legacy side cover does not. The hardware and gasket attached to both side covers are the same.** 2. AFCS Hood Side Cover a. Inspect and identify any missing, damaged, or incorrect parts on the AFCS hood side cover assembly. b. On AFCS 200 hood side cover, verify grommet material is installed on the side cover “mouse-hole” cutout and AFCS U-channel directly behind the cutout. If both grommets are installed and secured with adhesive, the check is complete. c. If either grommet is missing or not attached with adhesive, reinstall grommet per RR130 AFCS 200 Hood Side Cover and AFCS U-channel Frame Grommets Remove and Replace. 3. AFCS 200 Ground Wire Inspection. a. Open top cover and remove AFCS 200 side cover directly above 200 LPM cyclonic filter bracket. b. Verify ground wire is secured to cable tie mount inside U-channel. If ground wire is secured to a cable tie mount, proceed to Step 3. If cable tie mount is missing, install replacement cable tie mount. c. Verify both ends of the ground wire are securely attached to the ground studs. If the ground wire is missing or damaged, replace ground wire. d. Reinstall the AFCS 200 side cover. 4. AFCS 200 Thumb Screw Inspection. a. Verify the thumbscrew that secures the 200 LPM cyclonic filter bracket to the AFCS 200 is properly installed. If the screw is missing, replace screw.					

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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.
		b. Create a work order for any discrepancy found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.3.					
Biohazard Detection System (BDS): Hot Spare Cabinet	13	**Verify Hot Spare Cabinet Operation** Verify BDS Hot Spare cabinet operational status. 1. Verify proper airflow of the hot spare cabinet as follows: **NOTE: Either of the two hoses below can be used for this procedure:** • Hose Assembly, Hood to Single AFCS Filter, P/N 142K455G01, PSN 4720-18-000-8335. • Assembly, Hood to Filter Hose (Dual-Black, 60”), P/N 142K455G02, PSN 4720-18-000-8336. a. Attach Roots meter to BDS cabinet using a section of 1-1/4-inch hose. b. Starting on the BDS Local Controller Main Maintenance screen, select **Troubleshooting/ACD/Manual**. The Troubleshoot ACD Manual screen appears. c. On the Troubleshoot ACD Manual screen, select **Start/Abort Sample** to start sample. d. Observe the Collection Status line at the bottom of the screen for an indication of Sampling. Allow sample to run a minimum of 3 minutes after this indication is observed. e. Verify flow rate is 400 lpm. Adjust potentiometer on the blower motor if necessary. **NOTE: Wait at least 1-1/2 minutes between blower motor potentiometer adjustments to verify readings.** f. On the Troubleshoot ACD Manual screen, select **Start/Abort Sample** to abort sample. g. On the Troubleshoot ACD Manual screen, select **Transfer to Waste**.	35	10			W

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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.
		2. Verify setting controlling pump volumes of the following pumps per paragraphs listed: a. Buffer 1 Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC5. b. Buffer 2 Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC6. c. Buffer 3 Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC7. d. Analysis Pump volume per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC8. 3. Verify ACD Contactor Fluid Level: a. Verify that the ACD contactor fluid level during aerosol collection is 12 ± 0.5 ml per procedure BDS Operation and Maintenance Handbook, Volume 2a, AAC3. b. Make an entry in maintenance logbook that sample volume has been verified. c. Create a work order for any discrepancies found. d. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.12. 4. Ensure a valid cartridge is installed in the cartridge tray. 5. Ensure the hot spare cabinet has a valid (current) schedule. If not, assign the current schedule using procedure in BDS Operation and Maintenance Handbook, Volume 2a, SM6.9.4.6. 6. Ensure cabinet has all the latest software fixes according to SW#1 (Deployed Software Log) contained in BDS Operation and Maintenance Handbook, Volume 4, Appendix J. 7. Perform a BIM Test: a. Start sample with **Start of Day** button on Maintenance menu.					

