

ENGINEERING CHANGE NOTICE

1. ECN 641751

Page 1 of 3

Proj.
ECN

2. ECN Category (mark one) Supplemental ☐ Direct Revision ☒ Change ECN ☐ Temporary ☐ Standby ☐ Supersedeure ☐ Cancel/Void ☐	3. Originator's Name, Organization, MSIN, and Telephone No. KJ Leist, WRAP Engineering T4-52, 376-0325 6. Project Title/No./Work Order No. W026/WRAP Facility 9. Document Numbers Changed by this ECN (includes sheet no. and rev.) HNF-SD-W026-ATR-021, Rev. 0 (all)	4. USD Required? ☐ Yes ☒ No 7. Bldg./Sys./Fac. No. 2336-W 10. Related ECN No(s). N/A	5. Date 11/24/97 8. Approval Designator Q 11. Related PO No. N/A
12a. Modification Work ☐ Yes (fill out Blk. 12b) ☒ No (NA Blks. 12b, 12c, 12d)	12b. Work Package No. N/A	12c. Modification Work Complete N/A Design Authority/Cog. Engineer Signature & Date	12d. Restored to Original Condition (Temp. or Standby ECN only) N/A Design Authority/Cog. Engineer Signature & Date
13a. Description of Change This Acceptance Test Report replaces Revision 0 of the LLW RWM Glovebox Acceptance Test Report in its entirety. This report has been updated to show the tests performed when changes made to the processes as found necessary during initial testing.			
14a. Justification (mark one) Criteria Change ☐ Design Improvement ☐ Environmental ☐ Facility Deactivation ☐ As-Found ☐ Facilitate Const ☐ Const. Error/Omission ☐ Design Error/Omission ☒			

14b. Justification Details

The changes to the initial report were driven by construction errors, design deficiencies, and enhancements (standardization).

15. Distribution (include name, MSIN, and no. of copies)
 See attached distribution sheet.

RELEASE STAMP	
DATE: 4	 RELEASE
STA: 4	
NOV 24 1997	

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ECN-641751

16. Design Verification Required ☐ Yes ☒ No	17. Cost Impact ENGINEERING Additional ☐ \$ Savings ☐ \$	CONSTRUCTION Additional ☐ \$ Savings ☐ \$	18. Schedule Impact (days) Improvement ☐ Delay ☐
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DD/DD Functional Design Criteria Operating Specification Criticality Specification Conceptual Design Report Equipment Spec. Const. Spec. Procurement Spec. Vendor Information OM Manual FSAR/SAR Safety Equipment List Radiation Work Permit Environmental Impact Statement Environmental Report Environmental Permit			SDD/DD Semic/Stress Analysis Stress/Design Report Interface Control Drawing Calibration Procedure Installation Procedure Maintenance Procedure Engineering Procedure Operating Instruction Operating Procedure Operational Safety Requirement IEFD Drawing Cell Arrangement Drawing Essential Material Specification Fac. Proc. Samp. Schedule Inspection Plan Inventory Adjustment Request			Enter the affected document number in Block 20. Tank Calibration Manual Health Physics Procedure Spares Multiple Unit Listing Test Procedures/Specification Component Index ASME Coded Item Human Factor Consideration Computer Software Electric Circuit Schedule ICRS Procedure Process Control Manual/Plan Process Flow Chart Purchase Requisition Tickler File		
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Document Number/Revision Document Number Revision Document Number Revision

[illegible]

ENGINEERING DATA TRANSMITTAL

1. EDT

Page 1 of 1

620625

2. To: (Receiving Organization) Engineering Files	3. From: (Originating Organization) WRAP Engineering	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: W-026/WRAP/Solid Waste	6. Design Authority/ Design Agent/Cog. Engr.: JR Weidert	7. Purchase Order No.: N/A
8. Originator Remarks: The EDT is to release supporting documentation for the WRAP Facility to Engineering Files. Revision 0 of this acceptance test report was not released because of changes prior to performing the test. Test was performed to revision 1 which is being released here.		9. Equip./Component No.: N/A
11. Receiver Remarks: 11A. Design Baseline Document? ☒ Yes ☐ No		10. System/Bldg./Facility: 2336-W
		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: N/A

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	HNF-SD-W026-ATR-021	N/A	01	LLW RWM Glovebox Acceptance Test Report	SQ	2	1	

16. KEY			
Approval Designator (F)	Reason for Transmittal (G)		Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 2. Release 3. Information	4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)							
(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
2	1	Design Authority JR Weidert		11-18-97	T4-52		
		Design Agent					
2	1	Cog.Eng. KJ Leist		11-17-97	T4-52		
2	1	Cog. Mgr. JR Weidert		11-18-97	T4-52		
2	1	QA WR Thackaberry		11-18-97	T4-52		
2	1	Safety ML Graham		11-18-97	T4-52		

18. Signature of EDT Originator 11/18/97 Date	19. Authorized Representative Date for Receiving Organization	20. Design Authority/ Cognizant Manager 11-18-97 Date	21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
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WRAP LOW LEVEL WASTE RESTRICTED WASTE MANAGEMENT (LLW RWM) GLOVEBOX ACCEPTANCE TEST REPORT

KJ Leist

Waste Management Federal Services of Hanford, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: ~~EDT-620625~~ ^{ECN-641751} UC: 506
Org Code: 32620 Charge Code: A2E1D 265
B&R Code: EW3130020 Total Pages: 266 ²⁶⁴ _{KMB 11/21/97}

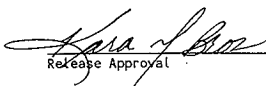
Key Words: W-026, ATR, Drum, Diversified Metal Products

Abstract: The primary focus of the glovebox acceptance test was to examine control system interlocks, display menus, alarms, and operator messages. Limited mechanical testing involving the drum ports and hoist were also conducted.

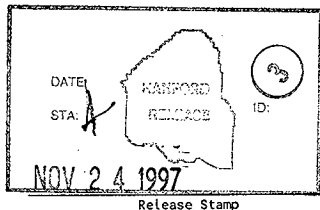
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Release Approval

11/24/97
Date



Approved for Public Release

ACCEPTANCE TEST REPORT

WRAP MODULE I
LLW RWM GLOVEBOX ACCEPTANCE TEST PROCEDURE
13027A-87

ABSTRACT:

On April 22, 1997, the Low Level Waste Restricted Waste Management (LLW RWM) glovebox was tested using glovebox acceptance test procedure 13027A-87.

The primary focus of the glovebox acceptance test was to examine control system interlocks, display menus, alarms, and operator messages. Limited mechanical testing involving the drum ports and hoist was also conducted.

As of November 12, 1997, 11 of the 47 test exceptions that affect the LLW RWM glovebox remain open. These items will be tracked and closed via the WRAP Master Test Exception Database.

As part of Test Exception resolution/closure the responsible individual closing the Test Exception performs a retest of the affected item(s) to ensure the identified deficiency is corrected, and, or to test items not previously available to support testing. Test Exceptions are provided as appendices to this report.

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INTRODUCTION

On April 22, 1997, the Low Level Waste Restricted Waste Management (LLW RWM) glovebox was tested using acceptance test procedure 13027A-87. Mr. Robert L. Warmenhoven served as test director, Mr. Kendrick Leist acted as test operator and test witness, and Michael Lane provided miscellaneous software support.

The primary focus of the glovebox acceptance test was to examine glovebox control system interlocks, Operator Interface Unit (OIU) menus, alarms, and messages. Basic drum port and lift table control sequences were demonstrated. OIU menus, messages, and alarm sequences were examined, with few exceptions noted. Barcode testing was bypassed, due to the lack of installed equipment as well as the switch from basic reliance on fixed bar code readers to the enhanced use of portable bar code readers. Bar code testing was completed during performance of the LLW RWM OTP.

Mechanical and control deficiencies were documented as Test Exceptions during performance of this Acceptance Test. These items are attached as Appendix A to this report.

DESCRIPTION OF TEST, TEST METHOD AND TEST EQUIPMENT

Testing was conducted on the LLW RWM Glovebox using acceptance test procedure 13027A-87. This test procedure is designed to meet Project W-026 Specification Section 13027 and Specification Section 13462 test requirements.

A list of the items to be tested and the equipment required to support testing is provided. One of the primary items used to support testing is a notebook computer configured with WinLogic 5 by Rockwell Software, Rev. 3.04, Serial Number WL5-15707-C. This software allows control system ladder logic and glovebox switch and sensor activation to be continuously monitored during testing.

A checkout sheet is provided to review and verify glovebox sensor and switch operation prior to testing. A setup section is provided to list the initial actions and conditions required prior to initiating testing. Included in this section is an overview of test methods and conventions. Due to prior, informal checkout of the glovebox equipment, the checkout sheet was not utilized.

The body of the test procedure is divided into "test cases". Each test case is designed to test a single feature or set of features, such as an alarm or an alarm/interlock combination, which are specification requirements. Each test case is written in step-wise fashion with blocks provided to allow the test witness to indicate "pass" or "fail" status for each test step. A "test exception" should be generated for each step that fails.

TEST DEVIATIONS/CHANGES

Several test procedure clerical errors were noted during testing. Each clerical error was noted in the body of the test procedure and was corrected via line through, record change, initial and date by the individual making the change.

For each step that failed (e.g., not due to clerical error), a test Exception was generated.

TEST RESULTS

A total of 32 Test Exceptions were identified during performance of the LLW RWM Acceptance Test. Additionally another 15 Test Exceptions that affect the LLW RWM glove box were identified during performance of TRU RWM, TRU and LLW Acceptance Testing.

Of the 47 identified Test Exceptions that affect LLW RWM, 36 have been retested and closed. There are 11 Test Exceptions that remain open. The open Test Exceptions that affect LLW RWM glove box are listed below with a brief description of the deficiency, recommended corrective action, status and required completion for closure.

TE #005 Entry/Exit port lid in position sensor activation is not repeatable.

Corrective action: E/E port lid in position sensors changed from inductive to capacitive type sensor. Work complete, sensor adjustment and lift table reprogramming need to performed. This work on hold until E/E port vacuum cup modification is complete.

This TE must be closed prior to Hot Operation.

TE #029 Local E-Stop not tested for Maintenance mode operation, was not identified as a testable item on the ATP.

Corrective action: Test Maintenance mode local E-Stop operation for the LLW RWM glove box.

This TE must be closed prior to Hot Operation.

TE #036 BTP, E/E port and one trip ports - E-Stop does not stop port from raising or lowering.

Corrective action: Replace 2 position control valve with 3 position, pressurized center valve and make associated software changes for BTP, E/E port and one trip port raise/lower control valves.

Work complete on E/E port and one trip ports. BTP's on hold until software can be modified, replacement valves are on hand and will be replaced when software is modified.

This TE does not have to be closed until after Hot Operation. Does not affect operation of the BTP.

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TEST RESULTS continued

TE #37 Generic issue that applies to all lift tables. Lift table lowers with no control request for movement. Cause unknown.

Corrective action: Troubleshoot and develop action plan based on findings. Lift table may be operated in maintenance mode only with serial communication loop disabled. Auto control of lift table(s) is not possible until this issue is resolved. E/E ports would also have to be operated in maintenance mode. POP revisions must be implemented to allow glove box operation in this manner. This is a temporary fix only.

Long term solution will be based on results of troubleshooting and recommendations from Vendor/COG Engineer.

This TE must be resolved prior to Hot Operation.

TE #105 E/E Port - inadequate sealing surface between outer vacuum seal and drum lid results in excessive cycling vacuum generator, loss of vacuum on lid, unable to establish adequate vacuum to allow auto sequence to continue and frequent alarms. Corrective action: Remove inner vacuum seal and replace with vacuum cups similar design on one trip ports. Modification in progress, need to complete and perform required retest.

This TE must be closed prior to Hot Operation.

TE #106 Generic TE that documents the fact that control logic timer settings have not been optimized. Corrective action: All timers are functional with initial settings documented. Optimization of timers is dependent on actual operating experience to achieve desired results. Optimize control logic timer settings during plant start up.

This TE can not be closed until the plant is operational.

TE #137 Generic TE that documents latched control bits on maintenance mode functions. Corrective action: Eliminate latched control bits from maintenance mode functions, such that there is no unexpected equipment movement when switching from automatic to maintenance mode and back.

This TE must be closed prior to Hot Operation.

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PROJECT W-026, WRAP I
ACCEPTANCE TEST REPORT (13027A-87) - LLW RWM ACCEPTANCE TEST

TEST RESULTS continued

TE #180 Generic TE that documents inconsistencies in implementation of Automatic to Maintenance mode transition.

Corrective action: Make all Automatic and Maintenance mode transitions consistent for all glove boxes. Work complete for LLW RWM, needs to be retested to close.

This TE must be closed prior to Hot Operation.

TE #199 Generic TE documenting inconsistencies between TRU line and LLW line lift table control logic.

Corrective action: Revise LLW line lift table control logic to be consistent with TRU line lift table control logic. Work complete on LLW RWM lift table control logic, needs to be retested to close TE.

This TE must be closed prior to Hot Operation.

TE #221 Generic TE that documents E-Stop affect on E/E port lift tables, hoist and conveyor Automatic sequences. E-Stop does not prevent sequence from starting.

Corrective action: Implement software changes that will inhibit all Automatic sequences from initiating if E-Stop activated.

This TE must be closed prior to Hot Operation.

When the above listed Test Exceptions are closed the signed off original Test Exception will be incorporated into this ATR by initiation of an ECN.

A list of test exceptions and the signed, completed test exception documents are provided as appendices to this report.

CONCLUSION AND RECOMMENDATIONS

1. REVIEW EQUIPMENT ITEMS USED TO SUPPORT GLOVEBOX SAMPLE SCREENING OPERATION

All glovebox internal equipment items including the weigh scale, bar code label dispenser, jar mill, PH analyzer, conductivity analyzer, neutralization containers, and the flammability air monitor should be carefully re-examined prior to actual use. The items specified do not appear to support glovebox operation.

2. TEST EXCEPTION RESOLUTION

Resolve open Test Exceptions as identified in Test Results section of this ATR.

Appendix A

LLW RWM Glovebox Test Exception Sign-Off Sheets

The 47 original test exception sign-off sheets are attached as hardcopy printouts.

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-1

Tracking #:

1

ATP_YN : Y

Test : 13027A-87.12

Step : 25

Equipment Tag #: DO-203

Exception : 24

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

While testing DO-202, the pressure switch for DO-203 finally activated, (we reduced HVAC seal pressure). In forcing off this alarm bit, the door closed automatically. It stopped at the point when the Lift Table would begin lowering the table. HVAC seal pressurized centering devices extended.

Exception Disposition :

Adjusted pressure to 10 psig on DO-202, DO-203. Sun River to adjust switch to 5 psig - Done

Exception Status :

CLOSED

Exception Closed By :

Dunlap

KJ. Leist

[Signature]

Date : 9/3/97

APPROVAL OF RESOLUTION

Contractor Representative:

(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:

(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-2

Tracking #: 2

ATP_YN : Y

Test : 13027A-87.09

Step : 69

Equipment Tag #: DO-203, LT-201D

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

The lift table stopped before the lid could seal against the port. The lift table had to be raised manually to gain a seal.

Exception Disposition :

Adjusted switch, but Lid in Pos. switch to be replaced. Vacuum begins at "Centering Position". Lift Table to raise until "Lid in Position" sensed.

Exception Status :

6-11-97 - Lift table stop command modified so that when seeking "Lid in Position", either the lid in position switch or vacuum present will shut off lift table. Need to add plunger switch if possible. Lift table to be reprogrammed so that lift table height is limited when seeking lid in position. 7-2-97 MPL - See exception 112. Fix will not work and must be removed.

Exception Closed By : Leist

K. Leist 11/16/97

Date : 9/2/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

Tracking #: 3

ATP_YN : Y

Test : 13027A-87.12

Step : 35-37

Equipment Tag #: DO-203

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

On testing DO-202, DO-203 was inadvertently cycled. A DO-203 "Drum Centering Device in Abnormal Position" was yielded. On inspection, the east device was found it appears the all thread used is binding in the hole.

Exception Disposition :

Add note to OP procedure.

Note added.

Exception Status :

Exception Closed By : Leist

Kjhand 11/11/97

Date : 9/2/97

APPROVAL OF RESOLUTION

Contractor Representative: _____

(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____

(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE
EXCEPTION LOG

A-4

Tracking #: 4

ATP_YN : Y

Test : 13027A-87.09

Step : Equipment Tag #: DO-203

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

HVAC seal moves the empty drum to out of alignment. Pressure in seal reduced to 5 psig and alignment could be maintained.

Exception Disposition :

Fixed.

Exception Status :

CLOSED

Exception Closed By : Leist

Kj Hand 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____

(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____

(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-5

Tracking #:

5

ATP_YN : Y

Test : 13027A-87.09

Step : 74

Equipment Tag #: DO-203, LT-201D

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Lift Table did not raise after seal inflates and lid in position sensor activated, centering guides also extended cause not known.

Exception Disposition :

? Problem sourced w/ Lid in Position Sensor. Notify DOE of condition and replace Lid in Position sensor.

Exception Status :

9-2-97 - KJ Leist to fine tune sensors for all Entry/Exit Ports.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-6

Tracking #: 6

ATP_YN: Y

Test: 13027A-87.10

Step: 10,12

Equipment Tag #: EM-201, CR-201

Exception:

Revision:

Date:

Specification Section: 13027A

Test Witness/Author: Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor:

Responsible Individual: Leist

Exception Description:

Hoist cannot get past manipulator without significant manpower. If the jar mill is not in the design position, the hoist and cake stand cannot be taken to the stabilization station.

Exception Disposition:

Modify procedures to provide caution information. Reinforce DO-202 sensors, tubing on lock bolt to withstand collision. Consider removal of jar mill. Notify DOE of condition and request funds for change.

Jar Mill removed

Sensors (Lock Bolt) relocated

Exception Status:

Exception Closed By:

R. Phelan

Date: 11/12/97

APPROVAL OF RESOLUTION

Contractor Representative:

(Only as needed)

Date:

WMH Representative:

Date:

Additional Approval:

(Only as needed)

Date:

FDNW Representative:

Date:

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-7

Tracking #:

7

ATP_YN: Y

Test: 13027A-87.02

Step: 15,16

Equipment Tag #: DO-202

Exception:

Revision: 0

Date:

Specification Section: 13027A

Test Witness/Author: Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor:

Responsible Individual: Leist

Exception Description:

Lid detach cylinder damages lid. This is in the location of the future HEPA filter and may damage filter.

Exception Disposition:

Reduced pressure of cylinder. Notify DOE of condition and request funds for change.

KJ 11/11/97

Exception Status:

Exception Closed By: Leist

KJ 11/11/97

Date: 9/2/97

APPROVAL OF RESOLUTION

Contractor Representative:

(Only as needed)

Date:

WMH Representative:

Date:

Additional Approval:

(Only as needed)

Date:

FDNW Representative:

Date:

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-8

Tracking #: 8

ATP_YN: Y

Test: 13027A-87.07, A.85

Step: 45,50

Equipment Tag #: DO-201,LT201F

Exception:

Revision: 0

Date:

Specification Section: 13027A

Test Witness/Author: Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor:

Responsible Individual: Leist

Exception Description:

THIS TEST EXCEPTION APPLIES TO ALL BAGLESS TRANSFER PORTS; DO-07-105, -201, -305, -308, -401. Last expected output requires that when the door is open, the lift table weight does not fall below the setpoint. It does, as expected, as the downpressure of the door is relieved.

Exception Disposition:

This is normal.

Exception Status:

CLOSED

Exception Closed By: Leist

Kyle 11/10/97

Date: 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative:

(Only as needed)

Date:

WMH Representative:

Date:

Additional Approval:

(Only as needed)

Date:

FDNW Representative:

Date:

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-9

Tracking #:

9

ATP_YN : Y

Test : 13027A-87.07

Step : 33

Equipment Tag #: DO-201, LT-201F

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Schaeffer

Exception Description :

In maintenance mode, the drum will run off the end of the conveyor.

Exception Disposition :

Procedure Issue. A bar should be added to provide safety. Notify DOE of condition and request funds for change.

Kyle 11/11/97 Note added to procedure.

Exception Status :

Ken Leist to initiate change request, add note to operating procedure.

Kyle 11/11/97

Exception Closed By :

Kyle

Date : 11/11/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-10

Tracking #: 10

ATP_YN : Y

Test : 13027A-87.06,87.23

Step : 11 Equipment Tag #: DO-203

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Lid in position does not trigger. It appears that the lid detach cylinder is pushing too hard and has deformed the lid. The lid springs back on vacuum but this must be manually provided. In trying to get a lid in position message, The lift table is forcing the door open ~ 1/4" against the lock bolts.

Exception Disposition :

Problem sourced in Lid in Position sensor, and "Lid Detach" cylinder. Notify DOE of condition and request funds for change.

Exception Status :

7-2-97 - MPL - Capacitive sensors replace inductive Lid in Position sensors. Tested satisfactory. 9-2-97 - Duplicate of #7. Closed.

Exception Closed By : Leist

Kyle 11/11/97

Date : 9/2/97

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-11

Tracking #: 11

ATP_YN : Y

Test : 13027A-87.05

Step : Equipment Tag #: DO-202

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

Entry/Exit Door arms raise off plate when venting occurs and lift table lifts door into position. This prevents the Door in Position switch from actuating.

Exception Disposition :

SII to add code to have door cylinder to hold arms down whenever the three door lifting cylinders are vented.

Exception Status :

CLOSED

Exception Closed By : Leist

Kyle 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-12

Tracking #: 12

ATP_YN : Y

Test : 13027A-87.02

Step : 11,12

Equipment Tag #: DO-202,DO-203,DO-101,300,
301

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

Screen message says "Open Port" and "Close Port". This is confusing WRT. "RAISE DOOR" and "LOWER DOOR". This applied to all E/E ports.

Exception Disposition :

Change to "Rotate Open" and "Rotate Closed".

11/11/97. wording changed
KJ

Exception Status :

CLOSED? All ports. 6-11-97 (MPL) Actually changed to "ROTATE PORT OPEN" and "ROTATE PORT CLOSED" for consistency with other commands. Applied to all other Entry/Exit Ports.

Exception Closed By : Leist

Date : 5/7/97

KJ 11/11/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE
EXCEPTION LOG

A-13

Tracking #: 13

ATP_YN: Y

Test: 13027A-87.01

Step: 23

Equipment Tag #: DO-201

Exception:

Revision: 0

Date:

Specification Section: 13027A

Test Witness/Author: Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor:

Responsible Individual: Leist

Exception Description:

Tool not available for Babcock drum opening.

Exception Disposition:

Tool found w/FDNW.

Exception Status:

CLOSED

Exception Closed By: Leist

K. Leist 11/11/97

Date: 5/17/97

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-14

Tracking #: 14

ATP_YN : Y

Test : 13027A-Setup

Step : 23

Equipment Tag #: 107-EM-07-201

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Manipulator cannot be raised to upper limit until hydraulics are repaired.

Exception Disposition :

Exception Status :

9-2-97 Fixed by Schilling. Closed.

Exception Closed By : Leist

Kj Schilling 9/11/97

Date : 9/2/97

APPROVAL OF RESOLUTION

Contractor Representative: _____

(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____

(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

Tracking #: 15

ATP_YN : Y

A-15

Test : 13027A-87.03

Step : 4

Equipment Tag #: DO-203

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Door locked cylinder frozen in position until piping cracked to release. Worked ok thereafter until air turned off again.

Exception Disposition :

Cause not known.

Exception Status :

9-2-97 Worklist item generated to install different mounting bolts to allow lock cylinder to float.

Float per design.

11/11/97 Air Cylinders

Exception Closed By :

K. Hain

Date : *11/11/97*

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-16

Tracking #: 16

ATP_YN : Y

Test : 13027A-87.17

Step : Equipment Tag #: LT-201D, E, F

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Lift tables not tested per data sheets (step 17)

Exception Disposition :

Operability of lift tables will be demonstrated through testing of G/B.
Testing completed successfully with exceptions as documented in MTEL.

Exception Status :

CLOSED

Exception Closed By : Leist

K. Leist 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-17

Tracking #: 17

ATP_YN : Y

Test : 13027A-87.13

Step : 38 Equipment Tag #: DO-203

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

Abnormal position switch (DCD) alarm found. Not mentioned in test. This should be expected.

Exception Disposition :

Add to test. Documentation provided by this reference.

Exception Status :

CLOSED

Exception Closed By : Lane Michael P. Lane

Date : 7/2/97 9-17-97

APPROVAL OF RESOLUTION

Contractor Representative: _____ Date: _____
(Only as needed)

WMH Representative: _____ Date: _____

Additional Approval: _____ Date: _____
(Only as needed)

FDNW Representative: _____ Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

Tracking #: 18

ATP_YN : Y

A-18

Test : 13027A-87.13

Step : Equipment Tag #: DO-07-203

Exception :

Revision : 0

Date:

Specification Section : 13462

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor : SII

Responsible Individual: Leist

Exception Description :

Local E-Stop doesn't stop port from closing.

Exception Disposition :

Fix and retest. Fixed Automode only. E-Stop should not work in Maint. Mode. 6-11-97 (MPL) RWM glovebox local emergency stops should and do work in maintenance mode. Ken Leist to concur and sign off.

Exception Status :

CLOSED

Exception Closed By : Leist

K. Leist 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-19

Tracking #: 19

ATP_YN : Y

Test : 13027A-87.08

Step : 62a-62d Equipment Tag #: LT-09-201E

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

Lift Table tripped out during testing. Port would not continue closing.

Exception Disposition :

Force issue - Error 22. Caused by Lid in Position sensor. Logic should have lift table go to slow at set position. Vacuum start, then lift stop when vacuum, Lid in Position switches closed.

Exception Status :

6-11-97 This appears to be an operator/procedural error. Retested satisfactory. Ken Leist to concur.

Exception Closed By : Leist

Kyle 11/11/97

Date : 9/2/97

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-20

Tracking #: 20

ATP_YN : Y

Test : 13027A-87.08

Step : 62a-62d Equipment Tag #: DO-202

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

When the Port door rotates closed, the main cylinder stops retracting. Once the port door rotated closed sensor is sensed. This does not allow the cylinder to develop down pressure. On opening, in the next cycle, the arms raise off the floor before being forced down again.

Exception Disposition :

Have the main cylinders continue retracting until the port door lock cylinders are extended. Fixed.

Exception Status :

CLOSED

Exception Closed By : Leist

Kjhan 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____ Date: _____
(Only as needed)

WMH Representative: _____ Date: _____

Additional Approval: _____ Date: _____
(Only as needed)

FDNW Representative: _____ Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-26

Tracking #: 21

ATP_YN : Y

Test : 13027A-87-08

Step : 62a-62d Equipment Tag #: DO-02

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

When the Entry/Exit door lowering cylinders vent to lower the door to the "Drum in Position" position, a distinct "Foop" sound is heard. The source was found not to be the "Lid Detach Cylinder extending. However the source of the sound was not found.

Exception Disposition :

Source not found.

5/6/97 - Source found to be sound of vacuum release. Vacuum must be held until door reaches Drum in Position height. Lid Detach should extend at same time.

Exception Status :

7-2-97- MPL - Ladder logic, port operation matches above description. Ken Leist occur and close exception.

Exception Closed By : Leist

Kyle 11/11/97

Date : 9/2/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-22

Tracking #: 22

ATP_YN : Y

Test : 13027A-87.08

Step : 62a-62d Equipment Tag #: DO-202

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

When the "Close Port" is pressed after port opening is pressed, the port temporarily closes, then it also lets go of the lid. This applies to all ports and at all sequences.

Exception Disposition :

Fixed?

When port is opened, the Close command is locked out.

Exception Status :

CLOSED

Exception Closed By : Lane Michael P. Fox

Date : 7/2/97 9-179

APPROVAL OF RESOLUTION

Contractor Representative: _____ Date: _____
(Only as needed)

WMH Representative: _____ Date: _____

Additional Approval: _____ Date: _____
(Only as needed)

FDNW Representative: _____ Date: _____

**WRAP ACCEPTANCE TEST PROCEDURE
EXCEPTION LOG**

A-23

Tracking #: **23**

ATP_YN : Y

Test : 13027A-87.08

Step : 62a-62d Equipment Tag #: DO-202

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

Although alarm is noted, and clears when the "Drum in Centering Position" is reached, the "Sequence Failed" message continues to flash. DO-202, DO-201, transfer stand.

Exception Disposition :

Standardize OIU alarm triggers and add "=" trigger statements to logic. Fixed.