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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.
		b. After sampling for 10 minutes press **End of Day**. **NOTE: A Non-Determinate (ND) test result indicates test is not successful. Source of ND result should be identified, and test repeated until negative test result is achieved.** c. After BIM completes test, record result in maintenance logbook. d. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM3.2.20.					
Biohazard Detection System (BDS): BDS Cabinet	14	**Archive System Verification.** 1. Using a water bottle and a test tube, fill the test tube with 12 ml of high purity water. 2. Carefully pour the water into the reservoir. 3. Place the empty test tube in the Archive 1 position. 4. Select **position #1** from the Transfer to Archive selection. 5. Press **Transfer to Archive**. 6. Wait until the pump status returns to **Ready**. 7. Verify all the water was transferred into the test tube. 8. Empty the test tube into the purge tower. 9. Press the **Transfer from Purge** button. 10. Verify all water was transferred to waste from the purge tower. **CAUTION: Do not press any of the buttons on the eight-way valve on the fluidics module to reset the archive position. If the buttons are pressed, the system will not archive correctly.** 11. Repeat Steps 1 through 10 for each of the 8 archive positions. 12. Navigate back to the main page. 13. Press the **Archive Status** button. 14. Press the **Reset Archives** button. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM4.2.	23	10			B

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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.
Biohazard Detection System (BDS): BDS Cabinet	15	**Clean Air Conditioner Coils and Fan Blades.** **WARNING: Electrical shock hazard. Do not perform work on any electrical or electronic equipment unless authorized. Depending on the nature of the specific procedure to be performed, electrical safety Personal Protective Equipment (PPE) may be required. Appropriate electrical safety PPE must be used when troubleshooting or handling energized electrical circuits 50 volts or greater. Failure to comply with this precaution could result in serious injury or death.** 1. Open power panel door and ensure that CB1 in upper-left side of power panel is locked in OFF position. 2. Loosen three T-27 screws on A/C door. 3. Open door approximately 80 degrees and lift slightly to release door hinge tabs from hinge slots. Place door on cabinet top, taking care not to exert excessive tension on ground lead. 4. Loosen T-15 Torx screw at top of enhanced filter housing approximately three full turns. Removal of the screw is not necessary. 5. Pull front of housing away from A/C unit approximately 3-inches and lift cover up. **CAUTION: Use care when vacuuming air conditioner coils. The aluminum fins are fragile and deform easily.** 6. Use vacuum cleaner with approved HEPA filter to clean accessible areas of air conditioner coils, part of top surface, outer face, and underside. Use appropriate vacuum accessories to access difficult areas. 7. Visually inspect the foam insulation on the copper tubing. If damaged or worn sufficiently for copper to show through (e.g., cracks, tears, holes, etc.), then the insulation needs to be replaced; refer to RR126 Replace Air Conditioner Insulation. 8. Use a small bottle brush to dislodge any dust not removed by vacuuming.	30	10			B

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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.
		9. Visually inspect the wall foam insulation on the left side of the blower. If insulation is peeling away from the wall, then the insulation needs to be replaced. 10. Two inaccessible drain tubes/lines running behind the A/C compressor drain water/moisture into the A/C compressor drain pan. Water drains through the bottom of the drain pan through a series of tubes that empty into the BDS cabinet overflow pan. The drainage tubing, brass elbow connectors, and gaskets are susceptible to clogs/blockages. If a blockage is detected, call MTSC. 11. Inspect exterior and interior compressor drain tubes for blockages. Typically, if there is a blockage, moisture will be present on the inside of the air conditioner as well as beneath it because blockage causes the compressor drain pan to overflow. If a blockage is present, contact MTSC. 12. Visually inspect the foam insulation on the copper tubing. If the copper shows through (cracks, tears, holes, etc.), then the insulation needs to be replaced; refer to RR126 Replace Air Conditioner insulation. 13. Use vacuum cleaner to remove accumulated dust from squirrel cage fan wheel (Figure SM4-7). Use a small bottle brush to dislodge any dust not removed by vacuuming. **CAUTION: When vacuuming/cleaning the fan wheel, it is critical to remove the dust from the back corners of all fan blades. If the dust is only partially removed, or only removed from some of the fan blades, it may create an imbalance condition.** 14. Vacuum fan wheel area to capture dust dislodged by brushing and verify that no dust fell through fan port into A/C compressor area. Vacuum up any dust that may have fallen through fan port. 15. If the A/C fan squirrel cage blades or heat exchanger coils were impacted with dirt/fibers, before performing Steps 1 through 11, rotate or replace the A/C air filter.					

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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.
		16. Reinstall A/C door. Position door hinge tabs into hinge slots. Close and tighten three T-27 Torx screws. 17. Reinstall filter cover and tighten T-15 Torx screw. 18. Perform Power Up BDS Cabinet procedure. 19. Record this A/C coil and fan blade cleaning in maintenance logbook. 20. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM6.1.1.					
Biohazard Detection System (BDS): BDS Cabinet	16	**Local Controller Virus Definitions Check.** Virus definition updates are automatically pushed to the BDS computers via the network. To ensure that this is accomplished, perform the following procedure: **NOTE: The Virus Definition Version date will generally be within 7 days of the current date. In no case should this date be older than 14 days.** 1. Log on to the Local Machine using User ID/Password. 2. Press **Close Window** on BDS Local Machine. Select **Yes** to close BDS Maintenance page. The desktop appears. 3. Connect USB external keyboard and mouse to computer. 4. Press Windows key on keyboard. The bottom taskbar will be displayed. 5. In the bottom right-hand corner of the screen, select the **^** symbol to expand taskbar menu options, then double-click the Symantec shield. The Symantec Endpoint Protection screen opens. 6. On the left side of the screen, ensure that **Status** is selected. 7. Near the center of the screen, observe the **Definitions** date. 8. Create a work order for any discrepancies found.	2	10			M

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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.
		Reference BDS Operation and Maintenance Handbook, Volume 2a, SM5.2.					
Biohazard Detection System (BDS): Active BDS Cabinet	17	**Calibrate ACD Blower Flow Rate.** **NOTE: Perform only on the active cabinets.** **NOTE: Over time, dirt particulates will build up in the internal hose and contactor box. This can negatively affect proper system operation, i.e., disrupt air flow and cause various ACD alarms. It is important to inspect the inside of the contactor box prior to completing AAC1 Aerosol System Calibration (ACD Collector) procedure. In addition, if moisture is detected inside the contactor box this could indicate a misaligned injection nozzle, or a dirty contactor slit. Moisture has been known to cause mold growth within the contactor box, which could negatively impact test results.** 1. Using a flashlight, inspect the inside of the contactor box for dirt buildup and moisture. a. If dirt buildup is noticeable, i.e., covering the interior of the Plexiglas and contactor jar, perform SM11.13 Reverse Vacuuming Contactor Box and Internal Hose. b. If moisture is detected, verify that contactor slit is clean. If slit is clean, this could indicate a misaligned injection nozzle. Contact MTSC if ACD should be replaced. **NOTE: When moisture is present in the contactor box, the dirt particulates absorb the moisture and create a paste-like substance that adheres to the Plexiglas and contactor jar. Eventually, mold spores will grow. During the inspection do not remove the Plexiglas.** 2. Adjust ACD blower speed per procedure Reference BDS Operation and Maintenance Handbook, Volume 2a AAC1 (Active only). 3. Use the ACD Calibration stamp to record results in the maintenance logbook (Active Only). 4. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM5.3.	45	10			M

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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.
Biohazard Detection System (BDS): BDS Cabinet	18	**Test BDS Cabinet Stack Light** **NOTE: In the dual configuration, there are two stack lights tested in this procedure. One is on the BDS cabinet, and the other is on the far side AFCS.** 1. Notify the local supervisor that you are about to perform an operational test of the stack light. Do not perform this test until authorized. 2. On Login screen, enter **User ID** and **Password**. Press **Submit** button; the main Maintenance screen appears. 3. On main Maintenance screen, select **Troubleshooting**. The Troubleshooting screen appears. 4. Press **CHS** button. The Troubleshoot CHS screen appears. 5. Press **Advanced**; the Troubleshoot CHS Advanced screen appears. 6. Press **Test Light Stack** button. The test is successful if the white light comes on steady on the BDS cabinet (and on the far side AFCS, if dual configuration), the horn sounds, and then the red-light flashes. The total time for the test is 5 seconds. a. If white light does not come on steady, this could indicate a burnt-out bulb. b. If red light strobe does not come on, this could indicate a malfunctioning Strobe module. c. If horn does not come on, this could indicate a disconnected horn or malfunctioning Alarm module. 7. Inspect the four anti-tamper labels on the BDS cabinet stack light for indications of tampering. 8. Inspect the following BDS cabinet stack light components for damage (chips, breaks, and cracks). • BDS cabinet stack light top red lenses. • BDS cabinet stack light middle red lenses. • BDS cabinet stack light bottom clear/white lenses.	4	10			M