Exception Status :

CLOSED

Exception Closed By : Leist

Kjbauf 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-24

Tracking #: 24

ATP_YN : Y

Test : 13027A-87.22

Step : 24 Equipment Tag #: DO-202

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

On port closing, the E-Stop was activated. On reset, the door stopped closing at the point where the port was in the rotated closed position. The HVAC seal did not re-inflate, the drum center grabs did not extend.

Exception Disposition :

Change logic to have DCD's remain in position during E-Stop. Verified.

Exception Status :

CLOSED

Exception Closed By : Leist

K. Leist 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-25

Tracking #: 25

ATP_YN : Y

Test : 13027A-87.22

Step : 16,21 Equipment Tag #: DO-202

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

When E-Stop is activated, the drum grabs retract. The HVAC seal depressurized too.

Exception Disposition :

Overview, the Drum Grabs should retract and therefore should stay as is. The HVAC boot must remain inflated. Change the logic to close or keep the DCD cylinders extended during E-Stop.

Exception Status :

CLOSED

Exception Closed By : Leist

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-26

Tracking #: 26

ATP_YN : Y

Test : 13027A-87.21

Step : 16-19, 24-29 Equipment Tag #: DO-201

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Actual operation of port not reflected by test procedure. Port controller must manually be placed in manual mode. This cannot happen until after E-Stop is reset. OIU cannot know position of DO-201 after E-Stop activation. After E-Stop, port must always be placed into the closed position before Auto mode can be chosen.

Exception Disposition :

Test performed successfully using edited criteria. See test report.

Exception Status :

CLOSED

Exception Closed By : Leist

Kyle 11/11/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-27

Tracking #: 27

ATP_YN : Y

Test : 13027A-87.21

Step : Equipment Tag #: DO-201

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

OIU does not display that E-Stop has been activated.

Exception Disposition :

Add global message to OIU screen to display E-Stop activation. Verified.

Exception Status :

CLOSED 7-2-97- MPL E-stop alarm added. E-stop indicator added to Maintenance Main Menu.

Exception Closed By : Leist

Kjhan 7/2/97

Date : 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-28

Tracking #: 28

ATP_YN : Y

Test : 13027A-87.21

Step : 15, 24 Equipment Tag #: DO-201

Exception :

Revision : 0

Date:

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Door slowly lowers during E-Stop test. Suspect air leak.

Exception Disposition :

Fix air leak.

Exception Status :

9-2-97 - KJ Leist to verify and retest.

Exception Closed By :

KJ Leist

Date: 11/11/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

**WRAP ACCEPTANCE TEST PROCEDURE
EXCEPTION LOG**

A-29

Tracking #: 29

ATP_YN : Y

Test : 13027A-87.21

Step : ALL Equipment Tag #: DO-201

Exception :

Revision :

Date:

Specification Section : 13027A

Test Witness/Author : Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

Local Emergency stop not tested for maintenance mode operation because this is not part of test.

Exception Disposition :

Test maintenance mode local emergency stop operation prior to glovebox operation.

Exception Status :

9-2-97 MP Lane to review test notes, test procedure, and retest as necessary.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-30

Tracking #: 30

ATP_YN : Y

Test : 13027A-87.21

Step : ALL

Equipment Tag #: DO-201

Exception :

Revision :

Date:

Specification Section : 13027A

Test Witness/Author : Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

NOTIFY DOE AND REQUEST FUNDS FOR FIX:

THIS EXCEPTION APPLIES TO ALL ENTRY/EXIT PORTS: Entry/Exit port Locking cylinder sensors are positioned so that the sensors indicate full retraction even though the cylinders may be only partially retracted. It is likely that the locking cylinders, at some time in the future, will not fully retract causing the port door to impact the locking cylinders. This may cause equipment damage.

Exception Disposition :

Options:

1. Replace existing locking cylinder with FESTO cylinder similar to lid detach cylinder. Use in-line cylinder sensors similar to 07-ZS-900B to sense full cylinder extension and retraction.
2. Use existing cylinders and be prepared for damage incident.

Exception Status :

9-2-97 KJ Leist and MP Lane to write CR to change out to cylinder with 2 sensors per cylinder. Need to determine change required and order parts. 11/11/97. New locky switches added to indicate locked and unlocked

solutions.

Exception Closed By :

KJ Leist

Date :

11/11/97

APPROVAL OF RESOLUTION

Contractor Representative:

(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:

(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-36

Tracking #: 31

ATP_YN: Y

Test: 13027A-87.26

Step: 17 Equipment Tag #: DO-203

Exception:

Revision:

Date:

Specification Section: 13027A

Test Witness/Author: Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor:

Responsible Individual: Leist

Exception Description:

Vacuum generator does not release when "Vacuum OFF" is pressed.

Exception Disposition:

Replace valve.

Exception Status:

CLOSED

Exception Closed By: Leist

Kj Lind 11/11/97

Date: 5/7/97

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-32

Tracking #: 36

ATP_YN : Y

DESIGN

Test :

Step :

Equipment Tag #:

Exception :

Revision :

Date:

Specification Section :

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

This exception applies to all Entry/Exit Ports, Bagless Transfer ports. E-Stop doesn't stop port from lowering or raising.

Exception Disposition :

Exception Status :

9-2-97 KJ Leist to initiate change request. Need to order parts.

E/E ports and one trip port Raise/Lower Control valves and software revised. BTP's - valves on hand, but software has not been revised.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-33

Tracking #: 37

ATP_YN : Y

HW

Test : 13027B-88.20

Step : 15

Equipment Tag #: LT-09-201A

Exception :

Revision :

Date :

Specification Section : 13027B

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Schaeffer

Exception Description :

The Lift Table lowered by itself during E-Stop testing. No E-Stop activities on the 401B had been done this time. Cause not believed to be software. Previous similar incidents have been recollected for this Lift Table.

Exception Disposition :

6-17-97 - MPL - Mr. Jordal indicates that he will start a work package to have wiring wrung out for lift table LT-09-201A.

Exception Status :

9-2-97 Electricians find no wiring problems. MP Lane to review code for extraneous block move. Electricians to provide additional support as needed.

9-18-97 Can operate in maint. not auto - MPL working.

9-25-97 Revise POPs.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

N-34

Tracking #:

39

ATP_YN : Y

DESIGN

Test : 13027B-88.11

Step : 3

Equipment Tag #: DO-07-107,.....

Exception :

Revision :

Date:

Specification Section : 13027B

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Cannot test cell when Sample Transfer Port container is in the locked and unlocked positions.

Exception Disposition :

Add permanent marks to port assembly with verbage locked, unlocked which line up with container pins.

Exception Status :

Installed.

Exception Closed By :

K. G. Law

Date :

11/12/97

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-35

Tracking #: 46

ATP_YN : Y

DESIGN

Test : 13027B-88.10

Step :

Equipment Tag #: EM-401, SP-?? (Jarmill)

Exception :

Revision :

Date :

Specification Section : 13027B

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Schaeffer

Exception Description :

Jarmill will be damaged by manipulators. This is due to the size of the jarmill, its location (due to its size), and the fact that lock valves are not present in the manipulator. The manipulator sags in the jarmill.

affects GB 201 KJ 11/11/97

This issue also

Exception Disposition :

9-2-97 - KJ Leist to initiate CR to add locking valves for manipulator arms OR to take manipulators out of box (e.g., use as spares...).

Exception Status :

9-3-97 Address by operating procedure.

Jarmills removed. 11/11/97

Exception Closed By :

KJ Leist

Date : 11/11/97

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-36

Tracking #: 54

ATP_YN : Y

Test : 13027B-88

Step : Equipment Tag #: EM-300 4121

Exception :

Revision :

Date:

Specification Section : 13027B

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

Manipulator Tool Air Supply is sourced upstream of the glovebox air valves, i.e. the OIU cannot turn off the air.

Exception Disposition :

Exception Status :

9-3-97 101 glovebox fixed. Parts present. Ken Leist to ensure remainder of gloveboxes fixed.

9-18-97 Done. WR to check.

WP 97-0322

Exception Closed By :

Date: 11/11/97

APPROVAL OF RESOLUTION

Contractor Representative: _____ Date: _____
(Only as needed)

WMH Representative: _____ Date: _____

Additional Approval: _____ Date: _____
(Only as needed)

FDNW Representative: _____ Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-32

Tracking #: 63

ATP_YN : Y

Test : 13027A-87

Step : Equipment Tag #: DO-202,201,101,106,301

Exception :

Revision :

Date :

Specification Section : 13027A

Test Witness/Author : Leist

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

At the drum centering position, the lift table raises until the lid is in position sensor closes. Concern is that the lift table will not stop at some maximum position.

Exception Disposition :

7-2-97- MPL Review lift table programming and modify as needed to prevent equipment damage.

Exception Status :

7-2-97- MPL - Programming examined. Drums placed on lift table, raised to lid in position height. Raised 3/16". This is new maximum height for lid in position sequence. ports unlocked, drum raised approximately 1-1 1/8 inch above lid in position height, but always below up overtravel. Resolver readings taken. New position measured to be used as maximum travel height for drum in position sequence. This exception is therefore closed.

Exception Closed By : Lane *M. Lane*

Date : 7/2/97 9-17-97

APPROVAL OF RESOLUTION

Contractor Representative: _____ Date: _____
(Only as needed)

WMH Representative: _____ Date: _____

Additional Approval: _____ Date: _____
(Only as needed)

FDNW Representative: _____ Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-38

Tracking #: 81

ATP_YN: Y

Test : 13031A-85

Step : 05.4,12,13,14 Equipment Tag #: CR-07-101A

Exception : 3

Revision :

Date:

Specification Section : 13031

Test Witness/Author : Warmenhoven

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Weidert

Exception Description :

Exception Disposition :

Revise software specification section 13462 to reflect modified hardware.

PCS SDD will address software
changes
see 32620-97 - New - 203

Exception Status :

9-3-97 JR Weidert to determine best course of action to update plant documentation to reflect actual as-built condition of process area software.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: 11-16-97

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-39

Tracking #: 105

ATP_YN : Y

Exception : 27

Test : 13031A-85

Revision :

Step : 07.51 Equipment Tag #: DH-07-101

Date:

Specification Section : 13031

Test Witness/Author : Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Leist

Exception Description :

6-30-97 MPL - During drum entry sequence, system established adequate vacuum sensor PS703 does not activate, sequence stops.

Exception Disposition :

6-30-97 MPL - Sensor setpoint adjusted downward. Glovebox cognizant engineer to determine cause of vacuum leak, fix, and re-calibrate vacuum sensor.

Exception Status :

9-3-97 In progress. Ken Leist to order parts (suction cups), modify brackets.

WP-97-501 Item # 25.

*For all E/E ports generic item
port 202 and 203 on WP-97-0505*

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-40

Tracking #: 106

ATP_YN : Y

SW

Exception : 28

Test : 13031A-85

Revision :

Step : ALL

Equipment Tag #: ALL

Date:

Specification Section : 13031

Test Witness/Author : Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

6-30-97 MPL - Numerous timers in ladder logic program. Few are optimized at this time. Need sufficiently long time period so that if momentary hiccup (as applicable), alarm does not sound. Need sufficiently short time period so that if error condition occurs, alarm is generated soon after condition occurs.

Exception Disposition :

6-30-97 MPL - Mike Schneider to work with Dave Schermerhorn to create EXCEL (or equivalent) list of timers and then operate gloveboxes to determine optimum timer settings. Optimal timer settings to be recorded and applied to each glovebox.

Exception Status :

9-3-97 Excel spreadsheet created. Timer settings to be optimized during startup / use RTAP alarm log.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-41

Tracking #: 137

ATP_YN : Y

SW

Exception : 43

Test : 13031A.85.08

Revision :

Step : 143

Equipment Tag #: RT-07-101

Date:

Specification Section : 13031

Test Witness/Author : Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

7-22-97 MPL - THIS APPLIES TO ALL ITEMS WITH LATCHED MAINTENANCE MODE CONTROL BITS: Saw turned on in maintenance mode, switch to auto, and saw turns off. Return to maint. mode, saw immediately restarts.

Exception Disposition :

7-22-97 MPL - This is a serious deficiency. Review all items to eliminate unexpected movement when switching from auto to maint. and back.

Exception Status :

9-3-97 MP Lane to review code.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative:

Date: _____

(Only as needed)

WMH Representative:

Date: _____

Additional Approval:

Date: _____

(Only as needed)

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-42

Tracking #: 158

ATP_YN : Y

Test : 13031A.85.44

Step : 1 Equipment Tag #: LT-09-202C

Exception : 61

Revision :

Date:

Specification Section : 13021

Test Witness/Author : Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Jordal/Lane

Exception Description :

7-22-97 MPL - THIS APPLIES TO ALL LIFT TABLES: Local emergency stops do not 100% reliably stop lift tables from raising or lowering.

Exception Disposition :

7-22-97 MPL - SII personnel to determine fix. If reliable, easily maintained fix not available, PCS software E-stop deactivation of lift tables will be removed as it was not part of original design and is already covered via rope switches.

Exception Status :

11-11-97. Code changes made - Could not reliably stop tables, Removed Stop command /AFI, and restart rings. Now, only rope switches will stop lift table, as per design.

Exception Closed By : Michael P. Jones

Date : 11-11-97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-43

Tracking #: 180

ATP_YN : Y

SW

Exception : 99

Test : ALL ATP

Revision :

Step : ALL

Equipment Tag #: GB-07-101,...

Date:

Specification Section : 13462

Test Witness/Author :

Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor : BDM

Responsible Individual: Lane

Exception Description :

THIS AFFECTS ALL GLOVEBOX MAINTENANCE MODE OPERATIONS:

Auto to Maintenance transitions are not standardized for all glovebox operations. In certain cases, switching to maint. mode kills auto sequence, in other cases it does not. In certain cases, messages are sent while in maintenance mode or when e-stop activated, in other cases they are not. In certain cases, alarms are generated in maintenance mode, in other cases they are not.

This is due to lack of design media for maintenance mode operation.

Exception Disposition :

Make all automatic and maintenance mode operations and transitions consistent for all gloveboxes:

1. Transition from automatic to maintenance mode "kills" any automatic sequence in progress, with the exception of vacuum generation.
2. Messages are sent regardless of maintenance or automatic mode condition.

Exception Status :

9-3-97 - MP Lane to review code, apply fixes as needed.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-44

Tracking #: 199

ATP_YN : Y

SW

Test : 13031A.85

Step : ALL

Equipment Tag #: LT-09-202A,203A,202C

Exception :

Revision :

Date:

Specification Section : 13031

Test Witness/Author : Schneider

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

8-4-97 - MPL Make LLW lift table logic like TRU lift table logic. If M/O/N switch is switched to maint., stop entry and exit sequences. Once placed into normal, operator can restart sequence by selecting appropriate OIU button.

Exception Disposition :

8-4-97 - MPL Make operation consistent for all lift tables.

Exception Status :

9-3-97 Changes added to 102 by Mike Schneider. MP Lane to retest.

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative:
(Only as needed)

Date: _____

WMH Representative:

Date: _____

Additional Approval:
(Only as needed)

Date: _____

FDNW Representative:

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-45

Tracking #: 207

ATP_YN : Y

SW

Test : 13021A.86.1

Step : ALL

Equipment Tag #: OIU-12-104A

Exception :

Revision :

Date:

Specification Section : 13021

Test Witness/Author : Warmenhoven

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

8-4-97 - THIS APPLIES TO ALL OIUS:

MPL OIU locks up in alarms screen. N50:2/1 inner drum id verified bit reset, movement between screens restored.

Exception Disposition :

8-4-97 - MPL Fix it.

Exception Status :

11-11-97. Informal testing complete for G.B. 201. Test Sat. *mef*

Exception Closed By :

Glovebox 201 only mef

Date: 11-11-97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE
EXCEPTION LOG

A-46

Tracking #: 221

ATP_YN : Y

SW

Test : 13031A.85

Step : All

Equipment Tag #: All

Exception :

Revision :

Date:

Specification Section : 13031

Test Witness/Author : Lane

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

E-Stop - entry/exit lift table sequences, hoist seq., conveyer seq. - E-Stop doesn't prevent sequence from starting.

Exception Disposition :

9-3-97 MP Lane to fix, retest.

Exception Status :

Exception Closed By :

Date :

APPROVAL OF RESOLUTION

Contractor Representative: _____

Date: _____

(Only as needed)

WMH Representative: _____

Date: _____

Additional Approval: _____

Date: _____

(Only as needed)

FDNW Representative: _____

Date: _____

WRAP ACCEPTANCE TEST PROCEDURE EXCEPTION LOG

A-42

Tracking #: 362

ATP_YN : Y

SW

Test : 13031A-85

Step :

Equipment Tag #: 104-CNR-12-102,-103

Exception :

Revision :

Date:

Specification Section : 13031

Test Witness/Author : Warmenhoven

Test Operator:

Responsible Company: WMH

Responsible Subcontractor :

Responsible Individual: Lane

Exception Description :

Ladder logic rung comments don't match code, E-stop contacts mislabeled.

Exception Disposition :

Fix ladder logic symbols, descriptions, rung comments.

Exception Status :

11-11-97 - Completed for file 45 only *mgj*

Exception Closed By :

68201 ONLY
mgj

Date : 11/11/97

APPROVAL OF RESOLUTION

Contractor Representative: _____
(Only as needed)

Date: _____

WMH Representative: _____

Date: _____

Additional Approval: _____
(Only as needed)

Date: _____

FDNW Representative: _____

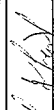
Date: _____

PROJECT TITLE: WRAP MODULE 1

PROJECT NUMBER: W-026

TEST PROCEDURE COVER SHEET

TEST PROCEDURE APPROVED FOR USE:	
Test Procedure: 13027A-87	Title: LLW RWM GLOVEBOX (GB-07-201) ACCEPTANCE TEST
Revision: 1	Execution: 
Test Director Signature: 	
Date: 4-22-97	

Location: Buyer's Plant/Field Date/Time: Start: _____ End: _____
 Test Operator: Michael P Lane Witness: 

Test Exceptions Recorded? ☒ Yes ☐ No
COMMENTS:

TEST PROCEDURE COMPLETION APPROVAL:

☒ Successful ☐ Unsuccessful * with resolution to open TE identified on the ATR of 11/14/97

 11-14-01 Date  Rust Representative 8/16/97 Date

N/A FDNW Representative N/A Other Approval N/A Date

CERTIFICATION OF SATISFACTORY EXECUTION

All of the test cases for this test procedure have been tested and all exception sheets for this test case have been closed or resolved.

N/A Date
 FDNW Representative

Test Procedure 13027A-87	Revision 1	TITLE: LOW LEVEL WASTE RESTRICTED WASTE MANAGEMENT (LLW RWM) GLOVEBOX ACCEPTANCE TEST
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REVISION STATUS

This test procedure has incorporated the applicable engineering changes issued against the related specification sections as of March 31, 1997 as listed below:

Raytheon Issued Engineering Change Notices

ECN-W026-1146
ECN-W026-1180
ECN-W026-1208
ECN-W026-1225
ECN-W026-1234
ECN-W026-1267
ECN-W026-1299

RFSH Issued Changes Implemented under Development Control

R103*
R109
R119
R120
R132*
R133
R138*
R140
R141

TEST OBJECTIVES

Test Procedure
13027A-87Revision
2TITLE: LOW LEVEL WASTE RESTRICTED WASTE MANAGEMENT (LLW RWM) GLOVEBOX
ACCEPTANCE TEST

This test procedure will confirm that the LLW RWM Glovebox functions according to specification requirements. This test procedure includes the following setup steps, shutdown steps, data sheets, and test cases:

TEST PROCEDURE 13027A-87 SETUP	SU-1
TEST CASE 13027A-87.01 MAINTENANCE MODE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201	TC 1-1
TEST CASE 13027A-87.02 MAINTENANCE MENU - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202	TC 2-1
TEST CASE 13027A-87.03 MAINTENANCE MENU - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203	TC 3-1
TEST CASE 13027A-87.04 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201	TC 4-1
TEST CASE 13027A-87.05 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202	TC 5-1
TEST CASE 13027A-87.06 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203	TC 6-1
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201	TC 7-1
Attempt To Control Lift Table While AGV/PANEL Switch Set to "AGV"	TC 7-1
Attempt To Open Port Without Drum Present	TC 7-2
Examine "No Drum At Lift Table" Interlock	TC 7-4
Examine Lift Table "Down Overtravel" Alarm	TC 7-5
Examine Lift Table "Up Overtravel" Alarm	TC 7-7
Examine Lift Table "Rope Switch Pulled" Alarm	TC 7-9
Examine Lift Table "Reverse" Interlock	TC 7-11
Examine Lift Table "Conveyor Forward Failed" Alarm	TC 7-12
Examine Lift Table "Failed To Raise" Interlock	TC 7-14
Examine Lift Table Weight/Pressure Changes When Port Opened and Closed	TC 7-15
Attempt To Open Port Without Manipulator Parked	TC 7-19
Open Bagless Transfer Port 107-DO-07-201	TC 7-20
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202	TC 8-1
Attempt To Control Lift Table While AGV/PANEL Switch Set to "AGV"	TC 8-1
Attempt To Open Port Without Drum Present	TC 8-2
Examine "No Drum At Lift Table" Interlock	TC 8-2
Examine Lift Table "Down Overtravel" Alarm	TC 8-5
Examine Lift Table "Up Overtravel" Alarm	TC 8-5
Examine Lift Table "Rope Switch Pulled" Alarm	TC 8-7
Examine Lift Table "Forward" Interlock	TC 8-9
Examine Lift Table "Conveyor Forward Failed" Alarm	TC 8-11
Examine Lift Table "Failed To Raise" Alarm	TC 8-12
Attempt To Open Port Without Manipulator Parked	TC 8-14
Examine "Loss Of Vacuum On Lid" Alarm	TC 8-18
Examine "Door In Position" and "Door Closed" Interlocks	TC 8-19
	TC 8-23

Test Procedure 13027A-87	Revision 2	TITLE: LOW LEVEL WASTE RESTRICTED WASTE MANAGEMENT (LLW RWM) GLOVEBOX ACCEPTANCE TEST		
			Open 208 Liter (55 Gallon) Entry/Exit Port DO-07-202	TC 8-26
			TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203	TC 9-1
			Attempt To Control Lift Table While AGV/PANEL Switch Set to "AGV"	TC 9-1
			Attempt To Open Port Without Drum Present	TC 9-2
			Examine "No Drum At Lift Table" Interlock	TC 9-3
			Examine Lift Table "Down Overtravel" Alarm	TC 9-5
			Examine Lift Table "Up Overtravel" Alarm	TC 9-7
			Examine Lift Table "Rope Switch Pulled" Alarm	TC 9-9
			Examine Lift Table "Forward" Interlock	TC 9-11
			Examine Lift Table "Conveyor Forward Failed" Alarm	TC 9-12
			Examine Lift Table "Failed To Raise" Alarm	TC 9-14
			Attempt To Open Port Without Manipulator Parked	TC 9-18
			Examine "Loss Of Vacuum On Lid" Alarm	TC 9-19
			Examine "Door In Position" and "Door Rotated" Interlocks	TC 9-23
			Open 322 Liter (85 Gallon) Entry/Exit Port	TC 9-26
			TEST CASE 13027A-87.10 REMOVE TRANSFER STAND AND ITEMS FROM DRUM	TC 10-1
			Remove Stand From Drum	TC 10-1
			Remove Items From Stand	TC 10-3
			Add Items To Stand	TC 10-4
			Load Out Treated Items	TC 10-5
			TEST CASE 13027A-87.11 LOAD OUT SAMPLE VIA SAMPLE TRANSFER	TC 11-1
			TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202	TC 12-1
			Examine Lift Table Lower Interlocks	TC 12-4
			Attempt To Close Port Without Manipulator Parked	TC 12-5
			Examine Door Rotated (Closed) Interlock	TC 12-6
			Examine Port Door Lowered (Closed) Interlock	TC 12-7
			Examine Port Door Locked Interlock	TC 12-8
			Examine The HVAC Seal Interlock	TC 12-10
			Examine The Drum Centering Device Not Retracted Interlock	TC 12-12
			Close 208 Liter (55 Gallon) Entry/Exit Port	TC 12-13
			Examine "Abnormal Position" Alarm	TC 12-14
			Examine Lift Table "Failed To Lower" Alarm	TC 12-16
			Examine Lift Table "Conveyor Reverse Failed" Alarm	TC 12-18
			TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203	TC 13-1
			Examine Lift Table Lower Interlocks	TC 13-1
			Attempt To Close Port Without Manipulator Parked	TC 13-4
				TC 13-5

Test Procedure 13027A-87	Revision 2	TITLE: LOW LEVEL WASTE RESTRICTED WASTE MANAGEMENT (LLW RWM) GLOVEBOX ACCEPTANCE TEST	
Examine Door Rotated (Closed) Interlock			TC 13-6
Examine Port Door Lowered (Closed) Interlock			TC 13-7
Examine Port Door Locked Interlock			TC 13-8
Examine The HVAC Seal Interlock			TC 13-10
Examine The Drum Centering Device Not Retracted Interlock			TC 13-12
Close 322 Liter (85 Gallon) Entry/Exit Port			TC 13-13
Examine "Abnormal Position" Alarm			TC 13-14
Examine Lift Table "Failed To Lower" Alarm			TC 13-16
Examine Lift Table "Conveyor Reverse Failed" Alarm			TC 13-18
TEST CASE 13027A-87.14 RETURN NON-COMPLIANT ITEM TRANSFER STAND TO DRUM PORT 107-DO-07-201			TC 14-1
TEST CASE 13027A-87.15 07 REMOVE 200 LITER (65 GALLON) DRUM FROM BAGLESS TRANSFER PORT 107-DO-07-201			TC 15-1
Examine Lift Table Lower Interlocks			TC 15-2
Close Bagless Transfer Port			TC 15-3
Examine Lift Table "Failed To Lower"			TC 15-4
Examine Lift Table "Conveyor Reverse Failed" Alarm			TC 15-5
Review "SYSTEM VARIABLES MENU" Operations			TC 16-1
Test Case Shutdown			TC 16-1
TEST CASE 13027A-87.17 EXAMINE AEROSOL CAN FUNCTION DEVICE OPERATION			TC 16-5
TEST CASE 13027A-87.18 EXAMINE "REHOME" FUNCTION OF LIFT TABLE 107-LT-09-201D			TC 17-1
TEST CASE 13027A-87.19 EXAMINE "REHOME" FUNCTION OF LIFT TABLE 107-LT-09-201E			TC 18-1
TEST CASE 13027A-87.20 EXAMINE "REHOME" FUNCTION OF LIFT TABLE 107-LT-09-201F			TC 19-1
TEST CASE 13027A-87.21 FULL AUTOMATIC CYCLE - 200 LITER (65 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201			TC 20-1
TEST CASE 13027A-87.22 FULL AUTOMATIC CYCLE - 208 LITER (65 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202			TC 21-1
TEST CASE 13027A-87.23 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203			TC 22-1
TEST CASE 13027A-87.24 LLW RWM GLOVEBOX MONORAIL HOIST E-STOP			TC 23-1
TEST CASE 13027A-87.25			TC 24-1
TEST CASE 13027A-87.26			TC 25-1
TEST PROCEDURE 13027A-87 SHUTDOWN			TC 26-1
LLW RWM GLOVEBOX PERFORMANCE TEST DATA SHEETS			SD-1
			DS-1

Test Procedure 13027A-87	Revision 1	TITLE: LOW LEVEL WASTE RESTRICTED WASTE MANAGEMENT (LLW RWM) GLOVEBOX ACCEPTANCE TEST
BASIS FOR A SUCCESSFUL TEST		
The Low Level Waste Restricted Waste Management (LLW RWM) Glovebox Assembly shall be stepped through its operational sequences to establish the systems' overall performance. A satisfactory performance test shall be when the Glovebox Assembly has completed this test procedure with no equipment component failure, no loss of alignment, and no drum slippage or damage.		
ITEMS TESTED		
Low Level Waste Restricted Waste Management (LLW RWM) Glovebox LLW RWM Glovebox Bagless Transfer Port LLW RWM Glovebox Entry/Exit Port (55 gallon (208 Liter)) LLW RWM Glovebox Entry/Exit Port (85 gallon (322 Liter)) LLW Glovebox Monorail Hoist LLW RWM Non-Compliant Item Transfer Stand Aerosol Can Puncture Device 107-GB-07-201 107-DO-07-201 107-DO-07-202 107-DO-07-203 107-CR-07-201 107-SP-07-206		
ADDITIONAL TESTING EQUIPMENT REQUIRED		
1 - LLW Glovebox Line Local Control Unit (LCU) 1 - LLW RWM Lift Table (Bagless Transfer Port) 1 - LLW RWM Lift Table (55 gallon Entry/Exit Port) 1 - LLW RWM Lift Table (85 gallon Entry/Exit Port) 1 - Personal Computer with Allen-Bradley PLC Software 1 - Empty 208 liter (55 gallon) waste drum per DOT 17C 1 - Empty 322 liter (85 gallon) overpack drum per DOT/49 CFR part 173.3. 1 - Empty 200 liter (55 gallon) Drath and Schrader drum. 1 - Non-Compliant Item Transfer Stand (107-SP-07-206) 1 - Bar coded sample tube filled with water labeled "NON-COMPLIANT PACKET (TESTING PURPOSES ONLY-TAP WATER)". 1 - Sample canister to be used with the sample transfer port (107-D-07-204). 1 - 4 inch diameter cylindrical container approximately 1-quart in volume for use with the jar mill. 1 - Roll of pre-printed bar code labels 3 - Sample bottles to support testing. 1 - 0-30" Hg Vacuum Gauge (1% Full Scale Accuracy) or equivalent		

Test Procedure 13027A-37	Revision 1	TITLE: LOW LEVEL WASTE RESTRICTED WASTE MANAGEMENT (LLW RWM) GLOVEBOX ACCEPTANCE TEST
REFERENCES Specification Section 13027 paragraph 2.06 D.5.1.a Specification Section 13462 Attachment 9 Drawing H-2-131926 "WRAP MODULE I TAG NO. 107-GB-07-201 RWM LLW PROCESS ENCLOSURE MECHANICAL FLOW DIAGRAM" Sheets 3 and 4. Drawing H-2-132056 "WRAP MODULE I GLOVEBOX (107-GB-07-201) LLW RWM GLOVEBOX PNEUMATIC SCHEMATIC DIAGRAM" Sheet 5. WRAP Module I Glovebox Functional Test Procedure 13027F-52 "LLW RWM Bagless Transfer Port Functional Test"		
SAFETY PRECAUTIONS 1. Notify personnel prior to testing of special safety precautions and conditions during testing. 2. Prior to testing ensure that Test Operators are familiar with the normal operation of the equipment being tested and are instructed in the operations to be performed. 3. Ensure that all affected glovebox equipment is properly installed and operating correctly. 4. Ensure that this test procedure has been thoroughly reviewed by all persons involved in testing prior to beginning testing. 5. Revision 2 test procedures are draft test procedure. Revision 2 test procedures must be thoroughly reviewed and carefully walked through prior to actual use. 6. Follow all applicable Lockout/Tagout Procedures. 7. Follow the applicable safety program that is in affect while this test is being performed.		