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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.
		• BDS cabinet stack light horn housing (top black module of stack light). 9. Inspect the following far side stack light components for damage (chips, breaks, and cracks). • Far side stack light clear/white lenses (if applicable): • Far side stack light lenses O-ring gasket (if applicable): 10. When operational test of stack light is satisfactory, notify the local Supervisor that testing is complete. 11. Record results of test and completion of any repair in the maintenance logbook. 12. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM5.4.					
Biohazard Detection System (BDS): BDS Cabinet	19	**Air Conditioner 65-mid Verification** **WARNING: Electrical shock hazard. Do not perform work on any electrical or electronic equipment unless authorized. Depending on the nature of the specific procedure to be performed, electrical safety Personal Protective Equipment (PPE) may be required. Appropriate electrical safety PPE must be used when troubleshooting or handling energized electrical circuits 50 volts or greater. Failure to comply with this precaution could result in serious injury or death.** 1. At BDS cabinet, open power panel door and ensure that CB1 in upper-left side of power panel is locked in OFF position. 2. Using a T25 or T27 Torx bit, loosen three captive screws on left side of air conditioner front panel. 3. Use a 5/16" nut driver or socket to back out (approximately halfway) the two hex head machine screws directly above the thermostat. The thermostat cover cannot be removed unless these two screws are partially backed out.	6	10			M

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.
		4. Remove the Phillips head screw securing the thermostat cover. 5. Remove the thermostat cover by pulling straight out. 6. Adjust the position of the differential temperature slide switch to the midpoint position. 7. Replace the thermostat cover and tighten the Phillips head screw to secure the cover. 8. Tighten the two hex head machine screws above the thermostat. **NOTE: If the thermostat is correctly set to 65 degrees Fahrenheit mid-range and the BDS cabinet is experiencing temperature alarms, adjust the thermostat by up to +/ - 3 degrees Fahrenheit until the alarm subsides. If the cabinet is still experiencing temperature alarms after the adjustment, contact MTSC HelpDesk.** 9. Set the thermostat to 65 degrees Fahrenheit (18.5 degrees Celsius). Turn adjustment knob clockwise to raise temperature setpoint or counterclockwise to lower temperature setpoint. 10. Close A/C front panel access door and tighten three captive Torx screws. 11. Perform Power Up BDS Cabinet Procedure 12. Close the cabinet doors. 13. Verify A/C operation by monitoring the cabinet internal temperature on the BIM Status screen (**Troubleshooting> BIM> Status> Ambient Temperature** field). 14. Verify new settings do not cause any A/C temperature related alarms. 15. Record completion of procedure in maintenance logbook. 16. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, AAC23.					

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Biohazard Detection System (BDS): BDS Cabinet	20	**Rotate/Replace Air Conditioner Filter.** 1. Log in to BDS cabinet. **WARNING: To avoid serious injury or death, be sure that air conditioner is unplugged prior to working inside air conditioner.** 2. Open BDS cabinet doors and unplug the air conditioner power cord from the outlet box located above the left side of the CHS. 3. Loosen T-15 Torx screw at top of enhanced filter housing approximately three full turns. Removal of the screw is not necessary. 4. Pull front of housing away from A/C unit approximately 3-inches and lift cover up. 5. Remove filter. **NOTE: The wire frame inside the filter is a reusable unit. Do not throw it away. It will be used for the new filter material. Do not turn the filter around and place it back in with the discolored side facing in toward the air conditioner; a dirty filter needs to be replaced.** 6. Inspect appearance of filter as follows. a. If filter is partially discolored, flip filter upside down so that discolored part of filter is at the bottom. Ensure the coarse (thicker) filter material is facing toward the outside of the cabinet. b. If filter is entirely discolored (typically, a brown/gray color), replace it. 7. Slide filter on while gently pulling filter out on the side to allow filter material to slide past the wire cross support legs. 8. Fully insert wire frame into filter. 9. Reinstall filter cover and tighten T-15 Torx screw. 10. Restore A/C unit service by plugging the A/C unit plug into outlet A4. 11. Record this A/C filter maintenance in maintenance logbook. 12. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM6.1.	3	10			M