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST PROCEDURE 13027A-87 SETUP					
1	Sign in the space provided below to confirm that all mechanical equipment, electrical wiring, hydraulic, pneumatic, and sensor and control systems used in testing have been inspected and tested for correct installation and safe operation prior to beginning testing using this test procedure. Test Director: <i>[Signature]</i> Date: <i>4/22/97</i>		✓		<i>[Signature]</i>
NOTE: HVAC - Any HVAC related requirements for the gloveboxes will be tested and verified as part of the plant HVAC Acceptance Testing.					
2	<u>INSTRUMENT AIR SYSTEM:</u> The Instrument Air System should be in operation. 80 psi present at glovebox.	Verify that the Instrument Air System is in operation.	✓		<i>KFL</i>
3	<u>PLANT ELECTRICAL SYSTEM:</u> Motor Control Center MCC-09-102 should be energized	Verify that Motor Control Center MCC-09-102 is energized.	✓		<i>KFL</i>
4	The following supply breakers at MCC-09-102 should be closed. If they are not, close the breakers. Breaker Label LT-09-201D Lift Table LT-201D Conveyor motor. LT-09-201E Lift Table LT-201E Conveyor motor. LT-09-201F Lift Table LT-201F Conveyor motor. Power Panel PP-09-103.	Verify that the breakers at MCC-09-102 are closed.	✓		<i>KFL</i>
5	The following supply breakers at PP-09-103 should be closed. If they are not, close the breakers. Bkr. 29 Lift Table 201D lift motor and control circuit. Bkr. 31 Lift Table 201E lift motor and control circuit. Bkr. 28 Lift Table 201F lift motor and control circuit.	Verify that the supply breakers at PP-09-103 are closed.	✓		<i>KFL</i>
6	LCU 104-CNR-12-102 should be energized.	Verify that LCU 104-CNR-12-102 is energized.	✓		<i>KFL</i>
7	<u>FIRE DETECTION SYSTEM:</u> The Fire Detection System interface from the LLW RWM Glovebox should be disabled by the Fire Department.	Verify that the Fire Detection System interface from the LLW RWM Glovebox has been disabled by the Fire Department.	✓		<i>KFL</i>

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST PROCEDURE 13027A-87 SETUP					
8	FIRE SUPPRESSION SYSTEM: The Fire Suppression System interface from the LLW RWM Glovebox should be disabled by the Fire Department.	Verify that the Fire Suppression System interface from the LLW RWM Glovebox has been disabled by the Fire Department.	✓		KR
9	Visually inspect the LLW RWM Glovebox area. Confirm that the LLW RWM Glovebox (107-GB-07-201) and all items associated with this glovebox are ready for operation and that no debris or other foreign matter is present that would disrupt testing.	Verify that the LLW RWM Glovebox has been prepared for operation and testing.	✓		KR
10	Review the basis for successful completion of this test procedure. This test procedure consists of multiple test cases. Each test case tests a particular equipment item or feature of the LLW RWM Glovebox. If a test case is completed without exceptions, it is said to be completed in one "execution". If errors are found during the execution, the "test case execution" must be started over from the beginning and will require additional "executions" until it is completed without errors. The test procedure is considered successfully completed when all test cases have been executed without exceptions.	Verify that the test procedure has been reviewed prior to testing.	✓		KR
11	Review the conventions used in this test procedure. This procedure contains several references to the "PCS" or "Plant Control System". This is the generic term applied to the computer hardware and software that supports glovebox operation. Local Control Units or "LCUs" are microprocessor devices that are an integral part of the PCS, and are used to status and control glovebox devices. Operator Interface Units or "OIUs" are display panels connected to the LCU's. The OIUs allow operators to start processing sequences, activate or shutdown glovebox devices, and process glovebox alarms.	Verify that the test procedure conventions have been reviewed prior to testing.	✓		KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
12	Review the conventions used in this test procedure (cont). Every item listed in the "EXPECTED OUTPUT" column must be verified by the test witness for each procedure step. In many cases, multiple expected outputs must be verified for a single test procedure step. If the actual output of the test step matches the expected output for the test step, the test witness should place a check in the "PASS" column and initial the witness column. If the actual output of the test step significantly differs from expected output for the test step, the test witness should place a check in the "FAIL" column and initial the witness column. Any test procedure step that "fails" when actual output does not substantially match expected output is considered a test exception. Test exceptions are resolved by the test director with concurrence from the test operator and test witness. Any test procedure step that "fails" due to test procedure clerical error is not considered a test exception. Test procedure clerical errors will be corrected by ink modification, initialed and dated, of the test procedure during testing.	Verify that the test procedure conventions have been reviewed prior to testing.	✓		LL

Step #	TEST PROCEDURE STEPS (13027A-87)	TEST PROCEDURE 13027A-87 SETUP			EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
13	Review the conventions used in this test procedure (cont). The convention used for switch states is "activated" and "not activated". An "activated" switch is a functioning switch that is depressed, illuminated, or provides electrical continuity or is otherwise actuated. A "not activated" switch is a functioning switch that is not depressed, not illuminated, does not provide electrical continuity, or is otherwise not actuated. Typically, vacuum switches are described as "activated" when vacuum is present and "not activated" when vacuum is not present. Pressure switches are typically described as "activated" when pressure is present and "not activated" when pressure is not present. LCU register status directly corresponds to switches and other sensors that are activated (STATUS = "1") or not activated (STATUS = "0"). LCU registers are forced activated or forced not activated using Allen Bradley PLC software. The Allen Bradley PLC software will be used to confirm the status of each switch and sensor examined during this test procedure. When a procedure step requests that a switch status be forced or confirmed as either "activated" or "not activated", the switch register will be examined using the PLC software. If the register status is "1", the switch or sensor is considered "activated". If the register status is "0", the switch or sensor is considered "not activated".	Verify that the test procedure conventions have been reviewed prior to testing.	✓				KPL	
14	Review the conventions used in this test procedure (cont). Due to the current status of glovebox bar code operations, the bar code portions of this test will only be performed if all required bar code changes have been implemented. If bar code changes have not been fully implemented at the time that this test procedure is run, the appropriate status registers will be modified/forced to support test operations, and an additional test will be required to confirm correct bar code system operation. Record the status of the glovebox bar code systems below. Will Glovebox Bar Code Systems be tested as part of this test (YES/NO)? <u>No</u>	Verify that the bar code system status is recorded.	✓				KPL	

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST PROCEDURE 13027A-87 SETUP					
15	During testing it may be necessary to force input, data, and output bits to a particular value to facilitate testing. For example, if the Automated Guided Vehicle is not in operation, the drum dropout AGV status data bit (bit 12) must be set "on" in order for glovebox sequences to continue. (AGV Status Bits for 201D, 201E, 201F are N31:82/12, N31:94/12, N31:106/12 respectively.) A note will be made in the test procedure each time a bit is set or other control system changes are made, that would not be required for "normal" operation, to facilitate testing. Record the conventions used for each type of OIU alarm. Alarms may be generated at each OIU. Alarms may be: "Active" "Acknowledged" "Cleared" An "Active" alarm is an alarm in which the condition causing the alarm remains in effect. An "Acknowledged" alarm is an alarm in which the condition causing the alarm remains in effect, but an operator has confirmed (acknowledged) via the OIU that the alarm condition exists. A "Cleared" alarm is an alarm which has been generated, but the condition causing the alarm is no longer in effect. Note that an alarm may be "Cleared" before it is "Acknowledged". Submittal #222, "Software Design Description" delineates the OIU conditions (e.g., Color schema, flashing vs. non-flashing, etc...) used for each type of alarm. Record the alarm conventions below: Active Alarm: <u>Yellow Flashing</u> Cleared Alarm: <u>Yellow steady Green</u> Acknowledged Alarm: <u>Yellow Steady</u>	Verify that the test procedure conventions have been reviewed prior to testing.	☒		KJL
16		Verify that OIU alarm conventions have been recorded in the spaces provided.	☒		KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST PROCEDURE 13027A-87 SETUP					
17	Prepare the following lift tables to support testing: LIFT TABLE ASSOCIATED PORT 107-LT-09-201D 107-DO-07-203 LLW RWM 85 gallon Entry/Exit 107-LT-09-201E 107-DO-07-202 LLW RWM 55 gallon Entry/Exit 107-LT-09-201F 107-DO-07-201 LLW RWM Bagless Transfer Port Data sheets are provided to help confirm that all lift table equipment items, inputs, outputs, and OIU points are available and correctly labeled.	Verify that lift table equipment items, inputs, outputs, and OIU points are available and correctly labeled.	✓		KJS
18	Prepare one empty 208 liter (55 gallon) waste drum per DOT 17C. The band clamp should be removed from this drum.	Verify that an empty waste drum is available for testing.	✓		KJS
19	Prepare one empty 322 liter (85 gallon) overpack drum per DOT/49 CFR part 173.3.	Verify that an empty overpack drum is available for testing.	✓		KJS
20	Prepare one empty 200 liter (55 gallon) Drath and Schrader drum. This type of drum is designed to function with the LLW RWM Bagless Transfer Port (107-DO-07-201). The Drath and Schrader drum should be equipped with an inner drum lid, and a Non-Compliant Item Transfer Stand (107-SP-07-206).	Verify that a Drath and Schrader drum with inner lid and transfer stand is available for testing.	✓		KJS
21	Provide one sample canister to be used with the sample transfer port (107-D-07-204). Several sample tubes which fit inside the canister should be available to support testing.	Verify that a sample canister with at least two sample tubes is available for testing.	✓		KJS
22	Unforce all LCU 102 registers using the Allen Bradley PLC Software.	Verify that all LCU 102 registers are unforced.	✓		KJS
23	NOTE: The manipulator serves as an interlock for Bagless Transfer Port operation. When a drum is mated to the port and the manipulator is at the park position, the Bagless Transfer Port should not be prevented from opening. Place the LLW RWM Waste Manipulator (107-EM-07-201) at park position 2, farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the manipulator is at park position 2 with both arms parked.		✓	KJS

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST PROCEDURE 13027A-87 SETUP					
24	Place the Glovebox Monorail Hoist pendant 107-PC-07-009A "Pendant Select" switch to the "PEND A" position. The enabled indicator on "PEND A" should be illuminated.	Verify that the 107-PC-07-009A hoist pendant "Pendant Select" switch is placed in the "PEND A" position. Verify that the "ENABLED" indicator is illuminated.	✓		KJR
25	Confirm that the LLW RWM Glovebox Monorail Hoist (107-CR-07-201) is unloaded (no transfer stand attached) and fully raised. If necessary, unload the hoist and use the hoist/trolley pendant (107-PC-07-009A) to fully raise the hoist. The hoist "RAISED LIMIT" indicator should be illuminated, indicating that the hoist is fully raised.	Visually verify that the hoist is unloaded (no transfer stand attached) and fully raised. Verify that hoist "RAISED LIMIT" indicator is illuminated.	✓		KJR
26	NOTE: For testing purposes, the park position for the hoist will be over the Bagless Transfer Port. Movement toward this position will be referred to as "forward" ("LEFT" indicator on "PEND A or B") and movement away from this position will be referred to as "reverse" ("RIGHT" indicator on "PEND A or B"). Position the LLW RWM Glovebox Monorail Hoist (107-CR-07-201) directly over the Bagless Transfer Port (107-DO-07-201).	Verify that the hoist is positioned directly over the Bagless Transfer Port (107-DO-07-201). Verify that the "LEFT" indicator on "PEND A" is illuminated.	✓		KJR
27	The "LEFT" indicator on "PEND A" should be illuminated, indicating that the hoist is positioned over the Bagless Transfer Port. Set the Lift Table Local Control Pedestal M/O/N switches for all LLW RWM lift tables (ie., 107-LT-09-201D, 201E, and 201F) to "MAINTENANCE" to allow an operator to activate and control each lift table.	Verify that the lift table M/O/N switches are switched to the "M" position (for "Maintenance") Verify that each lift table AGV/PANEL switch is switched to the "PANEL" position (to allow operator to control lift table from the "PANEL")	✓		KJR
28	Set Lift Table Local Control Pedestal AGV/PANEL switches to "PANEL" for all LLW RWM lift tables (ie., 107-LT-09-201D, 201E, and 201F) to allow an operator to activate and control each lift table.		✓		KJR

Step #	TEST PROCEDURE STEPS (13027A-87)	TEST PROCEDURE 13027A-87 SETUP	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
29	Activate the lift table "LOWER" pushbutton at each LLW RWM Lift Table Local Control Pedestal to lower the lift table to its lowered position below AGV height (ie., 107-LT-09-201D, 201E, and 201F). The "DOWN OVERTRAVEL" status indicator at each Lift Table Local Control Pedestal should not be illuminated when the lift table is lowered. <i>Returned to AGV height for 201, 202 kgtd 4/22/97</i>	DO- DO- <i>kgtd 4/22/97</i>	Visually confirm that the lift tables are lowered below AGV height. Verify that the "DOWN OVERTRAVEL" status indicator at each Lift Table Local Control Pedestal is not illuminated.	☒		KPL
30	Place all LLW RWM Glovebox Ports in their park positions. This includes drum centering devices being retracted and HVAC seal deflated. ITEM Tag Number Park position Bagless Transfer Port 107-DO-07-201 Closed and Locked Entry/Exit Port 107-DO-07-202 Closed and Locked Entry/Exit Port 107-DO-07-203 Closed and Locked Sample Transfer Port 107-DO-07-204 Closed and Locked, no sample transfer container present. <i>kgtd 4/22/97</i>		Verify that all glovebox ports have been placed in their park positions.	☒		KPL
31	The LLW RWM Bagless Transfer Port requires that the port load cell indicate that predetermined weight set point has been reached before the port is enabled for operation. Record the weight set points used each lift table for testing purposes in the space provided below: PORT TRANSMITTER SET POINT (KILOGRAMS) 107-DO-07-201 09-WIT-231 <u>732</u> <u>650</u> kg <i>(not including drum weight)</i>		Verify that the weight set point used for testing purposes is recorded in the space provided.	☒		KPL
32	Confirm that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B. If a sub-menu screen is displayed, press the "MAIN MENU" button to return to the "LLW RWM GLOVEBOX MAIN MENU". <i>Setup Complete</i>		Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	☒		KPL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.01 MAINTENANCE MODE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
1	Place the 208 liter (55 gallon) Drath & Schrader drum with inner drum lid, and without band-elastic on the Lift Table. Position the drum at the AGV end of the Lift Table.	Verify that the drum is positioned on the lift table at the AGV end.	✓		KP
2	Press "FORWARD" on Control Pedestal PC-07-201F. Drum should move forward until centered under the port, motor should automatically de-energize. The "DRUM UNDER PORT" light on the Control Pedestal should be illuminated.	Verify that the conveyor motor de-energizes when the drum is centered under the port. Verify that the "DRUM UNDER PORT" light is illuminated.	✓		KP
3	Record the password for Bagless Transfer Port "Manual Mode" operation in the space provided below: Password: <u>88888888</u>	Verify that the Bagless Transfer Port "Manual Mode" operation is recorded in the space provided.	✓		KP
4	The Bagless Transfer Port Control Panel should be turned off at the beginning of this test procedure. If the Control Panel is not turned off, place the Bagless Transfer Port in its starting position (Closed, locked, double lid lowered, with no Cross lid attached) and turn the panel off using the "On/Off" button.	Verify that the Bagless Transfer Port control panel is turned off.	✓		KP
5	Turn on the Bagless Transfer Port using the "On/Off" turn switch. The initial menu should be displayed providing 3 menu choices for Automatic Mode "K2/Auto", Manual Mode "K3/Manu.", and a toggle between stepwise and fully automatic mode "K4 Op./Mode". Function buttons K1-K14 and F1-F8 are used to control the Bagless Transfer Port. <i>Acknowledge Processor Fault (Normal occurrence) Non display</i>	Verify that the Bagless Transfer Port Control Panel is turned on. Verify that the initial Bagless Transfer Port menu is displayed.	✓		KP
6	Press button "K3" to select "Manual Mode" A message should be displayed indicating "MANUAL SERVICE - Be Careful! -". The Manual Mode menu displayed should also indicate that the operator can press button "F8" to continue or press "K5" to "ESC" (cancel manual mode operation).	Verify that the message described is displayed.	✓		KP
7	Press button "F8" to use "Manual Mode". A message should briefly be displayed indicating "317 Password Level Invalid" immediately followed by a "Password....." message.	Verify that a "Password....." message is displayed.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☐	Witness (initial)
TEST CASE 13027A-87.01 MAINTENANCE MODE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
8	Enter the Bagless Transfer Port "Manual Mode" operation password established during setup. After the password has been verified press the "Enter" button. A "Password....." message should be displayed (again).	Verify that the password has been correctly entered. Verify that a "Password....." message is displayed.	☒		KJR
9	Press the "ESC" button to return to initial Manual Mode menu. A message should be displayed indicating "MANUAL SERVICE - Be Careful! ". The manual mode menu displayed should also indicate that the operator can press button "F8" to continue or press "K5" to "ESC" (cancel manual mode operation).	Verify that the message described is displayed.	☒		KJR
10	Press the "F8" button to begin controlling the Bagless Transfer Port in manual mode. A menu should be displayed, labeled "MANU; SERVICE" should be displayed.	Verify that the menu described is displayed.	☒		KJR
11	Activate the lift table "Raise" pushbutton at the lift table local control pedestal to slowly raise the Lift Table until the drum is approximately 2.5 centimeters (1 inch) below the bagless transfer port mating surface.	Verify that the lift table raises the drum to within approximately 2.5 centimeters (1 inch) of the bagless transfer port.	☒		KJR
12	CAUTION: Do not exceed by more than 5% the predetermined setpoint for the conveyor weight transmitter. Carefully activate the lift table "Raise" pushbutton at the lift table local control pedestal to slowly raise the Lift Table until the drum contacts the bagless transfer port mating surface. The weight transmitter (09-WIT-231) readout should be carefully monitored to ensure that the weight setpoint is not exceeded.	Verify that the weight transmitter readout is displayed.	☒		KJR
13	Activate the lift table "Raise" pushbutton at the lift table local control pedestal to slowly raise the Lift Table until the weight setpoint is reached.	Verify that the predetermined weight set point (established during setup of this procedure) has been reached.	☒		KJR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.01 MAINTENANCE MODE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-201					
14	Using the Bagless Transfer Port Control Panel, press the up and down arrow buttons as needed, select the "Lid Gripper Hold" option (K13) to grip the cross lid. On the Bagless Transfer Port Control Panel, initially button "K13" should be illuminated and button "K14" should be flashing, indicating that the Lid Gripper is not gripping the Cross Lid. After "K13" has been pressed, "K14" should be illuminated and "K13" should be flashing, indicating that the Lid Gripper is holding the lid. The lid gripper cylinder should smoothly lower to project the gripper extensions to grip the drum lid.	Verify that the Lid Gripper cylinder smoothly lowers to extend the Lid Gripper to grip the lid. Verify that button "K13" is illuminated before being pressed and is flashing after being pressed.	✓		KJZ
15	Using the up and down arrow buttons as needed, select the "Double Lid Vertical Up" option (K14) to raise the Double Lid. On the Bagless Transfer Port Control Panel, initially button "K14" should be illuminated and button "K13" should be flashing, indicating that the Double Lid is not raised. After "K14" has been pressed, "K13" should be illuminated and "K14" should be flashing, indicating that the Double Lid has been raised. The three lifting cylinders should smoothly raise the Double lid to its fully raised position.	Verify that the Double Lid cylinders smoothly raise the Double Lid. Verify that button "K14" is illuminated before being pressed and is flashing after being pressed.	✓		KJZ
16	Using the up and down arrow buttons as needed, select the "Double Lid Lock Open" option (K14) to unlock the Double Lid. On the Bagless Transfer Port Control Panel, initially button "K14" should be illuminated and button "K13" should be flashing, indicating that the Double Lid is locked. After "K14" has been pressed, "K13" should be illuminated and "K14" should be flashing, indicating that the Double Lid is unlocked. The Double Lid Lock Cylinder should retract to unlock the port.	Verify that the Double Lid is unlocked. Verify that button "K14" is illuminated before being pressed and is flashing after being pressed.	✓		KJZ
17	Using the up and down arrow buttons as needed, select the "Double Lid System Open" option (K14) to rotate the Double Lid open. Press button "K14" until the port is completely rotated open and no longer rotates while button "K14" is pressed. On the Bagless Transfer Port Control Panel, initially button "K14" should be illuminated and button "K13" should be flashing, indicating that the Double Lid is lowered. After "K14" has been pressed and the Double Lid is rotated fully open, button "K14" should be flashing and button "K13" should be illuminated, indicating that the port is fully rotated open.	Verify that the Double Lid cylinder smoothly raises the Double Lid. Verify that the port door is completely rotated open. Verify that button "K14" is illuminated before being pressed and is flashing after being pressed.	✓		KJZ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.01 MAINTENANCE MODE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107/DO-07-201					
18	Using the up and down arrow buttons as needed, select the "Double Lid System Close" option (K13) to rotate the Double Lid closed. Press button "K13" until the port is completely rotated closed and no longer rotates while button "K13" is pressed. On the Bagless Transfer Port Control Panel, initially button "K14" should be flashing and button "K13" should be illuminated, indicating that the Double Lid is raised. After "K13" has been pressed and the Double Lid is rotated fully closed, button "K14" should be illuminated and button "K13" should be flashing, indicating that the Double Lid is rotated closed. Using the up and down arrow buttons as needed, select the "Double Lid Lock Close" option (K13) to lock the Double Lid. On the Bagless Transfer Port Control Panel, initially button "K13" should be illuminated and button "K14" should be flashing, indicating that the Double Lid is unlocked. After "K13" has been pressed, "K14" should be illuminated and "K13" should be flashing, indicating that the Double Lid is locked. The Double Lid Lock Cylinder should extend to lock the port.	Verify that the Double Lid cylinder smoothly lowers the Double Lid. Verify that the port door is completely rotated closed. Verify that button "K13" is illuminated before being pressed and is flashing after being pressed. Verify that button "K13" is illuminated before being pressed and is flashing after being pressed. Verify that the Double Lid is locked.	✓		KPC
19	Using the up and down arrow buttons as needed, select the "Double Lid Vertical Down" option (K13) to lower the Double Lid. On the Bagless Transfer Port Control Panel, initially button "K13" should be illuminated and button "K14" should be flashing, indicating that the Double Lid is not lowered. After "K13" has been pressed, "K14" should be illuminated and "K13" should be flashing, indicating that the Double Lid has been lowered. The three lifting cylinders should smoothly lower the Double lid to its fully lowered closed position.	Verify that button "K13" is illuminated before being pressed and is flashing after being pressed. Verify that the Double Lid is locked.	✓		KPC
20	Using the up and down arrow buttons as needed, select the "Lid Gripper Release" option (K14) to release the Cross lid. On the Bagless Transfer Port Control Panel, initially button "K14" should be illuminated and button "K13" should be flashing, indicating that the Lid Gripper is gripping the Cross Lid. After "K14" has been pressed, "K13" should be illuminated and "K14" should be flashing, indicating that the Lid Gripper has released the lid. The lid gripper cylinder should smoothly raise to release the drum lid.	Verify that button "K14" is illuminated before being pressed and is flashing after being pressed. Verify that the Double Lid cylinders smoothly lower the Double Lid. Verify that button "K14" is illuminated before being pressed and is flashing after being pressed.	✓		KPC
21	Using the up and down arrow buttons as needed, select the "Lid Gripper Release" option (K14) to release the Cross lid. On the Bagless Transfer Port Control Panel, initially button "K14" should be illuminated and button "K13" should be flashing, indicating that the Lid Gripper is gripping the Cross Lid. After "K14" has been pressed, "K13" should be illuminated and "K14" should be flashing, indicating that the Lid Gripper has released the lid. The lid gripper cylinder should smoothly raise to release the drum lid.	Verify that button "K14" is illuminated before being pressed and is flashing after being pressed. Verify that the Double Lid cylinders smoothly lower the Double Lid. Verify that button "K14" is illuminated before being pressed and is flashing after being pressed.	✓		KPC

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
	TEST CASE 13027A-87.01 MAINTENANCE MODE - 200 EFTER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201				
22	Activate the lift table "Lower" pushbutton at the lift table local control pedestal until the drum is lowered at least 0.30 meters (1 foot) below the Bagless Transfer Port. The drum should be lowered so that the drum mating surface can be inspected. The Cross lid should remain mated to the drum.	Verify that the drum and drum lid are completely free from the Bagless Transfer Port. Verify that the drum lid remains mated to the drum.	✓		KJC
23	Remove the Cross Lid and inspect the Bagless Transfer Port mating surface and the drum and drum lid.	Verify that the Bagless Transfer Port mating surface is not visibly deformed. Verify that the drum and drum lid are not deformed.		✓	KJC
24	Press "K5" to return to the main menu.	Verify that the main menu is displayed.	✓		KJC
	Test Case 13027A-87.01 Complete				

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.02 MAINTENANCE MENU - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
NOTE: For the balance of this procedure, any reference to an OIU will refer to OIU-12-105B. In addition, a maintenance access code of "1111" has been previously entered.					
1	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OIU screen. If it is not, switch from the presently displayed menu to the "LLW RWM GLOVEBOX MAIN MENU".	Verify that the "LLW RWM GLOVEBOX MAIN MENU" is displayed.	✓		KJL
2	Press "MAINT ACCESS MENU" on the "LLW RWM GLOVEBOX MAIN MENU". The "MAINTENANCE ACCESS MENU" should be displayed on the OIU. Message "ENTER ACCESS CODE:" should be displayed.	Verify that the "MAINTENANCE ACCESS MENU" is displayed on the OIU. Verify that the "ENTER ACCESS CODE:" message is displayed.	✓		KJL
3	Enter "1112" and press enter. Message "ACCESS DENIED" should be displayed on the screen.	Verify that "1112" is entered. Verify that the "ACCESS DENIED" message is displayed.	✓		KJL
4	Press "CHANGE PASSWORD" on the "MAINTENANCE ACCESS MENU". Message "ENTER OLD PASSWORD:" should be displayed on the screen.	Verify that the "ENTER OLD PASSWORD:" message is displayed.	✓		KJL
5	Enter "1111" and press enter. Message "ENTER NEW PASSWORD:" should be displayed on the screen.	Verify that the "ENTER NEW PASSWORD:" message is displayed.	✓		KJL
6	Enter "2222" and press return. Message "ENTER ACCESS CODE:" should be displayed.	Verify that the "ENTER ACCESS CODE:" message is displayed.	✓		KJL
7	Enter "2222" and press return. The "MAINTENANCE MAIN MENU" should be displayed.	Verify that the "MAINTENANCE MAIN MENU" is displayed.	✓		KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.02 MAINTENANCE MENU - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
8	Press "PORT DO-07-202 MAINTENANCE MENU" on the "MAINTENANCE MAIN MENU". The "PORT DO-07-202 MAINTENANCE MENU" should be displayed.	Verify that "PORT DO-07-202 MAINTENANCE MENU" is selected. Verify that the "PORT DO-07-202 MAINTENANCE MENU" is displayed.	☒		KJL
9	Press "UNLOCK PORT" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that both shot bolts are fully retracted.	☒		KJL
10	Press "RAISE DOOR" on the "PORT DO-07-202 MAINTENANCE MENU". <i>Door adjusted to $\leq 1/2$ in/sec.</i>	Verify that the Port Door opens.	☒		KJL
11	Press "OPEN PORT" on the "PORT DO-07-202 MAINTENANCE MENU". <i>Door adjusted to $\leq 1/2$ in/sec.</i>	Verify that the Port Door rotates open.	☒		KJL
12	Press "CLOSE PORT" on the "PORT DO-07-202 MAINTENANCE MENU". <i>Door adjusted to $\leq 1/2$ in/sec.</i>	Verify that the Port Door rotates closed.	☒		KJL
13	Press "LOWER DOOR" on the "PORT DO-07-202 MAINTENANCE MENU". <i>Door adjusted to $\leq 1/2$ in/sec.</i>	Verify that the Port Door lowers closed.	☒		KJL
14	Press "LOCK PORT" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that both shot bolts are fully extended.	☒		KJL
15	Press "EXTEND LID DETACH" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the lid detach cylinder fully extends.	☒		KJL
16	Press "RETRACT LID DETACH" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the lid detach cylinder fully retracts.	☒		KJL
17	Press "OPEN ISOLATION VALVE" on the "PORT DO-07-202 MAINTENANCE MENU". <i>OBSOLETE COMMAND KJL 4/22/97</i>	Verify that the vacuum supply valve is open.			
18	Press "CLOSE ISOLATION VALVE" on the "PORT DO-07-202 MAINTENANCE MENU". <i>OBSOLETE COMMAND KJL 4/22/97</i>	Verify that the vacuum supply valve is closed.			
19	Press "TURN ON VACUUM" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the vacuum supply system is on.	☒		KJL
20	Press "TURN OFF VACUUM" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the vacuum supply system is off.	☒		KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.02 MAINTENANCE MENU - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
21	Press "MAINT MAIN MENU" on the "PORT DO-07-202 MAINTENANCE MENU". The "MAINTENANCE MAIN MENU" should be displayed on the screen.	Verify that the "MAINTENANCE MAIN MENU" is displayed.	✓		KJG
Test Case 13027A-87.02 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.03 MAINTENANCE MENU - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
1	Press "PORT DO-07-203 MAINTENANCE MENU" on the "MAINTENANCE MAIN MENU". The "PORT DO-07-203 MAINTENANCE MENU" should be displayed.	Verify that "PORT DO-07-203 MAINTENANCE MENU" is selected. Verify that the "PORT DO-07-203 MAINTENANCE MENU" is displayed.	✓		KFL
2	Press "UNLOCK PORT" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that both shot bolts are fully retracted.	✓		KFL
3	Press "RAISE DOOR" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the Port Door opens.	✓		KFL
4	Press "OPEN PORT" on the "PORT DO-07-203 MAINTENANCE MENU". <i>Adjusted to < 1/2" / sec.</i>	Verify that the Port Door rotates open.	✓		KFL
5	Press "CLOSE PORT" on the "PORT DO-07-203 MAINTENANCE MENU". <i>Adjusted to < 1/2" / sec.</i>	Verify that the Port Door rotates closed.	✓		KFL
6	Press "LOWER DOOR" on the "PORT DO-07-203 MAINTENANCE MENU". <i>Adjusted to < 1/2" / sec.</i>	Verify that the Port Door lowers closed.	✓		KFL
7	Press "LOCK PORT" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that both shot bolts are fully extended.	✓		KFL
8	Press "EXTEND LID DETACH" on the "PORT DO-07-203 MAINTENANCE MENU". <i>Adjusted to 5600 extend</i>	Verify that the lid detach cylinder fully extends.	✓		KFL
9	Press "RETRACT LID DETACH" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the lid detach cylinder fully retracts.	✓		KFL
10	Press "OPEN ISOLATION VALVE" on the "PORT DO-07-203 MAINTENANCE MENU". <i>OBSOLETE COMMAND KFL</i>	Verify that the vacuum supply valve is open.			
11	Press "CLOSE ISOLATION VALVE" on the "PORT DO-07-203 MAINTENANCE MENU". <i>OBSOLETE COMMAND KFL</i>	Verify that the vacuum supply valve is closed.			
12	Press "TURN ON VACUUM" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the vacuum supply system is on.	✓		KFL
13	Press "TURN OFF VACUUM" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the vacuum supply system is off.	✓		KFL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.03 MAINTENANCE MENU - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
14	Press "MAINT MAIN MENU" on the "PORT DO-07-203 MAINTENANCE MENU". The "MAINTENANCE MAIN MENU" should be displayed on the screen.	Verify that the "MAINTENANCE MAIN MENU" is displayed.	✓		KPL
15	Press "MAIN MENU" on the "MAINTENANCE MAIN MENU". The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OTU screen.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" is displayed.	✓		KPL
Test Case 13027A-87.03 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-87.04 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
1	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OIU screen. If it is not, switch from the presently displayed menu to the "LLW RWM GLOVEBOX MAIN MENU".	Verify that the "LLW RWM GLOVEBOX MAIN MENU" is displayed.	✓		Kjz
2	Press "PORT DO-07-201 MENU" on the "LLW RWM GLOVEBOX MAIN MENU".	Verify that the "PORT DO-07-201 MENU" is displayed.	✓		Kjz
3	The "PORT DO-07-201 MENU" should be displayed. The Bagless Transfer port control console is still in manual mode. Press "K2" to select Automatic Mode.	Verify that the Bagless Transfer port control console is in the Full Automatic Mode.	✓		Kjz
4	Visually inspect the Glovebox area. Confirm that the bagless transfer port that will be tested and all items associated with this glovebox are ready for operation and that no debris or other foreign matter is present that would disrupt testing.	Verify that the bagless transfer port has been prepared for operation and testing.	✓		Kjz
5	Prepare one empty 208 liter (55 gallon) Drath and Schrader drum with Cross Lid. This type of drum is designed to function with the Bagless Transfer Port.	Verify that a Drath and Schrader drum with lid is available for testing.	✓		Kjz
6	The Bagless Transfer Port requires that the port load cell indicate that predetermined weight set point has been reached before the port is enabled for operation. Record the weight set point indicated on the OIU screen used for testing purposes in the space provided below: (650-700 kilograms) Bagless Transfer Port Weight Set Point: <u>650</u> kg <i>(w/o Drum weight)</i>	Verify that the weight set point used for testing purposes is shown in the space provided to the left.	✓		Kjz
7	At control pedestal PC-07-201F place "M/O/N" switch to "NORMAL".	Verify that "M/O/N" switch is set to "NORMAL".	✓		Kjz

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.04 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT (07-DO-07-201)					
8	Verify that all LLW RWM Glovebox items have been placed in their parked positions including the following items: ITEM <u>Tag Number Parked Position</u> Hoist Trolley 107-CR-07-201 Monorail Hoist positioned directly over the Bagless Transfer Port, Hoist fully raised Manipulator 107-EM-07-201 Manipulator at parked position number 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked <i>transfer stand not illuminated</i>	Verify that all glovebox items present have been placed in their parked positions. <i>AT 11:14:10</i>	✓		KPL
9	Place a 200 liter (55 gallon) Drath & Schrader drum with inner drum lid, transfer-stand; and outer lid at the AGV end of lift table 107-LT-09-201F such that the drum interrupts the light beam of photosensor ZS-231F. The "AGV END" light on the Control Pedestal should be illuminated. <i>not illuminated KPL</i>	Verify that the drum is interrupting the light beam of the photosensor. Verify that the "AGV END" light is illuminated. <i>KPL</i> Verify that the "NO DRUM AT LIFT TABLE" message is displayed. Verify that the outer lid is removed.	✓		KPL
10	Message "NO DRUM AT LIFT TABLE" should be displayed on the OIU screen. <i>Remove the outer lid from the drum - OBSOLETE COMMAND - OUTER LIDS NOT USED</i> <i>KPL 11:14:11</i>				
11	Move the drum toward the port far enough so the photosensor light beam has been reestablished. <i>FORCED STATUS BIT N31 = 106/12</i> <i>KPL 11:14:11</i>	Verify that the drum is no longer interrupting the light beam of the photosensor.	✓		KPL
12	Message "DRUM AT LIFT TABLE" should be displayed on the OIU screen. The "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201F should be in the "PANEL" position. If it is in the "AGV" position, place the switch in the "PANEL" position.	Verify that the "DRUM AT LIFT TABLE" message is displayed. Verify that the switch is in the "PANEL" position.	✓		KPL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.04 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
13	Press "FORWARD" on Control Pedestal PC-07-201F. Drum should move forward until centered under the port, motor should automatically de-energize. The "DRUM UNDER PORT" light on the Control Pedestal should be illuminated.	Verify that the conveyor motor de-energizes when the drum is centered under the port. Verify that the "DRUM UNDER PORT" light is illuminated.	✓		Kyz
14	Press "RAISE" on Control Pedestal PC-07-201E. The drum should raise to until the predetermined weight setpoint has been reached and then stop. The "DRUM IN POSITION" light on the Control Pedestal should be illuminated, indicating that the predetermined weight setpoint has been reached. At the OIU, the Lift Table Weight indication should be ± 50 kg of the setpoint. Record indicated Lift Table Weight: <u>668</u> kg. <i>settled to 657 kg</i> Record Weight Setpoint: <u>650</u> kg	Verify that the drum raises and then stops at the weight setpoint. Verify that the "DRUM IN POSITION" light is illuminated. Verify that the Lift Table Weight indication and setpoint are recorded.	✓		Kyz
15	NOTE: When this step is initiated, a series of steps will be performed automatically. <i>FOR CE BIT TEST LOG, 131-07: Manipulator Upper limit Switch</i> Press "OPEN PORT" on the "PORT DO-07-201 MENU". Message "PORT OPENING..." should be displayed on the OIU screen.	Verify that the "PORT OPENING..." message is displayed.	✓		Kyz
16	The port should raise, unlock and rotate fully open. The drum lid should be attached to the port door. Message "PORT OPEN" should be displayed on the OIU screen. <i>LIFT TABLE WEIGHT DROPPED TO 441 kg</i>	Verify that the port raises, unlocks and rotates fully open. Verify that the drum lid is attached to the port door. Verify that the "PORT OPEN" message is displayed.	✓		Kyz

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-87.04 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
17	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "CLOSE PORT" on the "PORT DO-07-201 MENU". Message "PORT CLOSING..." should be displayed on the OIU screen.	Verify that the "PORT CLOSING..." message is displayed.	✓		KJZ
18	The port door should rotate down, the locking mechanism should engage, the port door should lower, and the drum lid should be released. Message "PORT CLOSED" should be displayed on the OIU screen.	Verify that the port door rotates down, the locking mechanism engages, the port door lowers, and the drum lid is released. Verify that the "PORT CLOSED" message is displayed.	✓		KJZ
19	Press "LOWER" on Control Pedestal PC-07-201F. The drum should lower to the AGV Height. The "AGV HEIGHT" light on the Control Pedestal should be illuminated.	Verify that the "AGV HEIGHT" light is illuminated.	✓		KJZ
20	Press "REVERSE" on Control Pedestal PC-07-201F. The conveyor should move the drum to the AGV end position. The "AGV END" light on the Control Pedestal should be illuminated.	Verify that the "AGV END" light is illuminated.	✓		KJZ
Test Case 13027A-87.04 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.05 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
1	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OIU screen. If it is not, switch from the presently displayed menu to the "LLW RWM GLOVEBOX MAIN MENU". Select "Port DO-07-202 MENU".	Verify that the "LLW RWM GLOVEBOX MAIN MENU" is displayed. <i>DO-07-202 menu</i>	✓		Kye
2	Place a 208 liter (55 gallon) drum at the AGV end of lift table 107-LT-09-201E such that the drum interrupts the light beam of photosensor ZS-229E. Adjust Lift Table to AGV height. <i>AGV 48 11/10/12</i> The "AGV END" light on the Control Pedestal should be illuminated <i>✓</i> Message "NO DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the drum is interrupting the light beam of the photosensor. Verify that the "AGV END" light is illuminated. <i>Kye</i> Verify that the "NO DRUM AT LIFT TABLE" message is displayed. <i>Not</i>	✓		Kye
3	Move the drum toward the port far enough so the photosensor light beam has been reestablished. <i>FORCE BIT. N31: 94.12</i> Set AGV Status Bit "ON". Message "DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the drum is no longer interrupting the light beam of the photosensor. Verify that the "DRUM AT LIFT TABLE" message is displayed.	✓		Kye
4	Remove the clamp band from the drum. <i>N/A Kye 11/10/12</i>	Verify that the clamp band is removed. <i>5767</i>	✓		Kye
5	The "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201E should be in the "PANEL" position. If it is in the "AGV" position, place the switch in the "PANEL" position.	Verify that the switch is in the "PANEL" position.	✓		Kye
6	Press "FORWARD" on Control Pedestal PC-07-201E. Drum should move forward until centered under the port, motor should automatically de-energize. The "DRUM UNDER PORT" light on the Control Pedestal should be illuminated.	Verify that the conveyor motor de-energizes when the drum is centered under the port. Verify that the "DRUM UNDER PORT" light is illuminated.	✓		Kye
7	Press "RAISE" on Control Pedestal PC-07-201E. The drum should raise to the Drum Centering Height. The "DRUM IN POSITION" light on the Control Pedestal should be illuminated.	Verify that the "DRUM IN POSITION" light is illuminated.	✓		Kye

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.05 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107 DO-07-202					
8	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "OPEN PORT" on the "PORT DO-07-202 MENU". Message "PORT OPENING..." should be displayed on the OIU screen.	Verify that the "PORT OPENING..." message is displayed.	✓		KJL
9	The drum centering clamps should extend to center the drum.	Verify that the drum centering clamps extend to center the drum.	✓		KJL
10	The vacuum system should be activated by the PCS.	Verify that the vacuum system is activated.	✓		KJL
11	The HVAC seal should inflate.	Verify that the HVAC seal is inflated.	✓		KJL
12	The PCS should energize vent valves FEV-913C&D, thereby releasing pressure on the door open/close cylinders. After Close Port cylinder also energized per MTEL	Verify that vent valves FEV-913C&D are energized.	✓		KJL
13	The port door locking bolts should both retract.	Verify that both locking bolts retract.	✓		KJL
14	The lift table servo motor should raise the drum to the Door in Position height and then stop.	Verify that the door is raised to the Door in Position height and then stops.	✓		KJL
15	The port door open cylinders should raise the port door to the open position. The drum lid should remain attached to the port door.	Verify that the port door raises to the open position. Verify that the drum lid remains attached to the port door.	✓		KJL
16	The port door should rotate fully open. Message "PORT OPEN" should be displayed on the OIU screen.	Verify that the port is rotated fully open. Verify that the "PORT OPEN" message is displayed.	✓		KJL
17	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "CLOSE PORT" on the "PORT DO-07-202 MENU". Message "PORT CLOSING..." should be displayed on the OIU screen.	Verify that the "PORT CLOSING..." message is displayed.	✓		KJL

Step #	TEST PROCEDURE STEPS (13027A-57)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-57.05 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-307-202					
18	The port door should rotate fully closed.	Verify that the port is rotated fully closed.	✓		Kyc
19	The port door open cylinders should lower the port door to the Door in Position height.	Verify that the port door lowers to the Door in Position height.	✓		Kyc
20	Vacuum on the drum lid should be released by the PCS .	Verify that the vacuum is released from the drum lid.	✓		Kyc
21	The drum lid detachment cylinder should be extended by the PCS.	Verify that the drum lid detachment cylinder is extended.	✓		Kyc
22	The lift table should lower to the Drum Centering height by the PCS. The port door should be fully lowered to the closed position.	Verify that the lift table is lowered to the Drum Centering height. Verify that the port door is fully closed.	✓		Kyc
23	The port door locking cylinders should fully extend to lock the port.	Verify that the port door locking cylinders are fully extended.	✓		Kyc
24	The drum lid detachment cylinder should be retracted by the PCS.	Verify that the drum lid detachment cylinder is retracted.	✓		Kyc
25	The drum centering clamps should fully retract. The HVAC seal should fully deflate. Message "PORT CLOSED" should be displayed on the OIU screen.	Verify that the drum centering clamps fully retract. Verify that the HVAC seal is fully deflated. Verify that the "PORT CLOSED" message is displayed.	✓		Kyc
26	Press "LOWER" on Control Pedestal PC-07-201E. The drum should lower to the AGV Height. The "AGV HEIGHT" light on the Control Pedestal should be illuminated.	Verify that the "AGV HEIGHT" light is illuminated.	✓		Kyc

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.05 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
27	Press "REVERSE" on Control Pedestal PC-07-201E. The conveyor should move the drum to the AGV end position. The "AGV END" light on the Control Pedestal should be illuminated.	Verify that the "AGV END" light is illuminated.	✓		Kjk
28	Place the "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201E in the "AGV" position.	Verify that the switch is in the "AGV" position.	✓		Kjk
Test Case 13027A-87.05 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.06 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
1	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OIU screen. If it is not, switch from the presently displayed menu to the "LLW RWM GLOVEBOX MAIN MENU". Select "Port DO-07-203 MENU".	Verify that the "LLW RWM- GLOVEBOX MAIN MENU" is displayed. <i>DO-203 HCNV</i>	✓		KR
2	Place a 322 liter (85 gallon) drum at the AGV end of lift table 107-LT-09-201D such that the drum interrupts the light beam of photosensor ZS-229E. <i>NOT</i>	Verify that the drum is interrupting the light beam of the photosensor.	✓		KR
	The "AGV END" light on the Control Pedestal should be illuminated.	Verify that the "AGV END" light is illuminated. <i>NOT</i>	✓		KR
	Message "NO DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the "NO DRUM AT LIFT TABLE" message is displayed.			
3	Move the drum toward the port far enough so the photosensor light beam has been reestablished. <i>FORCE BIT; N31-82.12</i> Set AGV Status Bit "ON".	Verify that the drum is no longer interrupting the light beam of the photosensor.	✓		KR
	Message "DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the "DRUM AT LIFT TABLE" message is displayed.			
4	Remove the clamp band from the drum. <i>FX 11014</i>	Verify that the clamp band is removed.	✓		KR
5	The "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201D should be in the "PANEL" position. If it is in the "AGV" position, place the switch in the "PANEL" position.	Verify that the switch is in the "PANEL" position.	✓		KR
6	Press "LOWER" on Control Pedestal PC-07-201D. <i>FORCE N31-54.0 TO LOWER FROM REHOME</i> The lift table should lower to a preprogrammed position of 18" ± 1/8" above the floor.	Verify that the lift table lowers to the preprogrammed position.	✓		KR
7	Press "FORWARD" on Control Pedestal PC-07-201D. Drum should move forward until centered under the port, motor should automatically de-energize.	Verify that the conveyor motor de-energizes when the drum is centered under the port.	✓		KR
	The "DRUM UNDER PORT" light on the Control Pedestal should be illuminated.	Verify that the "DRUM UNDER PORT" light is illuminated.	✓		KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.06 FULL AUTOMATIC CYCLE 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
8	Press "RAISE" on Control Pedestal PC-07-201D. The drum should raise to the Drum Centering Height. The "DRUM IN POSITION" light on the Control Pedestal should be illuminated.	Verify that the "DRUM IN POSITION" light is illuminated.	✓		KJK
9	Press "PORT DO-07-203 MENU" on the "LLW RWM GLOVEBOX MAIN MENU".	Verify that the "PORT DO-07-203 MENU" is displayed.	✓		KJK
10	The "PORT DO-07-203 MENU" should be displayed. NOTE: When this step is initiated, a series of steps will be performed automatically. Press "OPEN PORT" on the "PORT DO-07-203 MENU". Message "PORT OPENING..." should be displayed on the OTU screen.	Verify that the "PORT OPENING..." message is displayed.	✓		KJK
11	The drum centering clamps should extend to center the drum.	Verify that the drum centering clamps extend to center the drum.	✓		KJK
12	The vacuum system should be activated by the PCS.	Verify that the vacuum system is activated.	✓		KJK
13	The HVAC seal should inflate.	Verify that the HVAC seal is inflated.	✓		KJK
14	The PCS should energize vent valves FEV-913A&B, thereby releasing pressure on the door open/close cylinders.	Verify that vent valves FEV-913A&B are energized.	✓		KJK
15	The port door locking bolts should both retract.	Verify that both locking bolts retract.	✓		KJK
16	The lift table servo motor should raise the drum to the Door in Position height and then stop.	Verify that the door is raised to the Door in Position height and then stops.	✓		KJK
17	The port door open cylinders should raise the port door to the open position. The drum lid should remain attached to the port door.	Verify that the port door raises to the open position. Verify that the drum lid remains attached to the port door.	✓		KJK

* See T.E. # 10

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.06 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
18	The port door should rotate fully open. Message "PORT OPEN" should be displayed on the OIU screen.	Verify that the port is rotated fully open. Verify that the "PORT OPEN" message is displayed.	✓		KL
19	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "CLOSE PORT" on the "PORT DO-07-203 MENU". Message "PORT CLOSING..." should be displayed on the OIU screen.	Verify that the "PORT CLOSING..." message is displayed.	✓		KL
20	The port door should rotate fully closed.	Verify that the port is rotated fully closed.	✓		KL
21	The port door open cylinders should lower the port door to the Door in Position height.	Verify that the port door lowers to the Door in Position height.	✓		KL
22	Vacuum on the drum lid should be released by the PCS.	Verify that the vacuum is released from the drum lid.	✓		KL
23	The drum lid detachment cylinder should be extended by the PCS.	Verify that the drum lid detachment cylinder is extended.	✓		KL
24	The lift table should lower to the Drum Centering height by the PCS. The port door should be fully lowered to the closed position.	Verify that the lift table is lowered to the Drum Centering height. Verify that the port door is fully closed.	✓		KL
25	The port door locking cylinders should fully extend to lock the port.	Verify that the port door locking cylinders are fully extended.	✓		KL
26	The drum lid detachment cylinder should be retracted by the PCS.	Verify that the drum lid detachment cylinder is retracted.	✓		KL

* See TE. #10

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.06 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
27	The drum centering clamps should fully retract.	Verify that the drum centering clamps fully retract.			
	The HVAC seal should fully deflate.	Verify that the HVAC seal is fully deflated.		✓	KP
	Message "PORT CLOSED" should be displayed on the OIU screen.	Verify that the "PORT CLOSED" message is displayed.			
28	Press "LOWER" on Control Pedestal PC-07-201D.	Verify that the lift table lowers to the preprogrammed position.		✓	KP
	The drum should lower to the preprogrammed position.				
29	Press "REVERSE" on Control Pedestal PC-07-201D.	Verify that the "AGV END" light is illuminated.		✓	KP
	The conveyor should move the drum to the AGV end position.				
	The "AGV END" light on the Control Pedestal should be illuminated.				
30	Press "RAISE" on Control Pedestal PC-07-201D.	Verify that the "AGV HEIGHT" light is illuminated.		✓	KP
	The lift table should raise to the AGV height.				
	The "AGV HEIGHT" light on the Control Pedestal should be illuminated.				
31	Place the "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201D in the "AGV" position.	Verify that the switch is in the "AGV" position.		✓	KP
Test Case 13027A-87.06 Complete					

* See TE #10

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRAITH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DQ-07-201					
Attempt To Control Lift Table While AGV/PANEL Switch Set to "AGV"					
1	Turn "AGV/PANEL" switch to "AGV".	Verify that "AGV/PANEL" switch is turned to "AGV" position.	✓		KJL
2	Activate the lift table "RAISE" and "LOWER" pushbuttons at the lift table local control pedestal (107-PC-09-201F) to attempt to raise and lower the lift table. Because the "AGV/PANEL" switch is turned to the "AGV" position, the lift table should not raise or lower.	Verify that activating the "RAISE" and "LOWER" pushbuttons has no effect on the lift table.	✓		KJL
3	Activate the lift table "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201F) to attempt to activate the lift table roller conveyor. Because the "AGV/PANEL" switch is turned to the "AGV" position, the lift table roller conveyor should not activate.	Verify that activating the "FORWARD" and "REVERSE" pushbuttons has no effect on the lift table.	✓		KJL
4	Set the Lift Table Local Control AGV/PANEL switch (09-HS-231D) to "PANEL" to allow an operator to activate and control (via the PCS) the lift table (107-LT-09-201F).	Verify that the lift table AGV/PANEL switch is switched to the "PANEL" position.	✓		KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (35 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Attempt To Open Port Without Drum Present					
1	Activate the lift table "LOWER" pushbutton at (107-PC-09-201F) as needed to lower the lift table until the lift table is not at AGV Height. The "AGV HEIGHT" indicator on the lift table local control pedestal should not be illuminated.	Verify that the "AGV HEIGHT" indicator is not illuminated.	✓		Kjk
2	At Lift Table Control Pedestal 107-PC-09-201F place "M/O/N" switch to "M"	Verify that Lift Table Control Pedestal 107-PC-09-201F "M/O/N" switch is set to "M".	✓		Kjk
7	NOTE: To open the Bagless Transfer Port, a drum must be mated to the port and the manipulator must be parked. If either or both of these conditions is not met, the port should not open. Because a drum is not mated to the port, the port should not open. Turn on the Bagless Transfer Port control panel and in the "Full Automatic" Mode, attempt to initiate the "DOUBLE LID OPEN AUTOMATIC" sequence by pressing the "START" button.	Verify that the Bagless Transfer Port does not open.	✓		Kjk
8	Press the "PORT DO-07-201 MENU" button from the "LLW RWM GLOVEBOX MAIN MENU" at OIU-12-105B. NOTE: The selection of this button should cause the PCS to check the status of the "Drum at End of Conveyor" position switch (09-ZS-231E) to determine if an empty drum is present at the AGV end of the lift table and check the status of the "AGV Mating Height" position switch (09-ZS-231G) to determine if the lift table is at AGV height. Because the lift table is not at AGV height and no drum is present, OIU-12-105B should display a "NO DRUM AT LIFT TABLE" message.	Verify that the "PORT DO-07-201 MENU" screen is displayed.	✓		Kjk

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 208 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
9	NOTE: To open the Bagless Transfer Port, a drum must be mated to the port and the manipulator must be parked. If either or both of these conditions is not met, the port should not open. Press the "OPEN PORT" button from the "PORT DO-07-201 MENU" at OIU 107-OIU-12-105B to attempt to open the Bagless Transfer Port. Because a drum is not mated to the port, the port should not open.	Verify that the Bagless Transfer Port does not open.	✓		KD
10	Place the 208 liter (55 gallon) Drath & Schrader drum with non-compliant item transfer stand, with non-compliant packet, with inner drum lid, and without band clamp on the LLW RWM Bagless Transfer Port Lift Table, (107-LT-09-201F). The drum should be placed at the AGV end of the lift table. "AGV END" should be illuminated on the Lift Table Control Pedestal (107-LT-09-201F), indicating that the drum is located at the AGV end of the conveyor.	Verify that the Drath & Schrader drum has been placed on the LLW RWM Glovebox Bagless Transfer Port lift table (107-LT-09-201F). Verify that there is no band clamp on the drum. Verify that "AGV END" is illuminated.	✓		KD