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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.
Biohazard Detection System (BDS)	21	**Clean BDS System.** Using warm soapy water and a non-abrasive microfiber cloth, wipe down the surface area of the following components: • BDS cabinet shell (including the doors, UPS cover and blower motor cover). • Air Conditioner. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM11.9.	10	10			M
Biohazard Detection System (BDS): BDS Cabinet	22**	**Archive GeneXpert Database.** 1. Log on to the BDS page with username and password. 2. Select **Close Window**. Select **Yes** to close BDS Maintenance page. The desktop should appear. 3. Connect the USB external keyboard to the computer. 4. Open Services by selecting **Start/ Settings/ Control Panel /Administrative Tools/Services**. **Note: If message "Windows could not stop the BDSLocalMachineCPP service on Local Computer. Error 1067: The process terminated unexpectedly." Select OK on this pop-up. The BDSLocalMachine CPP service will still stop.** 5. Stop the following services: • BDSLocalMachineCPP • BDSLocalMachineCS • GeneXpert Connector 6. Close the **Services** window. 7. From the Windows desktop, double-click **GeneXpert Connector** icon. The GeneXpert Connector software opens. 8. One or two pop-ups will appear, select **No** for one or both pop-ups. Select **Proceed**. 9. Wait for the Progress column of the A1, A2, A3, or A4 module to be Available. (Wait for the module name to turn from green to gray.)	15	10			Q

Tasks marked with one asterisk after the time required are per unit tasks.
Tasks marked with two asterisks after the item number are critical tasks.

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.
		10. From the main menu, select **Data Management** / **Archive Test**. 11. Select **Purge Selected Tests** from List After Archiving check box. 12. Select: **Select All** button to select all tests. 13. Select **OK**. 14. Select **Proceed**. 15. Select **Save**. Wait for the backup process to complete. This may take several minutes depending on the number of tests run on that machine. 16. Select **OK** to the successfully archived message. 17. A pop-up will appear prompting to purge the archived tests, select **Yes**. 18. Select **OK**. 19. Close the GeneXpert Dx System window by selecting **X** in the top right corner of window. 20. A pop-up box will appear prompting to perform Data Management tasks, select **No**. 21. Reboot the computer and wait for startup to complete. 22. Log on to the Local Machine using username/password. 23. Press **Cartridge Status** button and wait until inventory completes successfully. 24. Document “Archive GX Database Quarterly PM Completed” with date in maintenance logbook. 25. Create a work order for any discrepancy found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM7.2.4.					
Biohazard Detection System (BDS): Active BDS Cabinet/200 LPM Cyclonic Filter	23	**Cyclonic Filter Inlet Dust Inspection and Cleaning Procedure.** **NOTE: Perform only on the active cabinets.** **NOTE: This procedure is for the 200 LPM cyclonic filter used on a dual BDS.**	8	10			Q

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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.
		WARNING: Dust particles are hazardous if breathed in. The use of a dust mask is highly recommended while performing this procedure. Use of latex gloves, for hand/skin protection, is also highly recommended. 1. Use a 7/16-inch wrench to loosen hose clamp on 1-1/4-inch hose connected to inlet. 2. Remove 1-1/4-inch hose from inlet. 3. Use a 5/32-inch Allen wrench to remove the four cap screws securing the inlet to the cyclonic filter body. Set hardware aside for reuse. **NOTE: Dust build-up inside inlet and cyclonic filter may be considerable. Use care when removing inlet from cyclonic filter to keep dust from spilling out. Hold inlet as near as possible to horizontal until time of dust disposal.** 4. Remove inlet from cyclonic filter. 5. Dispose of bulk dust in the inlet per site policy or procedure. **CAUTION: Use care when vacuuming near the black O-ring in the cyclonic filter body inlet flange opening. Direct vacuuming on the O-ring may cause it to be ingested by the vacuum, causing damage to the O-ring and/or vacuum.** 6. Use a HEPA vacuum to remove any remaining dust inside the inlet flange on the cyclonic filter main body and the flange on the inlet. 7. Verify black rubber O-ring remains in groove on cyclonic filter body inlet flange. Use a lint free wipe or rag to remove any dust accumulation on the O-ring. 8. Reinstall the inlet onto the cyclonic filter main body. 9. Tighten the four cap screws in an X pattern, using a 5/32-inch Allen wrench. 10. Reconnect the inlet hose to the inlet and tighten hose clamp with a 7/16-inch wrench. 11. Update maintenance logbook and note task number in entry. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM7.3.					

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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.
Biohazard Detection System (BDS): Active BDS Cabinet/200 LPM Cyclonic Filter	24	**Cyclonic Filter Screw Inspection.** **NOTE: Perform only on the active cabinets.** **NOTE: This procedure is for the 200 LPM cyclonic filter used on a dual BDS** 1. On the 200 LPM cyclonic filter, verify that all eight of the socket head cap screws are secure so that the lock washer is fully compressed. 2. On the 200 LPM cyclonic filter, verify that all six of the socket head cap screws are secure. 3. If any screw or washer is missing, replace accordingly. 4. If any screw in step(s) 1 and/or 2 is not tightened appropriately, tighten until it is in conformance. 5. Record entry in maintenance logbook if any screw is tightened or any screw/washer is replaced. 6. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM7.3.	2	10			Q
Biohazard Detection System (BDS): Active BDS Cabinet/400 LPM Cyclonic Filter	25	**400 LPM Cyclonic Filter Screw Inspection.** **NOTE: Perform only on the active cabinets.** **NOTE: This procedure is for the 400 LPM cyclonic filter used on a single BDS.** 1. On the filter main ring, verify that all eight of the socket head cap screws are secure so that the lock washer is fully compressed, and the screw end extends through the PEM nut. 2. On the filter top ring, verify that all five of the socket head cap screws are secure. 3. If any screw or washer is missing, replace accordingly. 4. Record entry in maintenance logbook if any screw is tightened or any screw/washer is replaced. 5. Create a work order for any discrepancies found.	2	10			Q

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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.
		Reference BDS Operation and Maintenance Handbook, Volume 2a, SM7.3.					
Biohazard Detection System (BDS): Active BDS Cabinet	26	**AFCS Start/Stop Verification.** **NOTE: Perform only on the active cabinets.** 1. Log on to the BDS cabinet. 2. From the AFCS control panel, press the **START CULLER** (Legacy AFCS) or **CULLER START** (AFCS 200) push button. The BDS cabinet will begin sampling and AFCS will start up. 3. As soon as the BDS cabinet begins sampling, on the AFCS control panel, press the **STOP** (Legacy AFCS) or **TRANSPORT STOP** (AFCS 200) push button. 4. On the BDS Local Controller touch screen, navigate to System Status/View MPE Detail page. 5. Ensure the MPE Start and MPE Stop times listed are the same as when the buttons were pushed. If the times are not the same or are not recorded, contact MTSC. Otherwise, continue with next step. 6. To avoid running a test, restart BDS Local Machine CS and CPP services per GM33 Stop and Start Computer Services Local Controller. 7. From Troubleshooting ACD screen, terminate sample and transfer sample to waste by following steps: a. Press **Terminate Sample** to stop sample and transfer sample from ACD Contactor to reservoir. b. Press **Finish Sample** to transfer the remaining fluid in the ACD Contactor to reservoir. c. Press **Transfer to Waste** to transfer fluid in reservoir to waste container. 8. Record completion of verification in BDS maintenance logbook. 9. Create a work order for any discrepancies found.	15	10			Q

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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.
		Reference BDS Operation and Maintenance Handbook, Volume 2a, SM7.3.					
Biohazard Detection System (BDS): BDS Cabinet	27	**Check Sipper Height.** 1. Remove the reservoir top portion. 2. Fill the reservoir with approximately 7 ml of high-purity water. 3. Make sure both the sipper tube, as well as the pressure tube, are pressed firmly into the reservoir top. 4. Place the reservoir top portion back onto the reservoir, pressing firmly so the O-ring clicks in securely into place. 5. Hold a 10-ml graduated cylinder or 15-ml falcon tube under Sample needle and on the touch screen monitor, go to **Troubleshooting-ACD-Manual-Transfer to Cartridge**. 6. After fluid transfers to graduated cylinder/falcon tube, on touch screen monitor, press **Reverse from Cartridge**. 7. Repeat the transfer process to the cartridge until no more fluid is transferred to the graduated cylinder/falcon tube. Do not press Reverse from Cartridge after the last transfer. 8. Dispose of fluid obtained from sample needle. 9. Send the remaining fluid in the reservoir to one of the archive positions while holding a graduated cylinder/falcon tube under that archive position to capture all fluid. Note the quantity. This amount should be between 5 and 6 ml (ideally 5.5 ml). 10. If the archive fluid amount is less than 5 ml, the sipper tube must be shortened. Remove reservoir top portion and cut off a small piece of the sipper tube. One-eighth inch of sipper tube equals approximately 1 ml of fluid. This tube is typically 4.4” or 4 3/8” from the bottom of the reservoir top, but process above must be performed to verify it is still between 5 and 6ml (ideally 5.5 ml). 11. If the archive fluid amount is greater than 6 ml, the sipper tube is too short and must be replaced. 12. Repeat process until sipper tube height is	10	10			S