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Examine "No Drum At Lift Table" Interlock					
11	Review the "PORT DO-07-201 MENU" screen at OIU-12-105B. NOTE: The PCS should continue to check the status of the "Drum at end of Conveyor" position switch to determine if an empty drum is present at the AGV end of the lift table and check the status of the "AGV Mating Height" position switch (09-ZS-231G) to determine if the lift table is at AGV height. Because the lift table is not at AGV height, OIU-12-105B should display a "NO DRUM AT LIFT TABLE" message. <i>Step does not make sense as AGV is not raised and</i>	Verify that the "PORT DO-07-201 MENU" screen is displayed. Verify that OIU-12-105B displays the "NO DRUM AT LIFT TABLE" message.	✓		KPL
12	At Lift Table Control Pedestal 107-PC-201F place "M/O/N" switch to "NORMAL" <i>MAINTENANCE</i>	Verify that Lift Table Control Pedestal 107-PD-09-201F "M/O/N" switch is set to "NORMAL".	✓		KPL
13	Activate the lift table "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201F) as needed to raise the lift table to AGV Height. "AGV HEIGHT" should be illuminated on the Lift Table Control Pedestal (107-LT-09-201F), indicating that the lift table is at AGV height.	Visually verify that the Lift Table (107-LT-09-201F) is at AGV height. Verify that "AGV HEIGHT" is illuminated.	✓		KPL
14	Examine the "PORT DO-07-201 MENU" screen at OIU-12-105B. <i>FORCE AGV Status Bit N31:10G/1Z</i> Because a drum is present and the lift table is at AGV height, OIU-12-105B should display a "DRUM AT LIFT TABLE" message.	Verify that OIU-12-105B displays a "DRUM AT LIFT TABLE" message.	✓		KPL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table "Down Overtravel" Alarm					
15	Manually activate the "Down Overtravel" position switch (09-ZS-231C) to simulate that the lift table (107-LT-09-201F) has been lowered below its normal travel height. The "DOWN OVERTRAVEL" status indicator (09-ZL-231C) at the Lift Table Local Control Pedestal (107-PC-09-201F) should be illuminated, indicating that the "Down Overtravel" position switch (09-ZS-231C) has been activated.	Verify that the "Down Overtravel" position switch (09-ZS-231C) is activated. Verify that the "DOWN OVERTRAVEL" indicator (09-ZL-231C) is illuminated.	✓		Kye
16	Activate the lift table "LOWER" pushbuttons at the lift table local control pedestal (107-PC-09-201F) to attempt energize lift table motor 107-LT-09-201F/M1. Because the lift table overtravel switch is activated, the lift table should not lower.	Verify that the lift table does not lower.	✓		Kye
17	Review the "PORT DO-07-201 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201F) Down Overtravel" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201F) Down Overtravel" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "ACTIVE ALARMS" screen with an active "Lift Table (201F) Down Overtravel" alarm is displayed.	✓		Kye

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
18	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). ✓ Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Down Overtravel" alarm is displayed on this screen.	✓		K92
19	Manually reset the "Down Overtravel" position switch (09-ZS-231C) to indicate that the lift table (107-LT-09-201F) is positioned within its normal vertical travel range. Resetting the "Down Overtravel" position switch (09-ZS-231C) should cause the "Lift Table (201F) Down Overtravel" alarm to clear. The "DOWN" Overtravel status indicator (09-ZL-231C) at the Lift Table Local Control Pedestal (107-PC-09-201F) should not be illuminated, indicating that the "Down Overtravel" position switch (09-ZS-231C) is not activated.	Verify that the steady yellow alarm message has changed to green. ✓ Verify that the "Lift Table (201F) Down Overtravel" alarm is cleared. Verify that the "DOWN" Overtravel status indicator (09-ZL-231C) is not illuminated.	✓		K92
20	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-201 MENU"	Verify that the "PORT DO-07-201 MENU" is displayed with a "DRUM AT LIFT TABLE" message.	✓		K92

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table "Up Overtravel" Alarm					
21	Manually activate the "Up Overtravel" position switch (09-ZS-231D) to simulate that the lift table (107-LT-09-201F) has been raised above its normal travel height.	Verify that "Up Overtravel" position switch (09-ZS-231D) is activated.	✓		KJL
22	Review the "PORT DO-07-201 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table 201F Up Overtravel" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table 201F Up Overtravel" alarm should be displayed on this screen. Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "ACTIVE ALARMS" screen with an active "Lift Table 201F Up Overtravel" alarm is displayed. Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table 201F Up Overtravel" alarm is displayed on this screen.	✓		KJL
23	Activate the lift table "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201F) to attempt energize lift table motor 107-LT-09-201F/M1. Because the lift table overtravel switch is activated, the lift table should not rise.	Verify that the lift table does not rise.	✓		KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
25	Manually reset the "Up Overtravel" position switch (09-ZS-231D) to indicate that the lift table (107-LT-09-201F) is positioned within its normal vertical travel range. Resetting the "Up Overtravel" position switch (09-ZS-231D) should cause the "Lift Table 201F Up Overtravel" alarm to clear.	Verify that the "Up Overtravel" position switch (09-ZS-231D) has been reset. Verify that the "Lift Table 201F Up Overtravel" alarm is clear.	✓		K/h
26	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-201 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-201 MENU" is displayed.	✓		K/h

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table "Rope Switch Pulled" Alarm					
27	Pull the Lift Table (107-LT-09-201F) Rope Switches (09-XS-231A/B) to disable all lift table operations. Press all pushbuttons on the Lift Table Local Control Pedestal (107-PC-09-201F) in both "Normal" and "Maintenance" modes (Use Lift Table Local Control Pedestal M/O/N switch to switch between operating modes). Because the rope switches have been pulled, pressing the buttons should have no effect on the lift table.	Verify that the rope switches have been pulled. Verify that pressing the Lift Table Local Control Pedestal pushbuttons have no effect on the lift table.	✓		K/L
28	Review the "PORT DO-07-201 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201F) Rope Sw. Pulled" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201F) Rope Sw. Pulled" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "ACTIVE ALARMS" screen with an active "Lift Table (201F) Rope Sw. Pulled" alarm is displayed.	✓		K/L
29	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Rope Sw. Pulled" alarm is displayed on this screen.	✓		K/L

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87: MAINE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT DO-07-201					
30	Manually reset the Lift Table Rope Switches (09-XS-231A/B) to allow normal lift table operation. Resetting the Lift Table Rope switches (09-XS-231A/B) should cause the "Lift Table 201F Rope Switch Pulled" alarm to clear.	Verify that the Lift Table Rope Switches have been reset. Verify that the "Lift Table 201F Rope Switch Pulled" alarm is cleared.	✓		KH
31	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-201 MENU" at OIU-12-105B.	Verify that the "PORT DO-07-201 MENU" is displayed.	✓		KH

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRAITH & SCHRADER 200 LITER (65 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table "Reverse" Interlock					
32	Adjust LT-201F to AGV height	Verify that LT-201F is at AGV height.	✓		KP
33	Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201F) to energize the lift table conveyor motor reverse (107-LT-09-201F/M2).	Verify that the conveyor motor de-energizes.		✓	KP
	The lift table conveyor motor should de-energize when the drum breaks the light beam at the AGV end.				

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201 Examine Lift Table "Conveyor Forward Failed" Alarm					
34	NOTE: This step will be used to simulate a power failure at the lift table. The 480 volt lift table supply local disconnect will be opened during drum transfer under the glovebox port. Activate the "FORWARD" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201F) to energize the lift table conveyor motor forward (107-LT-09-201F/M2). After drum has moved approximately one foot, open the 480 volt lift table disconnect to remove power from the lift table. The roller conveyor should stop. After approximately 10 seconds, close the 480 volt lift table disconnect to restore power to the lift table. The roller conveyor should not start up again after power is restored.	Verify that the drum is moving forward. Verify that the lift table roller conveyors have stopped and remain stopped.	☒		K9C
35	Review the "PORT DO-07-201 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201F) Conv. Fwd Failed" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201F) Conv. Fwd Failed" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201F) Conv. Fwd Failed" alarm is displayed.	☒		K9C

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
36	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Conv. Fwd Failed" alarm is displayed on this screen.	✓		KD ₂
37	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-201 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-201 MENU" is displayed.	✓		KD ₂

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87: MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table "Failed To Raise" Interlock/Alarm					
38	Activate the lift table "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201F) to attempt energize lift table motor 107-LT-09-201F/M1. Because a drum is not present under the Entry/Exit Port, as indicated by position switch 09-ZS-231F, the "RAISE" pushbutton should be disabled by the PCS.	Verify that the lift table does not rise.	✓		KP
39	Change LT 201F "Failed to Raise" TD from current value to 5 sec. Record register contents. AS TD Register: T4:109 Contents: <u>5 120</u>	Verify LT 201F TD is set to 5 sec. and record register contents.	✓		KP
40	Activate the "FORWARD" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201F) to energize the lift table conveyor motor forward (107-LT-09-201F/M2) until the drum is centered underneath the Bagless Transfer Port (107-DO-07-201). The "DRUM UNDER PORT" status indicator (09-ZL-231B) at the Lift Table Local Control Pedestal (107-PC-09-201F) should be illuminated, indicating that the drum is centered under the port.	Verify that the drum is centered under the Bagless Transfer Port.	✓		KP
		Verify that the "DRUM UNDER PORT" status indicator (09-ZL-231B) is illuminated.	✓		

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table Weight/Pressure Changes When Port Opened and Closed					
41	Activate the lift table "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201F) to energize the lift table motor (107-LT-09-201F/M1) to raise the Lift Table. The PCS should activate the lift table motor to raise the drum just below the Bagless Transfer Port. The PCS should raise the lift table at slow speed until the drum contacts the port. The PCS should continue to energize the lift table servo motor until the predetermined weight setpoint is reached. Record the "Lift Table Weight" displayed on the "PORT DO-07-201 MENU" screen at OIU-12-105B: Lift Table Weight: $650 + 94$ (setpoint) kilograms $751 \text{ kg} \approx 743 \text{ kg on load cell}$	Verify that the lift table raises the drum to contact the Bagless Transfer Port. Verify that the predetermined weight set point displayed on the OIU-12-105B "PORT DO-07-201 MENU" (established during setup of this procedure) has been reached or exceeded and is recorded in the space provided.	☒		KJL
42	Review the "PORT DO-07-201 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201F) Failed to Raise" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201F) Failed to Raise" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "ACTIVE ALARMS" screen with an active "Lift Table (201F) Failed to Raise" alarm is displayed.	☒		KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DG-07-201					
43	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Failed to Raise" alarm is displayed on this screen.	✓		KPL
44	Restore Register T4:109 to value recorded in step 39.	Verify that Register T4:109 is set to the correct value.	✓		KPL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87:07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
45	Press the "OPEN PORT" button from the "PORT DO-07-201 MENU" at OIU-12-105B to open the port. The Bagless Transfer Port should open. The PCS should display a "PORT OPENING..." message at OIU-12-105B while the port is opening. NOTE: Reaching the weight setpoint and not actuating the lift table overtravel switch should cause the PCS to give an output (DO-07-201/O) to the Bagless Transfer Port (107-DO-07-201), which signals the Bagless Transfer Port to open. Because the manipulator is parked and a drum is mated to the port, the port door should open. The Bagless Transfer Port should send a signal (DO-07-201/OS) to the PCS indicating that the port is open. The PCS should then display a "OPEN PORT" message at OIU-12-105B.	Verify that the Bagless Transfer Port door is opened. Verify that a "PORT OPENING..." message is displayed while the port is opening.	✓	✓	Kp Kp
	Record the "Lift Table Weight" and the "Lift Table Weight Setpoint" displayed on the "PORT DO-07-201 MENU" screen at OIU-12-105B: Lift Table Weight: <u>587 537</u> kilograms Lift Table Weight Setpoint: <u>744</u> kilograms	Verify that a "OPEN PORT" message is displayed after the port is open. Verify that the weight recorded with the port open does not fall below the "Lift Table Weight Setpoint" limit listed on the "PORT DO-07-201 MENU" screen.	✓	✓	Kp Kp

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
46	TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201 Press the "CLOSE PORT" button from the "PORT DO-07-201 MENU" at OIU-12-105B to close the port. The Bagless Transfer Port door should close and lock. The PCS should display a "PORT CLOSING..." message at OIU-12-105B while the port is closing. NOTE: Pressing the "CLOSE PORT" button should cause the PCS to give an output (DO-07-201/C) to the Bagless Transfer Port (107-DO-07-201), which signals the Bagless Transfer Port to close. Because the manipulator is parked and a drum is mated to the port, the port door should close. The Bagless Transfer Port should close and lock and send a signal (DO-07-201/CS) to the PCS indicating that the port is closed. The PCS should then display a "PORT CLOSED" message at OIU-12-105B. Record the "Lift Table Weight" displayed on the "PORT DO-07-201 MENU" screen at OIU-12-105B: Lift Table Weight: <u>693</u> kilograms	Verify that the Bagless Transfer Port door is closed and locked. Verify that a "PORT CLOSING..." message is displayed while the port is closing. Verify that a "PORT CLOSED" message is displayed at OIU-12-105B after the port is closed. Verify that the "Lift Table Weight" is recorded in the space provided.	✓	✓	KPZ KPZ KPZ KPZ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Attempt To Open Port Without Manipulator Parked					
47	NOTE: The manipulator serves as an interlock for Bagless Transfer Port operation. When the manipulator is not at the park position, the Bagless Transfer Port should not be able to open. The manipulator is initially slightly displaced from the park position to allow this interlock to be tested. Place the LLW RWM Waste Manipulator (107-EM-07-201) approximately one foot from park position 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.		✓		KJc
48	Press the "OPEN PORT" button from the "PORT DO-07-201 MENU" at OIU-12-105B to attempt to open the port. Because the manipulator is not parked, the port door should not open.	Verify that the Bagless Transfer Port does not open.	✓		KJc
49	Place the LLW RWM Waste Manipulator (107-EM-07-201) at park position 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is at park position 2 with both arms parked.	✓		KJc

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.07 MATE DRUM TO DRATH & SCHRADER 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201					
Open Bagless Transfer Port 107-DO-07-201					
50	Press "OPEN PORT" The PCS should display a "PORT OPENING..." message at OIU-12-105B while the port is opening. NOTE: Reaching the weight setpoint and not actuating the lift table overtravel switch should cause the PCS to give an output (DO-07-201/O) to the Bagless Transfer Port (107-DO-07-201), which signals the Bagless Transfer Port to open. The PCS should then display a "OPEN PORT" message at OIU-12-105B. Record the "Lift Table Weight" and the "Lift Table Weight Setpoint" displayed on the "PORT DO-07-201 MENU" screen at OIU-12-105B: Lift Table Weight: <u>530</u> kilograms Lift Table Weight Setpoint: <u>744</u> kilograms	Verify that the Bagless Transfer Port door is fully rotated open to allow the non-compliant item transfer stand to be removed from the drum. Verify that a "PORT OPENING..." message is displayed at OIU-12-105B while the port is opening. Verify that a "OPEN PORT" message is displayed at OIU-12-105B after the port is open. Verify that the weight recorded with the port open does not fall below the "Lift Table Weight Setpoint" limit listed on the "PORT DO-07-201 MENU" screen.	✓	✓	Ky
51	Press the "MAIN MENU" button at OIU-12-105B to return to the "LLW RWM GLOVEBOX MAIN MENU" screen.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		Ky
Test Case 13027A-87.07 Complete					

TEST PROCEDURE STEPS (13027A-87)				EXPECTED OUTPUT		Pass	Fail	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202								
Attempt To Control Lift Table While AGV/PANEL Switch Set to "AGV"								
1	Activate the lift table "RAISE" and "LOWER" pushbuttons at the lift table local control pedestal (107-PC-09-201E) to attempt to raise and lower the lift table. Because the "AGV/PANEL" switch is turned to the "AGV" position, the lift table should not raise or lower.	Verify that activating the "RAISE" and "LOWER" pushbuttons has no effect on the lift table.	✓					Kg
2	Activate the lift table "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201E) to attempt to activate the lift table roller conveyor. Because the "AGV/PANEL" switch is turned to the "AGV" position, the lift table roller conveyor should not activate.	Verify that activating the "FORWARD" and "REVERSE" pushbuttons has no effect on the lift table.	✓					Kg
3	Set the Lift Table Local Control Pedestal AGV/PANEL switch (09-HS-229D) to "PANEL" to allow an operator to activate and control (via the PCS) the lift table (107-LT-09-201E).	Verify that the lift table AGV/PANEL switch is switched to the "PANEL" position (to allow operator to control the lift table from the "PANEL").	✓					Kg

Step #	TEST PROCEDURE STEPS (13027A-57)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-57.03 MATE DRUM (TO 208 LITER (55 GALLON)) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Attempt To Open Port Without Drum Present					
4	Press the "PORT DO-07-202 MENU" button from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B. NOTE: The selection of this menu should cause the PCS to check the status of position switch 09-ZS-229E to determine if an empty drum is present at the AGV end of the lift table and check the status of position switch 09-ZS-229G to determine if the lift table is at AGV height. Because the lift table is not at AGV height and no drum is present, OIU-12-105B should display a "NO DRUM AT LIFT TABLE" message. <i>Status Bit. N31: 94/12</i>	Verify that the "PORT DO-07-202 MENU" screen is displayed. ✓ Verify that OIU-12-105B displays the "NO DRUM AT LIFT TABLE" message. ✓ Verify that port 107-DO-07-202 does not open. ✓	✓		Kgc
5	Press the "OPEN PORT" button from the "PORT DO-07-202 MENU" at OIU-12-105B. Because a drum is not mated to the port, the port should not open.	Verify that port 107-DO-07-202 does not open. ✓	✓		Kgc
Examine "No Drum At Lift Table" Interlock					
6	Confirm that the Entry/Exit Port (107-DO-07-202) door is in a horizontal position covering the port. If the port door is rotated up, energize solenoid 07-FEV-910K/C (Close) to move the port door to its horizontal position.	Visually verify that port door is in a horizontal position covering the port. ✓	✓		Kgc
7	Confirm that the port door is closed. If the port door is not closed, energize solenoid 07-FEV-910O/C (Close) to close the port door.	Visually verify that port door is lowered to its closed position. ✓	✓		Kgc
8	Confirm that the port door is locked. If the port door is not locked, energize solenoid 07-FEV-910I/L (Lock) to fully extend locking cylinders to lock port door.	Visually verify that port door is locked. ✓	✓		Kgc
9	Confirm that vacuum is not present in the Drum Lid Vacuum System (for Drum Entry/Exit Port 107-DO-07-202). If vacuum exists in the system, de-energize the vacuum generation solenoid valve 07-FEV-910I (No vacuum) and briefly energize the vacuum isolation solenoid 07-FEV-910G to release any residual vacuum. Pressure switch 07-PS-900 should not be activated, indicating that vacuum is not present.	Verify that pressure switch 07-PS-900 is not activated. ✓	✓		Kgc

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
10	Confirm that the HVAC Centering Device for Drum Entry/Exit Port 107-DO-07-202 is retracted.	Visually verify that the HVAC Centering Device for Drum Entry/Exit Port 107-DO-07-202 is retracted.	✓		Kg
11	NOTE: The Entry/Exit Port Lift Table, (107-LT-09-201E) should have been placed in its fully lowered position during test setup. Place the 208 liter (55 gallon) waste drum without band clamp on the LLW RWM 208 liter (55 gallon) Entry/Exit Port Lift Table, (107-LT-09-201E). The drum should be placed at the AGV end of the lift table. The "AGV END" indicator (09-ZL-229A) on the Lift Table Control Pedestal (107-PC-09-201E) should be illuminated, indicating that a drum is positioned at the AGV end of the lift table.	Verify that the drum without band clamp has been placed on the LLW RWM Glovebox 208 liter (55 gallon) Exit Port lift table. Verify that the "AGV END" indicator (09-ZL-229A) is illuminated.	✓		Kg
12	Examine the "PORT DO-07-202 MENU" screen at OIU-12-105B. NOTE: The PCS should continue to check the status of the "Drum at end of Conveyor" position switch (09-ZS-229E) to determine if an empty drum is present at the AGV end of the lift table and check the status of the "AGV Mating Height" position switch (09-ZS-229G) to determine if the lift table is at AGV height. Because a drum is present but the lift table is not at AGV height, OIU-12-105B should display a "NO DRUM AT LIFT TABLE" message.	Verify that OIU-12-105B displays the "NO DRUM AT LIFT TABLE" message.	✓		Kg
13	Activate the lift table "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201E) to raise the lift table to AGV Height. The lift table at "AGV Height" indicator (09-ZL-229E) on the Lift Table Control Pedestal (107-PC-09-201E) should be illuminated, indicating that the lift table is at AGV height.	Visually Verify that the LLW Process Entry Glovebox Lift Table is at AGV height. Verify that the lift table "AGV Height" indicator (09-ZL-229E) is illuminated.	✓		Kg

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
14	Examine the "PORT DO-07-202 MENU" screen at OIU-12-105B. <i>Force Status Bit N31: 94/12</i> Because a drum is present and the lift table is at AGV height, OIU-12-105B should display a "DRUM AT LIFT TABLE" message.	Verify that OIU-12-105B displays the "DRUM AT LIFT TABLE" message.	✓		KAC

Step #	TEST PROCEDURE STEPS (1302/A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 1302/A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Examine Lift Table "Down Overtravel" Alarm					
15	Manually activate the "Down Overtravel" position switch (09-ZS-229C) to simulate that lift table (107-LT-09-201E) has been lowered below its normal travel height. The "DOWN OVERTRAVEL" status indicator (09-ZL-229C) at the Lift Table Local Control Pedestal (107-PC-09-201E) should be illuminated, indicating that the "Down Overtravel" position switch (09-ZS-229C) has been activated.	Verify that the "Down Overtravel" position switch (09-ZS-229C) is briefly activated. Verify that the "DOWN OVERTRAVEL" indicator (09-ZL-229C) is illuminated. Verify that the lift table does not lower.	✓		Kp
16	Activate the lift table "LOWER" pushbuttons at the lift table local control pedestal (107-PC-09-201E) to attempt energize lift table motor 107-LT-09-201E/M1. Because the lift table overtravel switch is activated, the lift table should not lower.	Verify that the lift table does not lower.	✓		Kp
17	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201E) Down Overtravel" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201E) Down Overtravel" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201E) Down Overtravel" alarm is displayed.	✓		Kp

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87-08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
18	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201E) Down Overtravel" alarm is displayed. Verify that the steady yellow alarm message has changed to green-- <i>Cleared 11/10/07</i> Verify that the "Lift Table (201E) Down Overtravel" alarm is clear. Verify that the "DOWN OVERTRAVEL" status indicator (09-ZL-229C) is not illuminated.	✓	✓	Kpe
19	Manually reset the "Down Overtravel" position switch (09-ZS-229C) to indicate that the lift table (107-LT-09-201E) is positioned within its normal vertical travel range. Resetting the "Down Overtravel" position switch (09-ZS-229C) should cause the "Lift Table (201E) Down Overtravel" alarm to clear. The "DOWN OVERTRAVEL" status indicator (09-ZL-229C) at the Lift Table Local Control Pedestal (107-PC-09-201F) should not be illuminated, indicating that the "Down Overtravel" position switch (09-ZS-229C) is not activated.	Verify that the lift table (107-LT-09-201E) is positioned within its normal vertical travel range. Resetting the "Down Overtravel" position switch (09-ZS-229C) should cause the "Lift Table (201E) Down Overtravel" alarm to clear. The "DOWN OVERTRAVEL" status indicator (09-ZL-229C) at the Lift Table Local Control Pedestal (107-PC-09-201F) should not be illuminated, indicating that the "Down Overtravel" position switch (09-ZS-229C) is not activated.	✓	✓	Kpe
20	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU".	Verify that the "PORT DO-07-202 MENU" is displayed with a "DRUM AT LIFT TABLE" message.	✓	✓	Kgz

TEST PROCEDURE STEPS (13027A-87)		EXPECTED OUTPUT		Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202						
Examine Lift Table "Up Overtravel" Alarm						
21	Manually activate the "Up Overtravel" position switch (09-ZS-229D) to simulate that lift table (107-LT-09-201E) has been raised above its normal travel height.	Verify that "Up Overtravel" position switch (09-ZS-229D) is activated.	✓			KJC
22	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table 201F Up Overtravel" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table 201F Up Overtravel" alarm should be displayed on this screen. Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table 201F Up Overtravel" alarm is displayed. Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table 201F Up Overtravel" alarm is displayed on this screen.	✓	✓		KJC
23	Activate the lift table "RAISE" pushbuttons at the lift table local control pedestal (107-PC-09-201E) to attempt to energize lift table motor 107-LT-09-201E/M1. Because the lift table overtravel switch is activated, the lift table should not rise.	Verify that the lift table does not rise.	✓			KJC

Step #	TEST PROCEDURE STEPS (13027A-37)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-37.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
25	Manually reset the "Up Overtravel" position switch (09-ZS-229D) to indicate that lift table 107-LT-09-201E is positioned within its normal vertical travel range. Resetting the "Up Overtravel" position switch (09-ZS-229D) should cause the "Lift Table 201F Up Overtravel" alarm to clear. Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that lift table "Up Overtravel" switch (09-ZS-229D) has bee reset. Verify that the "Lift Table 201F Up Overtravel" alarm is clear. Verify that the "PORT DO-07-202 MENU" is displayed.	✓	✓	Kjg
			✓	✓	Kjg
			✓	✓	Kjg

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (65 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Examine Lift Table "Rope Switch Pulled" Alarm					
26	Pull the Lift Table (107-LT-09-201E) Rope Switches to disable all lift table operations. Press all pushbuttons on the Lift Table Local Control Pedestal (107-PC-09-201E) in both "Normal" and "Maintenance" modes (Use Lift Table Local Control Pedestal M/O/N switch to switch between operating modes). Because the rope switches have been pulled, pressing the buttons should have no effect on the lift table. Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201E) Rope Sw. Pulled" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201E) Rope Sw. Pulled" alarm should be displayed on this screen. Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the rope switches have been pulled. Verify that pressing the Lift Table Local Control Pedestal pushbuttons has no effect on the lift table. Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201E) Rope Sw. Pulled" alarm is displayed. Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201E) Rope Sw. Pulled" alarm is displayed on this screen.	✓	✓	KP
27			✓	✓	KP
			✓	✓	KP
			✓	✓	KP
28			✓	✓	KP
			✓	✓	KP
			✓	✓	KP

Step #	TEST PROCEDURE STEPS (13027A-37)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT (07-DO-07-202)					
29	Manually reset the rope switches to allow normal lift table operation. Resetting the Lift Table Rope Switches (09-XS-229A/B) should cause the "Lift Table (201E) Rope Sw. Pulled" alarm to clear.	Verify that the Lift Table rope switches have been reset. Verify that the "Lift Table (201E) Rope Sw. Pulled" alarm is clear.	✓		Kp
30	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	✓		Kg

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.03 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Examine Lift Table "Forward" Interlock					
31	Activate the "FORWARD" pushbutton at the lift table local control pedestal (107-PC-09-201E) to energize the lift table conveyor motor forward (107-LT-09-201E/M2). Because the lift-ratble is not lowered, as indicated by position switch 09-ZS-229C, the "FORWARD" pushbutton should be disabled by the PCS. ERRORNEOUS STEP (FOR DO-202) KY 11/10/07	Verify that activating the "FORWARD" pushbutton has no effect on the lift table.	✓		Kye 9/18/07
32	At lift table control pedestal 107-PC-09-201E place the "M/O/N" switch to "NORMAL"	Verify "M/O/N" switch is set to "NORMAL".	✓		Kye
33	Force AGV End of Conveyor Bit "ON". ERRORNEOUS STEP (FOR DO-202) KY 11/10/07	Verify AGV End of Conveyor Bit "ON".	✓		Kye 9/18/07
34	Activate the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201B) as needed to lower the lift table to its lowered position below AGV height. The "DOWN OVERTRAVEL" indicator at the Lift Table Local Control Pedestal 09-ZL-229C should not be illuminated, indicating that the lift-ratble has not exceeded its lower travel limit. KY 11/10/07	Visually confirm that the lift table is lowered below AGV height. Verify that the "DOWN OVERTRAVEL" indicator (09-ZL-229C) is not illuminated.	✓		Kye 9/18/07
35	Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201E) to energize the lift table conveyor motor reverse (107-LT-09-201E/M2). The lift table conveyor motor should de-energize when the drum breaks the light beam at the AGV end. -- ASSUMES DRUM IS NOT ALREADY AT AGV END. ERRORNEOUS STEP (FOR DO-202) KY 11/10/07	Verify that the conveyor motor de-energizes. (11/10/07)	✓		Kye