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.
		verified to be between 5 and 6 ml. 13. On the touch-screen monitor, go to **Troubleshooting-ACD-Manual-Reverse from Cartridge**. 14. On touch-screen monitor, press **Transfer to Waste**. 15. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2, SM8.4					
Biohazard Detection System (BDS): BDS Cabinet	28	**Inspect/clean Air Conditioner Return Air Coils (inside cabinet) (Power off).** **NOTE: Use only a HEPA vacuum to remove dust/debris from air conditioner (A/C) coils inside the BDS cabinet.** 1. Open power panel door and ensure that CB1 in upper-left side of power panel is locked in **OFF** position. 2. Manually move CHS Z-axis to far right side of X-axis. 3. Use the flashlight to inspect the return air coils to the left of the local controller. 4. If dust is not visible continue to Step 9. If dust is visible, continue to Step 5. 5. Set up the vacuum with either the crevice tool or nylon brush. 6. Gently move the vacuum tool over, but not touching, the coils taking care not to bend or damage the coil fins or capillary tube for the thermostat. 7. Use the flashlight to check if all dust is removed. Use a small bottle brush, if necessary, to dislodge any dust not removed by vacuuming. Vacuum again after using bottle brush to remove any loose debris. 8. If local controller was removed, follow the steps in procedure RR52 for reinstallation. 9. Close the cabinet doors and power up cabinet according to paragraph GM25.1	25	10			S

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.
		10. Wait five minutes after cabinet is powered up for air conditioner to come on. Verify air conditioner operation. 11. Record completion in maintenance logbook. 12. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, SM8.5					
Biohazard Detection System (BDS): BDS Cabinet	29	**Verify CHS Barcode Scanner.** 1. On Login screen, enter **User ID** and **Password**. Press **Submit** button; main Maintenance screen appears. 2. Select **Troubleshooting-CHS-Manual** buttons to open Troubleshoot CHS Manual screen. 3. Open BDS cabinet front doors. 4. Inspect scanner barcode window for smudges. If smudges are detected, wipe the scanner window down with a clean, dry cotton cloth. 5. Bypass the interlocks, then press the **Start** button on top of the cabinet. The CHS axes will home. 6. Using a cartridge, test barcode scanner as follows: a. Move X-Axis to Cartridge 1 position. Using Troubleshoot CHS Manual screen X Move to dropdown list, select **Cartridge 1**, then press **Go** button. b. Move Z-Axis down to cartridge 1 position. From Z Move to drop-down list, select **Pick and Place**, then press **Go** button. c. Close gripper arms to clamp cartridge by pressing **Gripper Close** button. d. Move Z axis to transport position. From Z Move to drop-down list, select **Transport**, and press **Go** button. e. Move cartridge to barcode scanner. From X Move to drop-down list, select **Barcode Scan** and press **Go** button.	10	10			S