Step #	TEST PROCEDURE STEPS (13027A-37)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-37.03 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Examine Lift Table "Conveyor Forward Failed" Alarm					
36	NOTE: This step will be used to simulate a power failure at the lift table. The 480 volt lift table local disconnect will be opened during drum transfer under the glovebox port. Activate the "FORWARD" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201E) to energize the lift table conveyor motor forward (107-LT-09-201E/M2). After drum has moved approximately one foot, open the 480 volt lift table disconnect to remove power from the lift table. The roller conveyor should stop. After approximately 10 seconds, close the 480 volt lift table disconnect to restore power to the lift table. The roller conveyor should not start up again after power is restored.	Verify that the drum is moving forward. Verify that the lift table roller conveyors have stopped and remain stopped.	✓	✓	KJL
37	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201E) Conveyor Fwd Failed" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201E) Conveyor Fwd Failed" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201E) Conveyor Fwd Failed" alarm is displayed.	✓	✓	KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
38	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201E) Conveyor Fwd Failed" alarm is displayed on this screen.	✓	✓	Kj
39	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed and the screen status displays "SEQUENCE FAILED".	✓		Kj

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202 Examine Lift Table "Failed To Raise" Alarm					
NOTE: Interlocks: 1. Drum is not under the port (position switch ZS-229F). 2. The drum centering devices are not retracted (positions switches ZSO-914A & B). 3. The port HVAC control seal is not deflated (pressure switch PS-916).					
The lift table raise function will be attempted until all 4 conditions have been met, being restored 1 at a time.					
40	The drum should be positioned between the AGV end and the DRUM UNDER PORT end of the lift table. Neither the "AGV END" or the "DRUM UNDER PORT" indicators on the lift table control pedestal should be illuminated.	Verify that neither the "AGV END" or the "DRUM UNDER PORT" indicators are illuminated.	✓		Kf
41	Force the status of HVAC seal pressure switch 07-PS-916 register PS916 (Entry/Exit Port 107-DO-07-202) activated to indicate that the HVAC seal remains inflated. Record the forced register status in the space provided below. Register Forced Status Method of Confirmation PS916 - 1 I: 32/10	Verify that register PS916 is forced activated. Verify that the register status is recorded in the space(s) provided.	✓		Kf
42	Force the status of the drum centering device retracted position switch (07-ZSO-914A and 07-ZSO-914B) registers ZSO914A and ZSO914B (Entry/Exit Port 107-DO-07-202) to not activated to indicate that the drum centering device is not retracted. Record the forced register status in the spaces provided below. Register Forced Status Method of Confirmation ZSO914A 0 I: 32/07 ZSO914B 0 I: 32/13	Verify that registers ZSO914A and ZSO914B are forced not activated. Verify that the register status is recorded in the spaces provided.	✓		Kf
43	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201E) to attempt to energize lift table motor (107-LT-09-201E/M1).	Verify that the lift table does not rise.	✓		Kf

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (65 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
44	Activate the "FORWARD" pushbutton at the lift table local control pedestal (107-PC-09-201E) to energize the lift table conveyor motor forward (107-LT-09-201E/M2). The PCS should de-energize the motor when the drum is centered the Entry/Exit Port (107-DO-07-202). The "DRUM UNDER PORT" Status indicator (09-ZS-229B) at the Lift Table Local Control Pedestal should be illuminated, indicating that the drum is centered under the port.	Verify that the drum is centered under the Entry/Exit Port. Verify that the DRUM UNDER PORT* Status indicator (09-ZS-229B) is illuminated.	✓		KP
45	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201E) to attempt to energize lift table motor (107-LT-09-201E/M1).	Verify that the lift table does not rise.	✓		KP
46	Unforce the status of the HVAC seal pressure switch 07-PS-916 register PS916 (Entry/Exit Port 107-DO-07-202) to allow this switch to indicate that the HVAC seal is deflated. Record the unforced register status in the space provided below. Unforced PS916 Register Status: <u>1 : 32/10</u>	Verify that register PS916 is unforced. Verify that the register status is recorded in the space provided.	✓		KP
47	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201E) to attempt to energize lift table motor (107-LT-09-201E/M1).	Verify that the lift table does not rise.	✓		KP
48	Unforce the status of the drum centering device position switch (07-ZSO-914A and 07-ZSO-914B) registers ZSO914A and ZSO914B (Entry/Exit Port 107-DO-07-202) to allow these switches to indicate that the drum centering device is retracted. Record the unforced register status in the space provided below. Unforced ZSO914A Register Status: <u>1</u> Unforced ZSO914B Register Status: <u>1</u>	Verify that registers ZSO914A and ZSO914B are unforced. Verify that the register status is recorded in the space(s) provided.	✓		KP
49	Change LT 201E "Failed to Raise" TD from current value to <u>5</u> sec. Record Register Contents. TD Register: <u>T4-113</u> Register Contents: <u>120</u>	Verify LT 201E TD is set to <u>5</u> sec. and record register contents. <u>1 KP</u>	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✗	Witness (initial)
TEST CASE 13027A-87.03 MALE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
50	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201E) to energize the lift table conveyor motor (107-LT-09-201E/M1) to raise the lift table. Because a drum is present under the Entry/Exit Port, as indicated by position switch 09-ZS-229F, the "RAISE" pushbutton should be enabled by the PCS and the drum should rise to the "Drum Centering" position. Record the "Drum Centering" position height in the space provided below: Drum Centering Height: <u>39 3/8" 39 1/2" 41 1/2"</u> Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201E) Failed to Raise" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201E) Failed to Raise" alarm should be displayed on this screen.	Verify that the drum rises to the "Drum Centering" Position.	✓ ✓ ✓	✓ ✓ ✓	KJc
51	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201E) Failed to Raise" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201E) Failed to Raise" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "ACTIVE ALARMS" screen with an active "Lift Table (201E) Failed to Raise" alarm is displayed.	✓ ✓ ✓	✓ ✓ ✓	KJc KJc KJc
52	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201E) Failed to Raise" alarm is displayed on this screen.	✓ ✓ ✓	✓ ✓ ✓	KJc KJc KJc

Sep #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
	TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107:DO-07-202				
53 C2-C	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	✓ 11/10/11		KP
54 C2-D	Restore Register T4:113 to value recorded in Step 49.	Verify that Register T4:113 is set to the correct value.	✓ 11/10/11		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Attempt To Open Port Without Manipulator Parked					
55	NOTE: The manipulator serves as an interlock for Entry/Exit Port operation. When the manipulator is not at the park position, the Entry/Exit Port should not be able to open. The manipulator is initially slightly displaced from the park position to allow this interlock to be tested. Place the LLW RWM Waste Manipulator (107-EM-07-201) approximately one foot from park position 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is approximately one foot away park position 2 with both arms parked.	✓		KP
56	Press the "OPEN PORT" button from the "PORT DO-07-202 MENU" screen at OIU-12-105B. Because the manipulator is not parked, the lift table should not raise the drum and the port (107-DO-07-202) should not open.	Verify that the lift table does not rise. Verify that the port does not open.	✓		KP
57	Place the LLW RWM Waste Manipulator (107-EM-07-201) at park position 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is at park position 2 with both arms parked.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Examine "Loss Of Vacuum On Lid" Alarm					
58	CAUTION: The following sequence of test procedure steps involve automatic port door opening, controlled by LCU 102 (Referred to as the "PCS" in this test procedure). These test procedure steps should be carefully reviewed to permit rapid verification of test conditions during the automatic port opening sequence.	Verify that the remaining test procedure steps in this test case are carefully reviewed prior to completing this test case.	✓		KP
59	NOTE: If the "DOOR IN POSITION" switch 07-ZS-900B register is not activated during the drum port opening sequence, an error message should be displayed at the OIU. Forcing this switch not activated allows this error message to be tested. Force register ZS900B to indicate that the "DOOR IN POSITION" switch 07-ZS-900B is not activated. Record the forced status of this register in the space provided below. <u>Register Forced Status</u> <u>Method of Confirmation</u> ZS900B 0 I: 31/14	Verify that register ZS900B is forced to indicate that switch 07-ZS-900B is not activated. Verify that the register status is recorded in the space(s) provided.	✓		KP
60	NOTE: If the "DRUM PORT ROTATED" position switch register is not activated during the drum port opening sequence, an error message should be displayed at the OIU. Forcing this switch not activated allows this error message to be tested. Force register ZSO909 to indicate that the "DRUM PORT ROTATED" position switch 07-ZSO-909 is not activated. Record the forced status of this register in the space provided below. <u>Register Forced Status</u> <u>Method of Confirmation</u> ZSO909 0 I: 30/13	Verify that register ZSO909 is forced to indicate that the "DRUM PORT ROTATED" position switch 07-ZSO-909 is not activated. Verify that the register status is recorded in the space provided.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT (107-DO-07-202)					
61	NOTE: If the "SYSTEM ESTABLISHED ADEQUATE VACUUM" pressure switch register is not activated during the drum port opening sequence, an error message should be displayed at the OIU. Forcing this switch not activated allows this error message to be tested. Force register PS900 to indicate that the "SYSTEM ESTABLISHED ADEQUATE VACUUM" pressure switch 07-PS-900 is not activated. Record the forced status of this register in the space provided below. Register Forced Status Method of Confirmation PS900 0 I:30/10	Verify that register PS900 is forced to indicate that the "SYSTEM ESTABLISHED ADEQUATE VACUUM" pressure switch 07-PS-900 is not activated. Verify that the register status is recorded in the space provided.	✓		KJ
62	Press the "OPEN PORT" button from the "PORT DO-07-202 MENU" screen at OIU-12-105B. The PCS should display a "PORT OPENING..." message at OIU-12-105B while the port is opening. The PCS should automatically energize and hold 07-FEV-324A, activating the centering clamps around the drum.	Verify that "PORT OPENING..." message is displayed. Verify that the drum centering clamps extend, centering the drum under the port.	✓		KJ
63	The PCS should automatically energize lift table motor (107-LT-09-201E/M1) to slowly raise the lift table until the drum activates position switch 07-ZS-907, indicating that the drum is in position to begin the port opening sequence.	Verify that the lift table rises and then stops.	✓		KJ
64	The PCS should energize and hold solenoid valve 07-FEV-910G. Energizing this isolation valve allows vacuum to be applied to the drum lid vacuum system. The PCS should then energize solenoid valve 07-FEV-910I/V (Vacuum) creating vacuum at the Drum Entry/Exit Port (107-DO-07-202). Because pressure switch 07-PS-900 is not activated, the drum port opening sequence should stop. Wait 2 minutes to confirm that the HVAC seal does not inflate, indicating that the drum port opening sequence has stopped.	Verify that the HVAC seal does not inflate during the 2 minute time period, indicating that the drum port opening sequence has stopped.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.03 MATE DRUM TO 208 LITER (53 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
65	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Loss of Vacuum on Lid" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Loss of Vacuum on Lid" alarm should be displayed on this screen. Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Loss of Vacuum on Lid" alarm is displayed. Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Loss of Vacuum on Lid" alarm is displayed on this screen.	✓		Kjk
66	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Loss of Vacuum on Lid" alarm is displayed on this screen.	✓		Kjk
67	NOTE: The PCS should continue check the status of pressure switch 07-PS-900. Unforce register PS900 status to permit pressure switch 07-PS-900 to indicate whether vacuum exists in the lid vacuum system. Record the unforced register status in the space provided below: Unforced PS900 Register Status: _____	Verify that pressure switch 07-PS-900 indicates vacuum exists between the port door and the drum lid. Verify that the register status is recorded in the space provided. Verify that the "PORT DO-07-202 MENU" is displayed.	✓		Kjk
68	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-01U-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	✓		Kjk

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
69	Because register PS900 status has been unfurced to permit pressure switch 07-PS-900 to indicate whether vacuum exists in the lid vacuum system, and the "LOSS OF VACUUM" alarm has been cleared, the drum port opening sequence should continue. The PCS should de-energize isolation solenoid 07-FPV-910G to close the vacuum isolation valve so that vacuum is retained between the port door and the drum lid.	Verify that the drum port opening sequence continues.	✓		KJL
		If possible, verify that the vacuum isolation solenoid valve 07-BEX-910G is de-energized.	✓		KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202 Examine "Door In Position" and "Door Rotated" Interlocks					
70	The PCS should check the status of pressure switch 07-PS-900. If 07-PS-900 indicates that adequate vacuum is present, the PCS should de-energize 07-FEV-910I/V.	If possible, verify that the vacuum generation solenoid valve 07-FEV-910I is de-energized.	✓		K/P
71	The PCS should energize solenoid valve 07-FEV-325A to inflate the HVAC Seal for Drum Entry/Exit Port 107-DO-07-202.	Visually verify that the HVAC Seal for Drum Entry/Exit Port 107-DO-07-202 is inflated.	✓		K/P
72	The PCS should briefly energize solenoid valves 07-FEV-913C and 07-FEV-913D (Vent) to release pressure on the port door open/close cylinders. This allows the cylinders to move freely and should release any residual pressure on the port door.	If possible, verify that solenoid valves 07-FEV-913C and 07-FEV-913D are briefly energized to release pressure on the port door open/close cylinders.	✓		K/P
73	The PCS should pulse energize solenoid 07-FEV-910I/UL (Unlock) to fully retract the port door locking cylinders.	Visually verify that both port door locking cylinders are fully retracted.	✓		K/P
74	The PCS should activate the lift table servo motor (107-LT-09-201E/M1) to raise the lift table, drum, and port door up until the port door is raised to the "DOOR IN POSITION" height. Because position switch 07-ZS-900B (Door In Position) is forced not activated, the drum port opening sequence should stop. Wait 2 minutes to confirm that the port door does not rise to the "Open" position, indicating that the drum port opening sequence has stopped.	Visually verify that the lift table rises causing the drum to lift the port door to the "Door in Position" height. Verify that the port door does not rise to the "Open" position during the 2 minute time period, indicating that the drum port opening sequence has stopped.	✓		K/P

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
75	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "DOOR IN POSITION NOT VERIFIED" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "DOOR IN POSITION NOT VERIFIED" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "DOOR IN POSITION NOT VERIFIED" alarm is displayed.	✓	✓	KP
76	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "DOOR IN POSITION NOT VERIFIED" alarm is displayed on this screen.	✓	✓	KP
77	Unforce register ZS900B status to permit position switch 07-ZS-900B to indicate that the port door is raised to the "DOOR IN POSITION" height. Record the unforced register status in the space provided below: Unforced ZS900B Register Status: _____ The PCS should continue check the status of position switch 07-ZS-900B.	Verify that position switch 07-ZS-900B indicates that the port door is raised to the "DOOR IN POSITION" height	✓	✓	KP
78	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-01U-12-105B.	Verify that the register status is recorded in the space provided. Verify that the "PORT DO-07-202 MENU" is displayed.	✓	✓	KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✗	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
79	Because register ZS90B status has been unfurced to permit position switch 07-ZS-900B to indicate that the port door has reached the "DOOR IN POSITION" height and the "SEQUENCE FAILED" alarm has been cleared, the drum port opening sequence should continue. The PCS should pulse energize solenoid valve 07-FEV-9100/O (Open) to pressurize the port door open cylinders to vertically raise the door to the "open" position. <i>The ZS 900C activates, then the port opens by itself, retake the door to the open position</i>	Verify that the drum port opening sequence continues. Visually verify that the port door rises to the "open" position.	✓	✓	Kye
80	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "DO-07-202 Failed to Open" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "DO-07-202 Failed to Open" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Port DO-07-202 Failed to Open" alarm is displayed.	✓	✓	Kye
81	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "DO-07-202 Failed to Open" alarm is displayed on this screen.	✓	✓	Kye

Sep #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.08 MATE DRUM TO 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202					
Open 208 Liter (55 Gallon) Entry/Exit Port DO-07-202					
82	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	✓		Kp
83	Unforce register ZSO909 status to permit position switch 07-ZSO-909 to indicate that the port door is rotated open. Record the unforced register status in the space provided below: Unforced ZSO909 Register Status: _____ A "PORT OPEN" message should be displayed at OIU-12-105B.	Verify that the register status is recorded in the space provided.	✓		Kp
84	The drum lid should remain attached to the port door.	Verify that a "PORT OPEN" message is displayed.	✓		Kp
85	Press the "MAIN MENU" button at OIU-12-105B to return to the Main Menu.	Verify that the drum lid remains attached to the port door.	✓		Kp
		Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		Kp
Test Case 13027A-87.08 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
Attempt To Control Lift Table While AGV/PANEL Switch Set to "AGV"					
1	Activate the lift table "RAISE" and "LOWER" pushbuttons at the lift table local control pedestal (107-PC-09-201D) to attempt to raise and lower the lift table. Because the "AGV/PANEL" switch is turned to the "AGV" position, the lift table should not raise or lower.	Verify that activating the "RAISE" and "LOWER" pushbuttons has no effect on the lift table.	✓		KD
2	Activate the lift table "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201D) to attempt to activate the lift table roller conveyor. Because the "AGV/PANEL" switch is turned to the "AGV" position, the lift table roller conveyor should not activate.	Verify that activating the "FORWARD" and "REVERSE" pushbuttons has no effect on the lift table.	✓		Kg
3	Set the Lift Table Local Control Pedestal AGV/PANEL switch (09-HS-227D) to "PANEL" to allow an operator to activate and control (via the PCS) the lift table (107-LT-09-201D).	Verify that the lift table AGV/PANEL switch is switched to the "PANEL" position (to allow operator to control the lift table from the "PANEL".	✓		Kg

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 Attempt To Open Port Without Drum Present					
4	Press the "PORT DO-07-203 MENU" button from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B. NOTE: The selection of this menu should cause the PCS to check the status of position switch 09-ZS-227E to determine if an empty drum is present at the AGV and of the lift table and check the status of position switch 09-ZS-227G to determine if the lift table is at AGV height. Because the lift table is not at AGV height and no drum is present, OIU-12-105B should display a "NO DRUM AT LIFT TABLE" message. <i>AGV status bit not set. Status bit 11/31 82/12</i> <i>ERRONEOUS STEP 11/10/07</i>	Verify that the "PORT DO-07-203 MENU" screen is displayed. Verify that OIU-12-105B displays the "NO DRUM AT LIFT TABLE" message. Verify that port 107-DO-07-203 does not open.	☒	☒	<i>11/10/07 KJC</i>
5	Press the "OPEN PORT" button from the "PORT DO-07-203 MENU" at OIU-12-105B. Because a drum is not mated to the port, the port should not open.		☒	☒	<i>KJC</i>

* Drum Lift table logic not defined as originally printed. Logic is for based on status bit. Status called above.
KJ 11/10/07

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒ Fail ☒	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 Examine "No Drum Air Lift Table" Interlock				
6	Confirm that the Entry/Exit Port (107-DO-07-203) door is in a horizontal position covering the port. If the port door is rotated up, energize solenoid 07-FEV-910H/C (Close) to move the port door to its horizontal position.	Visually verify that port door is in a horizontal position covering the port.	☒	KJL
7	Confirm that the port door is closed. If the port door is not closed, energize solenoid 07-FEV-910N/C (Close) to close the port door.	Visually verify that port door is lowered to its closed position.	☒	KJL
8	Confirm that the port door is locked. If the port door is not locked, energize solenoid 07-FEV-910E/L (Lock) to fully extend locking cylinders to lock port door.	Visually verify that port door is locked.	☒	KJL
9	Confirm that there is no vacuum present in the Drum Lid Vacuum System (for Drum Entry/Exit Port 107-DO-07-203). If vacuum exists in the system, de-energize the vacuum generation solenoid valve 07-FEV-910D (No pressure) and briefly energize the vacuum isolation solenoid 07-FEV-910F to release any residual vacuum. Pressure switch 07-PS-901 should not be activated, indicating that vacuum is not present.	Verify that pressure switch 07-PS-901 is not activated.	☒	KJL
10	Confirm that the HVAC Centering Device for Drum Entry/Exit Port 107-DO-07-203 is retracted.	Visually verify that the HVAC Centering Device for Drum Entry/Exit Port 107-DO-07-203 is retracted.	☒	KJL
11	NOTE: The Entry/Exit Port Lift Table, (107-LT-09-201D) should have been placed in its fully lowered position during test setup. Place the 322 liter (85 gallon) waste drum without band clamp on the LLW RWM 322 liter (85 gallon) Entry/Exit Port Lift Table, (107-LT-09-201D). The drum should be placed at the AGV end of the lift table. The "AGV END" indicator (09-ZL-227A) on the Lift Table Control Pedestal (107-PC-09-201D) should be illuminated, indicating that a drum is positioned at the AGV end of the lift table.	Verify that the drum without band clamp has been placed on the LLW RWM Glovebox 322 liter (85 gallon) Exit Port lift table. Verify that the "AGV END" indicator (09-ZL-227A) is illuminated.	☒	KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.09 MAITE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
12	Examine the "PORT DO-07-203 MENU" screen at OIU-12-105B. NOTE: The PCS should continue to check the status of the "Drum at end of Conveyor" position switch (09-ZS-227E) to determine if an empty drum is present at the AGV end of the lift table and check the status of the "AGV Mating Height" position switch (09-ZS-227G) to determine if the lift table is at AGV height. Because a drum is present but the lift table is not at AGV height, OIU-12-105B should display a "NO DRUM AT LIFT TABLE" message.	Verify that OIU-12-105B displays the "NO DRUM AT LIFT TABLE" message.	✓		KP
13	Activate the lift table "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201D) to raise the lift table to AGV Height. The lift table at "AGV Height" indicator (09-ZL-227E) on the Lift Table Control Pedestal (107-PC-09-201D) should be illuminated, indicating that the lift table is at AGV Height.	Visually Verify that the LLW Process Entry Glovebox Lift Table is at AGV height. Verify that the lift table at "AGV Height" indicator (09-ZL-227E) is illuminated.	✓		KP
14	Examine the "PORT DO-07-203 MENU" screen at OIU-12-105B. <i>Set status bit. N31 82/12</i> Because a drum is present and the lift table is at AGV height, OIU-12-105B should display a "DRUM AT LIFT TABLE" message.	Verify that OIU-12-105B displays the "DRUM AT LIFT TABLE" message.	✓		KP

Step #	TEST PROCEDURE STEPS (1302/A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 1302/A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
Examine Lift Table "Down Overtravel" Alarm					
15	Manually activate the "Down Overtravel" position switch (09-ZS-227C) to simulate that lift table (107-LT-09-201D) has been lowered below its normal travel height. The "DOWN OVERTRAVEL" status indicator (09-ZL-227C) at the Lift Table Local Control Pedestal (107-PC-09-201D) should be illuminated, indicating that the "Down Overtravel" position switch (09-ZS-227C) has been activated.	Verify that the "Down Overtravel" position switch (09-ZS-227C) is briefly activated. Verify that the "DOWN OVERTRAVEL" indicator (09-ZL-227C) remains illuminated.	✓		Kjk
16	Activate the lift table "LOWER" pushbuttons at the lift table local control pedestal (107-PC-09-201D) to attempt energize lift table motor 107-LT-09-201D/M1. Because the lift table overtravel switch is activated, the lift table should not lower and the Bagless Transfer Port should not be enabled.	Verify that the lift table does not lower.	✓		Kjk
17	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201D) Down Overtravel" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201D) Down Overtravel" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201D) Down Overtravel" alarm is displayed.	✓	✓	Kjk Kjk Kjk

Step #	TEST PROCEDURE STEPS (13027A-87) (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
18	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201D) Down Overtravel" alarm is displayed on this screen.	✓	✓	Kjz
19	Manually reset the "Down Overtravel" position switch (09-ZS-227C) to indicate that the lift table (107-LT-09-201D) is positioned within its normal vertical travel range. Resetting the "Down Overtravel" position switch (09-ZS-227C) should cause the "Lift Table (201D) Down Overtravel" alarm to clear. The "DOWN OVERTRAVEL" status indicator (09-ZL-227C) at the Lift Table Local Control Pedestal (107-PC-09-201D) should not be illuminated, indicating that the "Down Overtravel" position switch (09-ZS-227C) is not activated.	Verify that the steady yellow alarm message has changed to green. Verify that the "Lift Table (201D) Down Overtravel" alarm is clear. Verify that the "DOWN OVERTRAVEL" status indicator (09-ZL-227C) is not illuminated.	✓	✓	Kjz
20	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU".	Verify that the "PORT DO-07-203 MENU" is displayed with a "DRUM AT LIFT TABLE" message.	✓	✓	Kjz

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107/DO-07-203					
Examine Lift Table "Up Overtravel" Alarm					
21	Manually activate the "Up Overtravel" position switch (09-ZS-227D) to simulate that lift table (107-LT-09-201D) has been raised above its normal travel height.	Verify that "Up Overtravel" position switch (09-ZS-227D) has been activated.	✓		KPL
22	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table 201D Up Overtravel" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table 201D Up Overtravel" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table 201D Up Overtravel" alarm is displayed.	✓ ✓ ✓		KPL KPL KPL
23	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table 201D Up Overtravel" alarm is displayed on this screen.	✓ ✓ ✓		KPL KPL KPL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
24	Activate the lift table "RAISE" pushbuttons at the lift table local control pedestal (107-PC-09-201D) to attempt to energize lift table motor 107-LT-09-201D/M1. Because the lift table overtravel switch is activated, the lift table should not rise.	Verify that the lift table does not rise.	✓		KP
25	Manually reset the "Up Overtravel" position switch (09-ZS-227D) to indicate that lift table 107-LT-09-201D is positioned within its normal vertical travel range. Resetting the "Up Overtravel" position switch (09-ZS-227D) should cause the "Lift Table 201D Up Overtravel" alarm to clear. Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-105B.	Verify that lift table overtravel switch 09-ZS-227D is not activated, indicating that the lift table has not been raised past its travel limit. Verify that the "Lift Table 201D Up Overtravel" alarm is clear. Verify that the "PORT DO-07-203 MENU" is displayed.	✓	✓	KP
			✓		KP
			✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
Examine Lift Table "Rope Switch Pulled" Alarm					
26	Pull the Lift Table (107-LT-09-201D) Rope Switches to disable all lift table operations. Press all pushbuttons on the Lift Table Local Control Pedestal (107-PC-09-201D) in both "Normal" and "Maintenance" modes (Use Lift Table Local Control Pedestal M/O/N switch to switch between operating modes). Because the rope switches have been pulled, pressing the buttons should have no effect on the lift table.	Verify that the rope switches have been pulled. Verify that pressing the Lift Table Local Control Pedestal pushbuttons has no effect on the lift table.	✓ ✓	✓ ✓	Kp Kp
27	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201D) Rope Sw. Pulled" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201D) Rope Sw. Pulled" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201D) Rope Sw. Pulled" alarm is displayed.	✓ ✓ ✓	✓ ✓ ✓	Kp Kp Kp
28	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201D) Rope Sw. Pulled" alarm is displayed on this screen.	✓ ✓ ✓	✓ ✓ ✓	Kp Kp Kp

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
29	Manually reset the rope switches to allow normal lift table operation. Resetting the Lift Table Rope Switches (09-XS-227A/B) should cause the "Lift Table (201D) Rope Sw. Pulled" alarm to clear.	Verify that the Lift Table rope switches have been reset. Verify that the "Lift Table (201D) Rope Sw. Pulled" alarm is clear.	✓	✓	KJ
30	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at OIU-12-105B.	Verify that the "PORT DO-07-203 MENU" is displayed.	✓	✓	KJZ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (65 GALLON) DRUM ENTRY/EXIT PORT (07-DO-07-203)					
Examine Lift Table "Forward" Interlock					
31	Activate the "FORWARD" pushbutton at the lift table local control pedestal (107-PC-09-201D) to energize the lift table conveyor motor forward (107-LT-09-201D/M2).	Verify that activating the "FORWARD" pushbutton has no effect on the lift table.	✓		KP
32	Because the lift table is not lowered, as indicated by position switch 09-ZS-227C, the "FORWARD" pushbutton should be disabled by the PCS.				
32	At lift table control pedestal 107-PC-09-201D place the "M/O/N" switch to "NORMAL"	Verify "M/O/N" switch is set to "NORMAL".	✓		KP
33	Force AGV End of Conveyor Bit "ON". <i>ERRONEOUS STEP</i>	Verify AGV End of Conveyor Bit "ON"	✓		KP 10/18/97
34	Activate the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201D) as needed to lower the lift table to its lowered position below AGV height. <i>KA-11/14/97</i>	Visually confirm that the lift table is lowered below AGV height.	✓		KP
	The "DOWN OVERTRAVEL" indicator at the Lift Table Local Control Pedestal 09-ZL-227C should not be illuminated, indicating that the lift table has not exceeded its lower travel limit.	Verify that the "DOWN OVERTRAVEL" indicator (09-ZL-227C) is not illuminated.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 Examine Lift Table "Conveyor Forward Failed" Alarm					
35	Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201D) to energize the lift table conveyor motor reverse (107-LT-09-201D/M2). The lift table conveyor motor should de-energize when the drum breaks the light beam at the AGV end.	Verify that the conveyor motor should de-energize.	✓		K/p
36	NOTE: This step will be used to simulate a power failure at the lift table. The 480 volt lift table local disconnect will be opened during drum transfer under the glovebox port. Activate the "FORWARD" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201D) to energize the lift table conveyor motor forward (107-LT-09-201D/M2). After drum has moved approximately one foot, open the 480 volt lift table local disconnect to remove power from the lift table. The roller conveyor should stop. After approximately 10 seconds, close the 480 volt lift table local disconnect to restore power to the lift table. The roller conveyor should not start up again after power is restored.	Verify that the drum is not centered underneath the port.	✓		K/p
37	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201D) Conveyor Fwd Failed" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201D) Conveyor Fwd Failed" alarm should be displayed on this screen.	Verify that the lift table roller conveyors have stopped and remain stopped. Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201D) Conveyor Fwd Failed" alarm is displayed.	✓	✓	K/p

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
38	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201D) Conveyor Fwd Failed" alarm is displayed on this screen.	✓ ✓ ✓		Kp Kp Kp
39	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-103B.	Verify that the "PORT DO-07-203 MENU" is displayed and the screen status displays "Sequence failed".	✓		Kp

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.09 MA1E DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
Examine Lift Table "Failed To Raise" Alarm					
NOTE: The "Failed To Raise" Alarm can be generated is the following 3 conditions are not satisfied when the "RAISE" pushbutton is pressed on the Lift Table Control Pedestal:					
1. Drum is not under the port (position switch ZS-227F). 2. The drum centering devices are not retracted (positions switches ZSO-915A & B). 3. The port HVAC control seal is not deflated (pressure switch PS-917).					
The lift table raise function will be attempted until all 4 conditions have been met, being restored 1 at a time.					
40	The drum should be positioned between the AGV end and the DRUM UNDER PORT end of the lift table. Neither the "AGV END" or the "DRUM UNDER PORT" indicators on the lift table control pedestal should be illuminated.	Verify that neither the "AGV END" or the "DRUM UNDER PORT" indicators are illuminated.	☒		Kye
41	Force the status of HVAC seal pressure switch 07-PS-917 register PS91 (Entry/Exit Port 107-DO-07-203) activated to indicate that the HVAC seal remains inflated. Record the forced register status in the space provided below. <u>Register Forced Status</u> PS917 1 1:32/12 <u>Method of Confirmation</u>	Verify that register PS917 is forced activated.	☒		Kye
42	Force the status of the drum centering device retracted position switch (07-ZSO-915A and 07-ZSO-915B) registers ZSO915A and ZSO915B (Entry/Exit Port 107-DO-07-203) to not activated to indicate that the drum centering device is not retracted. Record the forced register status in the spaces provided below. <u>Register Forced Status</u> ZSO915A 0 1:32/11 ZSO915B 0 1:32/14 <u>Method of Confirmation</u>	Verify that the register status is recorded in the space(s) provided. Verify that registers ZSO915A and ZSO915B are forced not activated. Verify that the register status is recorded in the spaces provided.	☒		Kye
43	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201D) to attempt to energize lift table motor (107-LT-49-201D/M1).	Verify that the lift table does not rise.	☒		Kye

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
44	Activate the "FORWARD" pushbutton at the lift table local control pedestal (107-PC-09-201D) to energize the lift table conveyor motor forward (107-LT-09-201D/M2). The PCS should de-energize the motor when the drum is centered the Entry/Exit Port (107-DO-07-203). The "DRUM UNDER PORT" Status indicator (09-ZS-227B) at the Lift Table Local Control Pedestal should be illuminated, indicating that the drum is centered under the port.	Verify that the drum is centered under the Entry/Exit Port. Verify that the DRUM UNDER PORT" Status indicator (09-ZS-227B) is illuminated.	✓		KP
45	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201D) to attempt to energize lift table motor (107-LT-09-201D/M1).	Verify that the lift table does not rise.	✓		KP
46	Unforce the status of the HVAC seal pressure switch 07-PS-917 register PS917 (Entry/Exit Port 107-DO-07-203) to allow this switch to indicate that the HVAC seal is deflated. Record the unforced register status in the space provided below. Unforced PS917 Register Status: <u>12/12</u>	Verify that register PS917 is unforced. Verify that the register status is recorded in the space provided.	✓		KP
47	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201D) to attempt to energize lift table motor (107-LT-09-201D/M1).	Verify that the lift table does not rise.	✓		KP
48	Unforce the status of the drum centering device position switch (07-ZSO-915A and 07-ZSO-915B) registers ZSO915A and ZSO915B (Entry/Exit Port 107-DO-07-203) to allow these switches to indicate that the drum centering device is retracted. Record the unforced register status in the space provided below. Unforced ZSO915A Register Status: <u>1</u> Unforced ZSO915B Register Status: <u>1</u>	Verify that registers ZSO915A and ZSO915B are unforced. Verify that the register status is recorded in the space(s) provided.	✓		KP
49	Change LT 201D "Failed to Raise" TD from current value to 8 sec. Record register contents TD Register: <u>T4:117</u> Contents: <u>1 sec.</u>	Verify LT 201D TD is set to 8 sec. and record register contents. <u>8/1/12</u>	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT (107-DO-07-203)					
50	Activate the "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201D) to energize the lift table conveyor motor (107-LT-09-201D/M1) to raise the lift table. Because a drum is present under the Entry/Exit Port, as indicated by position switch 09-ZS-227F, the "RAISE" pushbutton should be enabled by the PCS and the drum should rise to the "Drum Centering" position. Record the "Drum Centering" position height in the space provided below: <u>Not recorded</u> <i>Kf 11/10/97</i> Drum Centering Height: <u>Not recorded</u>	Verify that the drum rises to the "Drum Centering" Position.	✓		<i>Kf</i>
51	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201D) Failed to Raise" alarm.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "ACTIVE ALARMS" screen with an active "Lift Table (201D) Failed to Raise" alarm is displayed.	✓		<i>Kf</i> <i>9/18/97</i>
52	Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201D) Failed to Raise" alarm should be displayed on this screen. Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201D) Failed to Raise" alarm is displayed on this screen.	✓		<i>Kf</i> <i>9/18/97</i>

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
53	TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (65 GALLON) DRUM ENTRY/EXIT PORT 107:DO-07-203	Verify that the "PORT DO-07-203 MENU" is displayed.	✓		SL 9/19/87
54	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-105B.	Verify Register T4:117 is set to the correct value.	✓		SL 9/19/87
55	Restore Register T4:117 to value recorded in Step 49.				

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 Attempt To Open Port Without Manipulator Parked					
55	NOTE: The manipulator serves as an interlock for Entry/Exit Port operation. When the manipulator is not at the park position, the Entry/Exit Port should not be able to open. The manipulator is initially slightly displaced from the park position to allow this interlock to be tested. Place the LLW RWM Waste Manipulator (107-EM-07-201) approximately one foot from park position (Closest to Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is approximately one foot away park position with both arms parked.	✓		KP
56	Press the "OPEN PORT" button from the "PORT DO-07-203 MENU" screen at OIU-12-105B. Because the manipulator is not parked, the lift table should not raise the drum and the port (107-DO-07-203) should not open.	Verify that the lift table does not rise.	✓		KP
57	Place the LLW RWM Waste Manipulator (107-EM-07-201) at park position (Closest to Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is at park position with both arms parked.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 Examine "Loss Of Vacuum On Lid" Alarm					
58	CAUTION: The following sequence of test procedure steps involve automatic port door opening, controlled by LCU 102 (Referred to as the "PCS" in this test procedure). These test procedure steps should be carefully reviewed to permit rapid verification of test conditions during the automatic port opening sequence.	Verify that the remaining test procedure steps in this test case are carefully reviewed prior to completing this test case.	✓		✓
59	NOTE: If the "DOOR IN POSITION" switch 07-ZS-912B register is not activated during the drum port opening sequence, an error message should be displayed at the OIU. Forcing this switch not activated allows this error message to be tested. Force register ZS912B to indicate that the "DOOR IN POSITION" switch 07-ZS-912B is not activated. Record the forced status of this register in the space provided below. <u>Register Forced Status</u> ZS912B <u>13/01 0</u> <u>Method of Confirmation</u> _____	Verify that register ZS912B is forced to indicate that switch 07-ZS-912B is not activated. Verify that the register status is recorded in the space(s) provided.	✓		✓
60	NOTE: If the "DRUM PORT ROTATED" position switch register is not activated during the drum port opening sequence, an error message should be displayed at the OIU. Forcing this switch not activated allows this error message to be tested. Force register ZSO911 to indicate that the "DRUM PORT ROTATED" position switch 07-ZSO-911 is not activated. Record the forced status of this register in the space provided below. <u>Register Forced Status</u> ZSO911 <u>13/01 0</u> <u>Method of Confirmation</u> _____	Verify that register ZSO911 is forced to indicate that the "DRUM PORT ROTATED" position switch 07-ZSO-911 is not activated. Verify that the register status is recorded in the space provided.	✓		✓

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
61	NOTE: If the "SYSTEM ESTABLISHED ADEQUATE VACUUM" pressure switch register is not activated during the drum port opening sequence, an error message should be displayed at the OIU. Forcing this switch not activated allows this error message to be tested. Force register PS901 to indicate that the "SYSTEM ESTABLISHED ADEQUATE VACUUM" pressure switch 07-PS-901 is not activated. Record the forced status of this register in the space provided below. Register Forced Status <u>0</u> Method of Confirmation <u>TS-20/14</u>	Verify that register PS901 is forced to indicate that the "SYSTEM ESTABLISHED ADEQUATE VACUUM" pressure switch 07-PS-901 is not activated. Verify that the register status is recorded in the space provided.	✓		Kp
62	Press the "OPEN PORT" button from the "PORT DO-07-203 MENU" screen at OIU-12-105B. The PCS should display a "PORT OPENING..." message at OIU-12-105B while the port is opening. The PCS should automatically energize and hold solenoid 07-FEV-324B, activating the centering clamps around the drum.	Verify that a "PORT OPENING..." message is displayed. Verify that the drum centering clamps extend, centering the drum under the port.	✓		Kp
63	The PCS should automatically energize lift table motor (107-LT-09-201D/M1) to slowly raise the lift table until the drum activates position switch 07-ZS-913, indicating that the drum is in position to begin the port opening sequence.	Verify that the lift table rises and then stops.	✓		Kp
64	The PCS should energize and hold solenoid valve 07-FEV-910F. Energizing this isolation valve allows vacuum to be applied to the drum lift vacuum system. The PCS should then energize solenoid valve 07-FEV-910D/V (Vacuum) creating vacuum at the Drum Entry/Exit Port (107-DO-07-203). Because pressure switch 07-PS-901 is not activated, the drum port opening sequence should stop. Wait 2 minutes to confirm that the HVAC seal does not inflate, indicating that the drum port opening sequence has stopped.	Verify that the HVAC seal does not inflate during the 2 minute time period, indicating that the drum port opening sequence has stopped.	✓	✓	Kp

see TC 87.09 8/16/17

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✗	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 372 LITER (63 GALLON) DRUM ENTRY/EXIT PORT 107-DO-703					
65	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Loss of Vacuum on Lid" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Loss of Vacuum on Lid" alarm should be displayed on this screen. Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Loss of Vacuum on Lid" alarm is displayed. Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Loss of Vacuum on Lid" alarm is displayed on this screen.	✓	✓	K/K
66			✓	✓	K/K
67	NOTE: The PCS should continue check the status of pressure switch 07-PS-901. Unforce register PS901 status to permit pressure switch 07-PS-901 to indicate whether vacuum exists in the lid vacuum system. Record the unforced register status in the space provided below: Unforced PS901 Register Status: _____	Verify that pressure switch 07-PS-901 indicates vacuum exists between the port door and the drum lid. Verify that the register status is recorded in the space provided. Verify that the "PORT DO-07-203 MENU" is displayed.	✓	✓	K/K
68	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-01U-12-105B.		✓	✓	K/K

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
69	TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 Because register PS901 status has been unforced to permit pressure switch 07-PS-901 to indicate whether vacuum exists in the lid vacuum system, and the "LOSS OF VACUUM" alarm has been cleared, the drum port opening sequence should continue. The PCS should de-energize isolation solenoid 07-FEV-910F to close the vacuum isolation valve so that vacuum is retained between the port door and the drum lid.	Verify that the drum port opening sequence continues. If possible, verify that the vacuum isolation solenoid valve 07-FEV-910F is de-energized.	✓	✓	KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (35 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 Examine "Door In Position" and "Door Retract" Interlocks					
70	The PCS should check the status of pressure switch 07-PS-901. If 07-PS-901 indicates that adequate vacuum is present, the PCS should de-energize 07-FEV-910D/V.	If possible, verify that the vacuum generation solenoid valve 07-FEV-910D is de-energized.	✓		KP
71	The PCS should energize solenoid valve 07-FEV-325B to inflate the HVAC Seal for Drum Entry/Exit Port 107-DO-07-203.	Visually verify that the HVAC Seal for Drum Entry/Exit Port 107-DO-07-203 is inflated.	✓		KP
72	The PCS should briefly energize solenoid valves 07-FEV-913A and 07-FEV-913B (Vent) to release pressure on the port door open/close cylinders. This allows the cylinders to move freely and should release any residual pressure on the port door.	If possible, verify that solenoid valves 07-FEV-913A and 07-FEV-913B are briefly energized to release pressure on the port door open/close cylinders.	✓		KP
73	The PCS should pulse energize solenoid 07-FEV-910E/U/L (Unlock) to fully retract the port door locking cylinders.	Visually verify that both port door locking cylinders are fully retracted.	✓		KP
74	The PCS should activate the lift table servo motor (107-LT-09-201D/M/L) to raise the lift table, drum, and port door up until the port door is raised to the "DOOR IN POSITION" height. Because position switch 07-ZS-912B (Door In Position) is forced not activated, the drum port opening sequence should stop. Wait 2 minutes to confirm that the port door does not rise to the "Open" position, indicating that the drum port opening sequence has stopped.	Visually verify that the lift table rises causing the drum to lift the port door to the "Door in Position" height. Verify that the port door does not rise to the "Open" position during the 2 minute time period, indicating that the drum port opening sequence has stopped.	✓		KP 9/10/77

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
75	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Door in Position not Verified" alarm. <i>PORT SPACE (PORT 203) DOOR IN POSITION</i> <i>NOT VERIFIED</i> <i>KF 11/10/97</i> Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Door in Position not Verified" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. ✓ Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. ✓ Verify that the "LOCAL ALARMS" screen with an active "Door in Position not Verified" alarm is displayed. ✓	✓	✓	<i>KF 9/16/97</i> <i>KF 9/16/97</i> <i>KF 9/16/97</i> <i>KF</i>
76	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). ✓ Verify that the selected alarm is acknowledged. ✓ Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Door in Position not Verified" alarm is displayed on this screen. ✓	✓	✓	<i>KF</i>
77	Unforce register ZS912B status to permit position switch 07-ZS-912B to indicate that the port door is raised to the "DOOR IN POSITION" height. Record the unforced register status in the space provided below: Unforced ZS912B Register Status: <u>OFF</u> The PCS should continue check the status of position switch 07-ZS-912B. Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-105B.	Verify that position switch 07-ZS-912B indicates that the port door is raised to the "DOOR IN POSITION" height ✓ Verify that the register status is recorded in the space provided. ✓ Verify that the "PORT DO-07-203 MENU" is displayed. ✓	✓	✓	<i>KF</i> <i>KF</i> <i>KF</i>

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
79	Because register ZS912B status has been unfurced to permit position switch 07-ZS-912B to indicate that the port door has reached the "DOOR IN POSITION" height and the "SEQUENCE FAILED" alarm has been cleared, the drum port opening sequence should continue. The PCS should pulse energize solenoid valve 07-FEV-910N/O (Open) to pressurize the port door open cylinders to vertically raise the door to the "open" position.	Verify that the drum port opening sequence continues. Visually verify that the port door rises to the "open" position.	✓		Kjc
80	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "DO-07-203 Failed to Open" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "DO-07-203 Failed to Open" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "DO-07-203 Failed to Open" alarm is displayed.	✓		Kjc
81	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "DO-07-203 Failed to Open" alarm is displayed on this screen.	✓		Kjc

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.09 MATE DRUM TO 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203					
Open 322 Liter (85 Gallon) Entry/Exit Port					
82	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-203 MENU" is displayed.	✓		K/R
83	Unforce register ZSO911 status to permit position switch 07-ZSO-911 to indicate that the port door is rotated open. Record the unforced register status in the space provided below: Unforced ZSO911 Register Status: <u>DN</u> A "PORT OPEN" message should be displayed at OIU-12-105B.	Verify that the register status is recorded in the space provided.	✓		K/R
		Verify that a "PORT OPEN" message is displayed.	✓		K/R
84	The drum lid should remain attached to the port door.	Verify that the drum lid remains attached to the port door.	✓		K/R
85	Press the "MAIN MENU" button at OIU-12-105B to return to the Main Menu.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		K/R
Test Case 13027A-87.09 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87:10 REMOVE TRANSFER STAND AND ITEMS FROM DRUM					
Remove Stand From Drum					
1	WARNING: The "MATE DRUM TO BAGLESS TRANSFER PORT" test case is a prerequisite for this test case. Do not perform this test case unless the pre-requisite test case has already been successfully completed.	Verify that the "MATE DRUM TO BAGLESS TRANSFER PORT" test case has already been successfully completed prior to running this test case.	✓		Kf
2	A Drath & Schrader drum should be mated to the Bagless Transfer Port (107-DO-07-201).	Verify that a Drath & Schrader drum is mated to the Bagless Transfer Port (107-DO-07-201).	✓		Kf
3	The Bagless Transfer Port door should be rotated completely open.	Verify that the Bagless Transfer Port is open.	✓		Kf
4	The non-compliant item transfer stand should be contained in the Drath & Schrader drum mated to the Bagless Transfer Port (107-DO-07-201).	Verify that the non-compliant item transfer stand is inside the Drath & Schrader drum.	✓		Kf
5	NOTE: The hoist pendant 107-PC-07-009A "PENDANT SELECT" switch should have been turned to the "PEND A" position during test procedure setup. This action should disable hoist pendant 107-PC-07-009B.	Verify that the "ENABLED" indicator for hoist pendant 107-PC-07-009B is NOT illuminated.	✓		Kf
6	Examine hoist pendant 107-PC-07-009B Activate the hoist pendant 107-PC-07-009B "LOWER" pushbutton to attempt to lower the hoist hook. Because hoist pendant 107-PC-07-009B is not enabled, the hoist hook should not lower.	Verify that the hoist hook does not move when the hoist pendant 107-PC-07-009B "LOWER" pushbutton is activated.	✓		Kf
7	NOTE: The hoist trolley should have been centered over the Bagless Transfer Port (107-DO-07-201), during test procedure setup. The "LEFT" indicator on the control pendant should be illuminated, indicating that the hoist is over the bagless transfer port. Activate the Trolley/Hoist Pendant 107-PC-07-009A "LOWER" pushbutton to lower the grapple assembly until it rests on the transfer stand.	Verify that the "LEFT" indicator on the control pendant is illuminated. Verify that the grapple assembly is resting on the transfer stand.	✓ ✓		Kf Kf

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87/10 REMOVE TRANSFER STAND AND ITEMS FROM DRUM					
8	Activate the Trolley/Hoist Pendant 107-PC-07-009A "RAISE" pushbutton to raise the hoist until the grapple assembly is verified to be firmly seated.	Verify that the grapple assembly hook is securely attached to the non-compliant item transfer stand	☒		KR
9	Activate the Trolley/Hoist Pendant 107-PC-07-009A "RAISE" pushbutton to raise the hoist with the non-compliant item transfer stand until the transfer stand is positioned at least one foot above all items in the transfer stand travel path.	Visually verify that the hoist with the non-compliant item transfer stand rise out of the drum. Verify that there is at least one foot (approximately) of travel clearance beneath the non-compliant item transfer stand along the entire length of the glovebox.	☒		KR
10	NOTE: The Test Operator can control Trolley speed by way of three (3) position Left and Right pushbuttons on the trolley/hoist Pendant. The operator should judge Trolley travel speed to ensure safe operation. Activate the Trolley/Hoist Pendant (107-PC-07-009A) Left/Right pushbuttons as needed to energize trolley motor 107-CR-07-201/M1 (Trolley Traverse Drive) in reverse so that the trolley SLOWLY travels the entire length of its travel path, and is positioned close to the 322 liter (85 gallon) Entry/Exit Port.	Verify that the trolley travels the entire length of the trolley travel path.	☒ ☒ KJW/10/20/20		KJW
11	Activate the Trolley/Hoist Pendant (107-PC-07-009A) Left/Right pushbuttons as needed to energize trolley motor 107-CR-07-201/M1 (Trolley Traverse Drive) forward so that the trolley SLOWLY moves to and is positioned over the 208 liter (55 gallon) Entry/Exit Port. (Port 202)	Verify that the trolley is positioned over the 208 liter (55 gallon) Entry/Exit Port. (Port 202)	☒		KJW
12	Activate the Trolley/Hoist Pendant (107-PC-07-009A) Left/Right pushbuttons as needed to energize trolley motor 107-CR-07-201/M1 (Trolley Traverse Drive) in reverse so that the trolley SLOWLY moves to and is positioned adjacent to the 322 liter (85 gallon) Entry/Exit Port. (Port 203)	Verify that the trolley is positioned adjacent to the 322 liter (85 gallon) Entry/Exit Port. (Port 203)	☒		KJW

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.10 REMOVE TRANSFER STAND AND ITEMS FROM DRUM					
Remove Items From Stand					
13	Confirm that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B. If a sub-menu is displayed, press the "MAIN MENU" button to return to the Main Menu.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		KP
14	Press the "TRANSFER STAND MENU" from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B.	Verify that the "TRANSFER STAND MENU" screen is displayed.	✓		KP
15	Press the "REMOVE ITEMS" button from the "TRANSFER STAND MENU" screen at OIU-12-105B. A "REMOVAL OF ITEMS IN PROGRESS..." message should be displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B. The "REMOVE ITEMS" button notifies the PCS that the bar code labels that will be read using bar code scanner 107-NE-12-314 correspond to items that are being removed from the transfer stand for processing.	Verify that the "TRANSFER STAND MENU" screen is displayed. Verify that the "REMOVAL OF ITEMS IN PROGRESS..." message is displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B.	✓ ✓		KP
16	Press the "END REMOVE" button from the "TRANSFER STAND MENU" screen at OIU-12-105B. A "REMOVAL OF ITEMS COMPLETE" message should be displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B.	Verify that the "TRANSFER STAND MENU" screen is displayed. Verify that the "REMOVAL OF ITEMS COMPLETE" message is displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B.	✓ ✓		KP KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.10 REMOVE TRANSFER STAND AND ITEMS FROM DRUM					
Add Items To Stand					
17	Press the "ADD ITEMS" button from the "TRANSFER STAND MENU" screen at OIU-12-105B. An "ADD ITEMS IN PROGRESS..." message should be displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B. The "ADD ITEMS" button notifies the PCS that the bar code labels that will be read using bar code scanner 107-NE-12-314 correspond to items that are being added to the transfer stand for removal from the glovebox. NOTE: Because the "NON-COMPLIANT PACKET" will be used to test treated item loadout and will be used in other test cases, it is not returned to the transfer stand in this test case. Press the "END ADD" button from the "TRANSFER STAND MENU" screen at OIU-12-105B. An "ADD ITEMS COMPLETE" message should be displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B.	Verify that the "TRANSFER STAND MENU" screen is displayed. Verify that the "ADD ITEMS IN PROGRESS..." message is displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B. Verify that the "TRANSFER STAND MENU" screen is displayed. Verify that the "ADD ITEMS COMPLETE" message is displayed on the "TRANSFER STAND MENU" screen at OIU-12-105B.	✓	✓	KJL
18			✓	✓	KJL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87:10 REMOVE TRANSFER STAND AND ITEMS FROM DRUM					
Load Out Treated Items					
19	Press the "MAIN MENU" button from the "TRANSFER STAND MENU" screen at OIU-12-105B. <i>NE-12-315</i>	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		K/K
20	Press the "TREATED ITEM" button from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B.	Verify that the "TREATED ITEM MENU" screen is displayed at OIU-12-105B.	✓		K/K
21	Press the "LOADOUT TREATED ITEMS" button from the "TREATED ITEM MENU" screen at OIU-12-105B.	Verify that a "TREATED ITEM LOADOUT IN PROGRESS..." message is displayed on the "TREATED ITEM MENU" screen at OIU-12-105B.	✓		K/K
	A "TREATED ITEM LOADOUT IN PROGRESS..." message should be displayed on the "TREATED ITEM MENU" screen at OIU-12-105B. The "LOADOUT TREATED ITEMS" button notifies the PCS that the bar code labels that will be read using bar code scanner 107-NE-12-315 correspond to items that are being added to an Entry/Exit drum for removal from the glovebox as "compliant items".		✓		K/K
22	Press the "END TREATED ITEM LOADOUT" button from the "TREATED ITEM MENU" screen at OIU-12-105B.	Verify that the "TREATED ITEM MENU" screen is displayed.	✓		K/K
	A "TREATED ITEM LOADOUT COMPLETE" message should be displayed on the "TREATED ITEM MENU" screen at OIU-12-105B.	Verify that the "TREATED ITEM LOADOUT COMPLETE" message is displayed on the "TREATED ITEM MENU" screen at OIU-12-105B	✓		K/K
Test Case 13027A-87:10 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.11 LOAD OUT SAMPLE VIA SAMPLE TRANSFER					
1	Confirm that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B. If a sub-menu is displayed, press the "MAIN MENU" button to return to the Main Menu.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		KP
2	Confirm that the sample transfer port (107-DO-07-204) door is closed.	Verify that the sample transfer port is closed.	✓		KP
3	If the port door is open, use the manipulator arms to close the sample transfer port door. From outside of the glovebox, remove the port safety cover.	Verify that the port safety cover is removed.	✗		KP 11/18/97
4	NOTE: A sample canister, as noted during setup, should be available to support testing. Align the sample canister to the sealed cell flange. Orient the canister locking bayonets with the openings on the cell flange. Rotate the canister clockwise 60 degrees.	Verify that the sample canister rotates smoothly. Verify the sample canister locks and seals to the cell flange. Verify that the canister cover unlocks from the canister, and locks and seals to the cell port.	✓ ✓ ✓		KP KP KP
5	Press the "SAMPLE MENU" from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B. Both "LOADOUT SAMPLES" and "END SAMPLE LOADOUT" buttons should be displayed.	Verify that the "SAMPLE MENU" screen is displayed at OIU-12-105B. Verify that "LOADOUT SAMPLES" and "END SAMPLE LOADOUT" buttons are displayed.	✓ ✓		KP KP
6	Press the "LOADOUT SAMPLES" button from the "SAMPLE MENU" at OIU-12-105B. A "SAMPLE LOADOUT IN PROGRESS..." message should be displayed on the "SAMPLE MENU" at OIU-12-105B. The selection of the "LOADOUT SAMPLES" button notifies the PCS that bar coded items read at fixed scanner 107-NE-12-314 are samples that are being removed from the glovebox.	Verify that the "SAMPLE MENU" screen is displayed at OIU-12-105B. Verify that a "SAMPLE LOADOUT IN PROGRESS..." message is displayed.	✓ ✓		KP KP
7	Open the sample transfer port (107-DO-07-204) hinged double door inside the glovebox.	Verify that the hinged double door opens fully and smoothly.	✓		KP