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.
		f. Scan barcode on cartridge. Select **Advanced** tab; Troubleshoot CHS Advanced screen appears. Press **Scan Barcode** button. g. Observe the laser-generated raster lines to ensure that they are on the cartridge barcode and meet the barcode scanner adjustment criteria. The cartridge barcode serial number will appear in the space provided on the screen. 7. Create a work order for any discrepancies found. Reference BDS Operation and Maintenance Handbook, Volume 2a, AAC17.					
Biohazard Detection System (BDS): BDS Cabinet	30	**Export Calibration Information from the Local Machine.** **NOTE: This procedure should only be performed when there is no mail processing. The USB drive in the Site Controller Lockbox cannot be used for this EXPORT! USB Flash Drive must be issued by USPS (eBuy+, Item #7340713).** 1. Plug the flash drive in a USB port on the local machine. 2. Open Windows File Explorer. 3. Right-click on the flash drive, (it should be Drive D) in the File Explorer window. 4. Select **Format…** in the menu. 5. Leave all defaults and click the **Start** button. 6. Press **OK** when complete. 7. Click **Close** to exit Format Utility. 8. Click on flash drive in File Explorer window. There should be no files listed and the message “The folder is empty” should be visible. 9. Click and highlight the flash drive in File Explorer window. 10. Right-click in the empty spot under the message “The Folder is ‘Empty”. 11. Select **New** > **Text Document**.	15	10			S

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					Run Hours	Pieces Fed (000)	Freq.
		12. Rename New Text Document to **USB**. (Do not add the **.txt** - it is there by default.) 13. Disconnect the flash drive. 14. On Login screen, enter User ID and Password. Press **Submit** button; main Maintenance screen appears. 15. At the Maintenance screen, click the **Close Window** button at the right of the screen under **Computer Management.** 16. Click the **Close Window** button. The Desktop should now be visible. 17. Click the Windows **Start** button and then locate and click the **Down** arrow to the right of the Windows System folder. 18. Select and click on **Command Prompt**. 19. Enter the following command to change to the proper directory: **cd C:\Installation\Utilities\Calibration_Import_Export** 20. At the prompt enter **ExportCalibrationToUSB.bat** to export the settings to a USB. Press [**Enter**] key to execute. 21. Press the [**Y**] key to continue. 22. Press the [**Y**] key if the MPE is correct. If MPE is not correct, then verify at site controller. 23. Press [**spacebar**] to continue. If there are errors, review the log located at c:\installation\logs\ or call the MTSC HelpDesk for further assistance. 24. Enter **Exit** at the prompt to close command window. 25. Rename the folder on the USB drive. 26. Double-click the **Start BDS** icon on the Desktop to bring up the BDS Application. 27. Log out of cabinet and safely remove USB flash drive from system. 28. Right-click on flash drive in Windows Explorer. 29. Scroll down and click **Eject**. 30. Remove the flash drive only when there is a message stating it is safe to do so.					

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					Run Hours	Pieces Fed (000)	Freq.
		31. Right-click on the folder name. 32. Select **Rename**. 33. At the beginning of the filename enter the MPE name. 34. Create a work order for any discrepancies found.					
Biohazard Detection System (BDS): BDS Cabinet	31	**Gripper Springs Inspection.** The purpose of this procedure is to determine whether the gripper springs need replacement. 1. Press the E-stop on the cabinet. This will cut power to the CHS stepper motors so that the axes will move freely. 2. Position the cartridge tray and gripper so that a cartridge is underneath the gripper. 3. Manually raise the gripper so that it is at the top limit of its travel, and release the gripper, allowing it to drop under its own weight. 4. Measure the distance between the bottom of the gripper and the top of the cartridge. 5. Create a work order to replace the gripper springs if any discrepancies are found. 6. Create a work order for any discrepancy found. Reference BDS Operation and Maintenance Handbook, Volume 2a, AAC17.	5	10			A
FINAL CLEANUP	32	**Clean Up.** 1. Ensure all tools, lubricants, rags, etc., are removed from the work area. 2. Note any deficiencies and generate a work order/report them to supervisor.	15	ALL			D

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ATTACHMENT 3

BDS OPERATIONAL MAINTENANCE (OM)

MASTER CHECKLIST

U.S. Postal Service	IDENTIFICATION															
Maintenance Checklist	WORK CODE		EQUIPMENT ACRONYM								CLASS CODE		NUMBER			TYPE
	0	9	B	D	S						A	A	0	0	1	M
Equipment Nomenclature: Biohazard Detection System	Equipment Model:										Bulletin Filename: mm24003					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	**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. 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 or appropriate EWP PPE and barricade requirements. **WARNING FOR SDS:** 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.	1	All			
Biohazard Detection System (BDS): Active BDS Cabinet	2	**Check local cabinet for alarms.**	5	10			X

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