Sep #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.11 LOAD OUT SAMPLE VIA SAMPLE TRANSFER					
8	Transfer the available sample container to the sample canister through the open double door and close the double door.	Verify that the sample container was transferred into the sample canister. Verify that the hinged double door is closed.	✓		Ka
9	Press the "END SAMPLE LOADOUT" button from the "SAMPLE MENU" at OIU-12-105B. A "SAMPLE LOADOUT COMPLETE" message should be displayed on the "SAMPLE MENU" at OIU-12-105B. The selection of the "END SAMPLE LOADOUT" button notifies the sample loadout process is complete.	Verify that a "SAMPLE LOADOUT COMPLETE" message is displayed on the "SAMPLE MENU" screen at OIU-12-105B.	✓		Ka
10	From outside the glovebox, rotate the sample canister counterclockwise 60 degrees.	Verify that the sample canister rotates smoothly. Verify the cover unlocks from the cell port and locks and seals to the canister. Verify that the canister unlocks from the cell flange.	✓ ✓ ✓		Ka Ka Ka
11	From outside the glovebox, disengage the sample canister from the cell flange.	Verify that the sample canister is disengaged from the cell flange.	✓		Ka
12	Reinstall the port safety cover on the cell flange.	Verify the port safety cover is properly installed.	✓		Ka
Test Case 13027A-87.11 Complete					

ERRONEOUS STEP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
1	WARNING: The "MATE DRUM TO 208 LITER (55 GALLON) ENTRY/EXIT PORT 107-DO-07-202" test case is a prerequisite for this test case. Do not perform this test case unless the pre-requisite test cases have already been successfully completed.	Verify that the "MATE DRUM TO 208 LITER (55 GALLON) ENTRY/EXIT PORT 107-DO-07-202" test case has already been successfully completed prior to running this test case.	✓		KJ
2	CAUTION: The following sequence of test procedure steps involve automatic port door closing, controlled by LCU 102 (Referred to as the "PCS" in this test procedure). These test procedure steps should be carefully reviewed to permit rapid verification of test conditions during the automatic port opening sequence.	Verify that the remaining test procedure steps in this test case are carefully reviewed prior to completing this test case.	✓		KJ
3	Confirm that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B. If a sub-menu is displayed, press the "MAIN MENU" button to return to the Main Menu.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		KJ
4	Confirm that the Entry/Exit Port (107-DO-07-202) door is rotated open and that a drum is mated to the port.	Visually verify that the Entry/Exit Port (107-DO-07-202) door is rotated open and that a drum is mated to the port. <i>VERIFIED LT 2015 in Normal Mode</i>	✓		KJ
5	Confirm that no items are present that would prevent the Entry/Exit Port (107-DO-07-202) from properly closing.	Visually verify that no items are present that would prevent the Entry/Exit Port (107-DO-07-202) from properly closing.	✓		KJ
6	Force the status of position switch 07-ZSC-909 register ZSC909 (Entry/Exit Port 107-DO-07-202) to not activated to indicate that the port door is not rotated closed. Record the register status in the space provided below. Register Forced Status ZSC909 <u>0</u> Method of Confirmation <u>LT 2015/05</u>	Verify that register ZSC909 is forced not activated. Verify that the register status is recorded in the space provided.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
7	Force the status of position switch 07-ZS-900A register ZS900A (Entry/Exit Port 107-DO-07-202) to not activated to indicate that the port door is not lowered closed. Record the forced register status in the space provided below. Register Forced Status ZS900A 0 Method of Confirmation T: 30/04	Verify that register ZS900A is forced not activated. Verify that the register status is recorded in the space provided.	✓ ✓		KJ KJ
8	The door closed position switch functions as an interlock for the Entry/Exit Port. The port door should not lock until the door closed position switch is activated. Force the status of port lock position switch (07-ZSC-908A and 07-ZSC-908B) registers ZSC908A and ZSC908B (Entry/Exit Port 107-DO-07-202) to not activated to indicate that the port door is not locked. Record the register status in the spaces provided below. Register Forced Status ZSC908A 0 ZSC908B 0 Method of Confirmation T: 30/12 T: 30/06	Verify that registers ZSC908A and ZSC908B are forced not activated. Verify that the register status is recorded in the space(s) provided.	✓ ✓		KJ KJ
9	The door locked position switches function as an interlock for the Entry/Exit Port. A "FAILED TO CLOSE/LOCK" alarm should be generated during the drum exit sequence if the port does not lock (as indicated by the port lock/unlock position switches) during the exit sequence. Force the status of HVAC seal pressure switch 07-PS-916 register PS916 (Entry/Exit Port 107-DO-07-202) activated to indicate that the HVAC seal remains inflated. Record the forced register status in the space provided below. Register Forced Status PS916 1 Method of Confirmation T: 32/10	Verify that register PS916 is forced activated. Verify that the register status is recorded in the space(s) provided.	✓ ✓		KJ KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (Initial)									
10	TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202 Force the status of the drum centering device retracted position switch (07-ZSO-914A and 07-ZSO-914B) registers ZSO914A and ZSO914B (Entry/Exit Port 107-DO-07-202) to not activated to indicate that the drum centering device is not retracted. Record the forced register status in the spaces provided below. <table><tr><td>Register</td><td>Forced Status</td><td>Method of Confirmation</td></tr><tr><td>ZSO914A</td><td>0</td><td>I: 32/b7</td></tr><tr><td>ZSO914B</td><td>0</td><td>I: 32/b3</td></tr></table> The drum centering device position switches function as an interlock for the Entry/Exit Port drum exit sequence. The drum exit sequence should not proceed if the drum centering device does not retract.	Register	Forced Status	Method of Confirmation	ZSO914A	0	I: 32/b7	ZSO914B	0	I: 32/b3	Verify that registers ZSO914A and ZSO914B are forced not activated. Verify that the register status is recorded in the spaces provided.	✓	✓	ny Kyl
Register	Forced Status	Method of Confirmation												
ZSO914A	0	I: 32/b7												
ZSO914B	0	I: 32/b3												

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine Lift Table Lower Interlocks					
11	Attempt to move the 208 liter (55 gallon) Entry/Exit Port lift table (107-LT-09-201E) by activating the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201E). The Entry/Exit Port should be open with a drum mated to this port. Because the port is not closed and locked, the "LOWER" pushbutton at the lift table local control pedestal should be disabled and have no effect on the lift table.	Verify that activating the "LOWER" pushbutton has no effect on the lift table.	✓		KJ
12	Attempt to move the Lift Table (107-LT-09-201E) roller conveyors by activating the lift table "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201E). Because the lift table is not lowered, activating the "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201E) should be disabled and have no effect on the lift table.	Verify that activating the "FORWARD" and "REVERSE" pushbuttons has no effect on the lift table.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☐	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Attempt To Close Port Without Manipulator Parked					
13	NOTE: The manipulator serves as an interlock for Entry/Exit Port operation. When the manipulator is not at the park position, the Entry/Exit Port should not be able to close. The manipulator is initially slightly displaced from the park position to allow this interlock to be tested. Place the LLW RWM Waste Manipulator (107-EM-07-201) approximately one foot from park position 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is approximately one foot away park position 2 with both arms parked.	☒		KR
14	Press the "CLOSE PORT" button from the "PORT DO-07-202 MENU" screen at OIU-12-105B. Because the manipulator is not parked, the port (107-DO-07-202) should not close.	Verify that the port door does not rotate closed. Verify that a "PORT CLOSING..." message is not displayed at OIU-12-105B.	☒		KR
15	Place the LLW RWM Waste Manipulator (107-EM-07-201) at park position 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is at park position 2 with both arms parked.	☒		KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine Door Rotated (Closed) Interlock					
16	Press the "PORT DO-07-202 MENU" button from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" screen is displayed.	☒		KH
17	Press the "CLOSE PORT" button from the PORT DO-07-202 Menu at OIU-12-105B.	Verify that a "PORT CLOSING..." message is displayed at OIU-12-105B.	☒		KH
18	The PCS should pulse activate solenoid valve 07-FEV-910K/C (Close) to pressurize the door rotation cylinder to move the port door to the rotated closed position. The "Door Closed" position switch (07-ZSC-909) register ZSC909 should be remain forced not activated when the door is fully rotated.	Verify that the port door rotates closed. Verify that the port door rotated closed position switch 07-ZSC-909 register ZSC909 remains forced not activated.	☒		KH
19	The door rotated closed position switch functions as an interlock for the Entry/Exit Port. The drum exit sequence should not proceed to lower the port door closed until the "Door Closed" position switch is activated. Wait 2 minutes.	Verify that the port door does not lower closed during the 2 minute waiting period.	☒		KH
20	Unforce register ZSC909 (Entry/Exit Port 107-DO-07-202) to allow position switch 07-ZSC-909 to indicate that the port door is rotated closed. Record the unforced register status in the space provided below. Unforced ZSC909 Register Status: _____	Verify that register ZSC909 is unforced. Verify that the register status is recorded in the space provided.	☒ ☒		KH KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine Port Door Lowered (Closed) Interlock					
21	Because the port door is rotated closed, position switch 07-ZSC-909 should be activated, indicating that the door is rotated closed and the sequence should continue. After position switch 07-ZSC-909 indicates that the port door is rotated closed, the PCS should pulse energize solenoid valve 07-FEV-9100/C (Close) to lower the port door closed.	Verify that the port (107-DO-07-202) door lowers closed.	✓		KP
22	The PCS should automatically de energize vacuum generation solenoid valve 07-FEV-9101/V and vacuum isolation solenoid valve 07-FEV-9106 to remove vacuum from the drum lid. The PCS should then energize solenoid valve 07-FEV-910M/E (Extend) to extend the drum lid detachment cylinder.	Verify that the drum lid detachment cylinder is extended for port 107-DO-07-202. vacuum generation solenoid valve 07-FEV-9101/V and vacuum isolation solenoid valve 07-FEV-9106 to remove vacuum from the drum lid. Verify that the drum lid does not adhere to the port door.	✓		KP
23	The PCS should automatically energize the lift table motor 107-LT-09-201E/M1 to lower the lift table to "Drum Centering" height.	Verify that the lift table lowers to "Drum Centering" height.	✓		KP
24	The door lowered closed position switch functions as an interlock for the Entry/Exit Port. The port door should not lock until the door lowered closed position switch 07-ZS-900A is activated. Wait 2 minutes.	Verify that the port door lowers to the "closed" position.	✓		KP
25	Unforce the status of position switch 07-ZS-900A (Entry/Exit Port 107-DO-07-202) to allow this switch to indicate that the port door is lowered closed. Record the unforced register status in the space provided below. Unforced ZS900A Register Status: 066 7 ON (17)	Verify that register ZS900A is unforced. Verify that the register status is recorded in the space provided.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine Port Door Locked Interlock					
26	When position switch 07-ZS-900A status is unforced, this switch should correctly indicate the position of the port door. Because the PCS has lowered the lift table to "Drum Centering" height, the port door should be completely lowered and position switch 07-ZS-900A should be activated, indicating that the port door is lowered closed. After position switch 07-ZS-900A is activated, the PCS should energize solenoid valve 07-FEV-9101/L (Lock) to extend the port door locking cylinders.	Verify that the port door locking cylinders fully extend to lock the port door.	✓	✓	K/R
27	The door locked position switches 07-ZSC-908A and 07-ZSC-908A function as an interlock for the Entry/Exit Port. The drum exit sequence should stop if the door locked position switches are not activated. Wait 2 minutes.	Verify that the drum lid detachment cylinder does not retract during the two (2) minute waiting period.	✓	✓	K/R
28	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "DO-07-202 Failed to Close and Lock" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "DO-07-202 Failed to Close and Lock" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "DO-07-202 Failed to Close and Lock" alarm is displayed.	✓	✓	K/R K/R K/R

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
29	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "DO-07-202 Failed to Close and Lock" alarm is displayed on this screen.	☒	☒	K/L
30	Unforce the status of door locked position switch (07-ZS-908A and 07-ZS-908B) registers ZSC908A and ZSC908B (Entry/Exit Port 107-DO-07-202) to allow these switches to indicate that the port door is locked. Record the unforced register status in the space provided below. Unforced ZSC908A Register Status: <u>K/L 0 / 1</u> Unforced ZSC908B Register Status: <u>K/L 0 / 1</u>	Verify that registers ZSC908A and ZSC908B are unforced. Verify that the register status is recorded in the space(s) provided.	☒	☒	K/L
31	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	☒	☒	K/L
32	The PCS should automatically de-energize the port close (lower) solenoid valve 07-FEV-9100/C (Close) The PCS should then pulse energize solenoid valve 07-FEV-910M/R (Retract) to retract the drum lid detachment cylinder.	Verify that the drum lid detachment cylinder is retracted.	☒	☒	K/L

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (Initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (65 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine The HVAC Seal Interlock					
33	The PCS should automatically de-energize solenoid valve 07-FEV-325A (Deflate) to deflate the HVAC seal for Drum Entry/Exit Port 107-DO-07-202. The HVAC seal should deflate.	Verify that the HVAC seal deflates.	☒		Kb
34	The PCS should automatically de-energize solenoid valve 07-FEV-324A (Retract) to retract the drum centering device for Drum Entry/Exit Port 107-DO-07-202. The drum centering device should retract. Position switches 07-ZSO-914A and 07-ZSO-914B, because of their forced status, should continue to indicate that the drum Centering Device is extended.	Verify that the drum centering device retracts.	☒		Kb
35	The HVAC seal pressure switch 07-PS-916 and the Drum Centering Device position switches 07-ZSO-914A and 07-ZSO-914B function as interlocks for the Entry/Exit Port drum exit sequence. The drum exit sequence should not proceed if the HVAC seal pressure switch is activated, indicating that the HVAC seal is inflated. Similarly, the drum exit sequence should not proceed if the Drum Centering Device position switches are not activated, indicating that the Drum Centering Device is extended. Wait 2 minutes.	Verify that the "PORT CLOSED AND LOCKED" status message is not displayed during the 2 minute waiting period.	☒		Kb
36	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "DO-07-202 Failed to Close and Lock" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Port 202 Centering Device Abnormal Position" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Port 202 Centering Device Abnormal Position" alarm is displayed.	☒ ☒ ☒		Kb Kb Kb

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
37	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Port 202 Centering Device Abnormal Position" alarm is displayed on this screen.	✓		KR
38	Unforce the status of the drum centering device position switch (07-ZSO-914A and 07-ZSO-914B) registers ZSO914A and ZSO914B (Entry/Exit Port 107-DO-07-202) to allow these switches to indicate that the drum centering device is retracted. Record the unforced register status in the space provided below. Unforced ZSO914A Register Status: _____ Unforced ZSO914B Register Status: _____	Verify that registers ZSO914A and ZSO914B are unforced.	✓		KR
39	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the register status is recorded in the space(s) provided. Verify that the "PORT CLOSED AND LOCKED" message is not displayed.	✓		KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine The Drum Centering Device Not Retracted Interlock					
40	Unforce the status of the HVAC seal pressure switch. 07-PS-916 register PS916 (Entry/Exit Port 107-DO-07-202) to allow this switch to indicate that the HVAC seal is deflated. Record the unforced register status in the space provided below. Unforced PS916 Register Status: <u> D </u>	Verify that register PS916 is unforced. Verify that the register status is recorded in the space provided.	✓		Kg
41	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	✓		Kg

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Close 208 Liter (55 Gallon) Entry/Exit Port					
43	Because all Entry/Exit Port closing interlocks have been satisfied, the PCS should display a "PORT CLOSED AND-LOCKED*" status message at OIU-12-105B. K4-11 6 67	Verify that a "PORT CLOSED AND-LOCKED*" status message is displayed at OIU-12-105B. 11/6/87	☒		KL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine "Abnormal Position" Alarm					
44	NOTE: An "Close and Lock Pos Not Verified" alarm should be generated if the port door lock position switches indicate that the port door is unlocked after the drum exit sequence has been completed. Force the status of port lock position switch (07-ZSC-908A and 07-ZSC-908B) registers ZSC908A and ZCS908B (Entry/Exit Port 107-DO-07-202) to not activated to indicate that the port door is not locked. Record the register status in the spaces provided below. Register Forced Status Method of Confirmation ZSC908A 0 1:30/12 ZSC908B 0 1:30/26	Verify that registers ZSC908A and ZSC908B are forced not activated.	✓		Kf
		Verify that the register status is recorded in the space(s) provided.	✓		Kf
45	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Close and Lock Pos Not Verified" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Close and Lock Pos Not Verified" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing.	✓		Kp
		Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing.	✓		Kp
		Verify that the "LOCAL ALARMS" screen with an active "Close and Lock Pos Not Verified" alarm is displayed.	✓		Kp

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
46	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Close and Lock Pos Not Verified" alarm is displayed on this screen.	✓	✓	KP
47	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine Lift Table "Failure To Lower" Alarm					
48	Attempt to move the 208 liter (55 gallon) Entry/Exit Port lift table (107-LT-09-201E) by activating the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201E). Because the port is closed but not locked (simulated), the "LOWER" pushbutton at the lift table local control pedestal should be disabled and have no effect on the lift table.	Verify that activating the "LOWER" pushbutton has no effect on the lift table.	✓		KR
49	Force the status of position switch 07-ZS-900A register ZS900A (Entry/Exit Port 107-DO-07-202) to not activated to indicate that the port door is not lowered closed. Record the forced register status in the space provided below. Register Forced Status ZS900A <u>OFF</u> Method of Confirmation <u>I:30/04</u> The door closed position switch functions as an interlock for the drum to lower. The drum should not lower until the door closed position switch is activated.	Verify that register ZS900A is forced not activated. Verify that the register status is recorded in the space provided.	✓		KR
50	Unforce the status of door locked position switch (07-ZS-908A and 07-ZS-908B) registers ZSC908A and ZSC908B (Entry/Exit Port 107-DO-07-202) to allow these switches to indicate that the port door is locked. Record the unforced register status in the space provided below. Unforced ZSC908A Register Status: <u>OFF</u> <u>I:30/12</u> Unforced ZSC908B Register Status: <u>OFF</u> <u>I:30/06</u>	Verify that registers ZSC908A and ZSC908B are unforced. Verify that the register status is recorded in the space(s) provided.	✓		KR
51	Attempt to move the 208 liter (55 gallon) Entry/Exit Port lift table (107-LT-09-201E) by activating the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201E). Because the port is closed but not locked (simulated), the "LOWER" pushbutton at the lift table local control pedestal should be disabled and have no effect on the lift table.	Verify that activating the "LOWER" pushbutton has no effect on the lift table.	✓		KR
52	Unforce the status of position switch 07-ZS-900A (Entry/Exit Port 107-DO-07-202) to allow this switch to indicate that the port door is lowered closed. Record the unforced register status in the space provided below. Unforced ZS900A Register Status: <u>I</u>	Verify that register ZS900A is unforced. Verify that the register status is recorded in the space provided.	✓		KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107:DO-07-202					
53	Change LT 201E "Failed to Lower" TD from current value to 5 sec. Record Register contents. TD Register: T4:112 Contents: <u>5.00</u>	Verify LT 201E TD is set to 5 sec and record Register content. <u>5.00</u>	✓		KR
54	Activate the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201E) to lower the Bagless Transfer Port lift table to AGV height. The "AGV HEIGHT" status indicator 09-ZL-229G at the Lift Table Local Control Pedestal (107-PC-09-201E) should be illuminated.	Visually confirm that the lift table is lowered. Verify that the "AGV HEIGHT" status indicator is illuminated.	✓		KR
			✓		KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202					
Examine Lift Table "Conveyor Reverse Failed" Alarm					
55	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201F) Failed to Lower" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201F) Failed to Lower" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201F) Failed to Lower" alarm is displayed.	✓	✓	Kb
56	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Failed to Lower" alarm is displayed on this screen.	✓	✓	Kb
57	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed.	✓		Kb
58	Restore Register T4:112 to value recorded in Step 53. <i>Changed Register to 60300</i>	Verify Register T4:112 is set to the correct value.	✓		Kb

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☐	Witness (initial)
59	TEST CASE 13027A-87.12 REMOVE 208 LITER (55 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-202 NOTE: This step will be used to simulate a power failure at the lift table. The 480 volt lift table local disconnect will be opened during drum transfer under the glovebox port. Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201E) to energize the lift table conveyor motor in reverse (107-LT-09-201E/M2). After drum has moved approximately one foot, open the 480 volt lift table local disconnect to remove power from the lift table. The "AGV END" status indicator (09-ZL-229A) at the Lift Table Local Control Pedestal (107-PC-07-201E) should not be illuminated, indicating that the drum is not at the AGV end of the Lift Table. The roller conveyor should stop. After approximately 10 seconds, close the 480 volt lift table local disconnect to restore power to the lift table. The roller conveyor should not start up again after power is restored.	Verify that the drum is not positioned at the AGV end of the Lift Table. Verify that the "AGV END" status indicator is not illuminated. Verify that the lift table roller conveyors have stopped and remain stopped.	☒ ☒ ☒		Kp Kp Kp
60	Review the "PORT DO-07-202 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201E) Conveyor Rev Failed" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201E) Conveyor Rev Failed" alarm should be displayed on this screen. <i>Conveyor Forward message yielded. Message resolved.</i>	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201D) Conveyor Rev Failed" alarm is displayed.	☒ ☒ ☒		Kg Kp Kp

Kp 11/10/17

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.12 REMOVE 208 LITER (65 GALLON) DRUM FROM ENTRY/EXIT PORT (107-DO-07-202)					
61	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201E) Conveyor Rev Failed" alarm is displayed on this screen.	✓	✓	Kg
62	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-202 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-202 MENU" is displayed and the screen status displays "Sequence failed".	✓		KP
63	Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201E) to energize the lift table conveyor motor in reverse (107-LT-09-201E/M2) until the drum is at the AGV end of the Lift Table. The "AGV END" status indicator (09-ZL-231A) at the Lift Table Local Control Pedestal (107-PC-07-201E) should be illuminated, indicating that the drum is at the AGV end of the Lift Table.	Verify that the drum is at the AGV end of the Lift Table. Verify that the "AGV END" status indicator is illuminated.	✓	✓	KP
Test Case 13027A-87.12 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT (107-DO-07-203)					
1	WARNING: The "MATE DRUM TO 322 LITER (85 GALLON) ENTRY/EXIT PORT 107-DO-07-203" test case is a prerequisite for this test case. Do not perform this test case unless the pre-requisite test cases have already been successfully completed.	Verify that the "MATE DRUM TO 322 LITER (85 GALLON) ENTRY/EXIT PORT 107-DO-07-203" test case has already been successfully completed prior to running this test case.	✓		KH
2	CAUTION: The following sequence of test procedure steps involve automatic port door closing, controlled by LCU 102 (Referred to as the "PCS" in this test procedure). These test procedure steps should be carefully reviewed to permit rapid verification of test conditions during the automatic port opening sequence.	Verify that the remaining test procedure steps in this test case are carefully reviewed prior to completing this test case.	✓		KH
3	Confirm that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B. If a sub-menu is displayed, press the "MAIN MENU" button to return to the Main Menu.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	✓		KH
4	Confirm that the Entry/Exit Port (107-DO-07-203) door is rotated open and that a drum is mated to the port.	Visually verify that the Entry/Exit Port (107-DO-07-203) door is rotated open and that a drum is mated to the port.	✓		KH
5	Confirm that no items are present that would prevent the Entry/Exit Port (107-DO-07-203) from properly closing.	Visually verify that no items are present that would prevent the Entry/Exit Port (107-DO-07-203) from properly closing.	✓		KH
6	Force the status of position switch 07-ZSC-911 register ZSC911 (Entry/Exit Port 107-DO-07-203) to not activated to indicate that the port door is not rotated closed. Record the register status in the space provided below. Register Forced Status ZSC911 0 ¹¹ (0) Method of Confirmation JCS/03	Verify that register ZSC911 is forced not activated. Verify that the register status is recorded in the space provided.	✓		KH

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 32 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
7	Force the status of position switch 07-ZS-912A register ZS912A (Entry/Exit Port 107-DO-07-203) to not activated to indicate that the port door is not lowered closed. Record the forced register status in the space provided below. Register Forced Status _____ ZS912A 0 _____ Method of Confirmation I-13/00 The door closed position switch functions as an interlock for the Entry/Exit Port. The port door should not lock until the door closed position switch is activated.	Verify that register ZS912A is forced not activated. Verify that the register status is recorded in the space provided.	✓	✓	KP
8	Force the status of port lock position switch (07-ZSC-910A and 07-ZSC-910B) registers ZSC910A and ZSC910B (Entry/Exit Port 107-DO-07-203) to not activated to indicate that the port door is not locked. Record the register status in the spaces provided below. Register Forced Status _____ ZSC910A 0 _____ ZSC910B 0 _____ Method of Confirmation I-30/14 The door locked position switches function as an interlock for the Entry/Exit Port. A "FAILED TO CLOSE/LOCK" alarm should be generated during the drum exit sequence if the port does not lock (as indicated by the port lock/unlock position switches) during the exit sequence.	Verify that registers ZSC910A and ZSC910B are forced not activated. Verify that the register status is recorded in the space(s) provided.	✓	✓	KP
9	Force the status of HVAC seal pressure switch 07-PS-917 register PS917 (Entry/Exit Port 107-DO-07-203) activated to indicate that the HVAC seal remains inflated. Record the forced register status in the space provided below. Register Forced Status _____ PS917 (ON) 1 _____ Method of Confirmation I-32/12 The HVAC seal pressure switch functions as an interlock for the Entry/Exit Port drum exit sequence. The drum exit sequence should not proceed if the HVAC seal does not deflate.	Verify that register PS917 is forced activated. Verify that the register status is recorded in the space(s) provided.	✓	✓	KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)									
10	TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203 Force the status of the drum centering device retracted position switch (07-ZSO-915A and 07-ZSO-915B) registers ZSO915A and ZSO915B (Entry/Exit Port 107-DO-07-203) to not activated to indicate that the drum centering device is not retracted. Record the forced register status in the spaces provided below. <table><tr><td>Register</td><td>Forced Status</td><td>Method of Confirmation</td></tr><tr><td>ZSO915A</td><td>OFF</td><td>I: 32/11</td></tr><tr><td>ZSO915B</td><td>OFF</td><td>I: 32/14</td></tr></table> The drum centering device position switches function as an interlock for the Entry/Exit Port drum exit sequence. The drum exit sequence should not proceed if the drum centering device does not retract.	Register	Forced Status	Method of Confirmation	ZSO915A	OFF	I: 32/11	ZSO915B	OFF	I: 32/14	Verify that registers ZSO915A and ZSO915B are forced not activated. Verify that the register status is recorded in the spaces provided.	✓ ✓	✓ ✓	KL KL
Register	Forced Status	Method of Confirmation												
ZSO915A	OFF	I: 32/11												
ZSO915B	OFF	I: 32/14												

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT (107-DO-07-203)					
Examining Lift Table Lower Interlocks					
11	Attempt to move the 322 liter (85 gallon) Entry/Exit Port lift table (107-LT-09-201D) by activating the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201D). <i>UP TESTED AS WELL</i> The Entry/Exit Port should be open with a drum mated to this port. Because the port is not closed and locked, the "LOWER" pushbutton at the lift table local control pedestal should be disabled and have no effect on the lift table.	Verify that activating the "LOWER" pushbutton has no effect on the lift table.	✓		Kf
12	Attempt to move the Entry/Exit Port lift table (107-LT-09-201D) roller conveyors by activating the lift table "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201D). Because the lift table is not lowered, activating the "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201D) should be disabled and have no effect on the lift table.	Verify that activating the "FORWARD" and "REVERSE" pushbuttons has no effect on the lift table.	✓		Kf

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
Attempt To Close Port Without Manipulator Parked					
13	NOTE: The manipulator serves as an interlock for Entry/Exit Port operation. When the manipulator is not at the park position, the Entry/Exit Port should not be able to close. The manipulator is initially slightly displaced from the park position to allow this interlock to be tested. Place the LLW RWM Waste Manipulator (107-EM-07-201) approximately one foot from park position 1 (Closest to Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Visually verify that the waste manipulator is approximately one foot away park position 1 with both arms parked.	✓		KP
14	Press the "CLOSE PORT" button from the "PORT DO-07-203 MENU" screen at OIU-12-105B. Because the manipulator is not parked, the port (107-DO-07-203) should not close.	Verify that the port door does not rotate closed.	✓		KP
15	Place the LLW RWM Waste Manipulator (107-EM-07-201) at park position 1 (Closest to Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked.	Verify that a "PORT CLOSING..." message is not displayed at OIU-12-105B.	✓		Kg
		Visually verify that the waste manipulator is at park position 1 with both arms parked.	✓		

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
Examine Door Rotated (Closed) Interlock					
16	Press the "PORT DO-07-203 MENU" button from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B.	Verify that the "PORT DO-07-203 MENU" screen is displayed.	✓		KR
17	Press the "CLOSE PORT" button from the PORT DO-07-203 Menu at OIU-12-105B.	Verify that a "PORT CLOSING..." message is displayed at OIU-12-105B.	✓		KR
18	The PCS should pulse activate solenoid valve 07-FEV-910H/C (Close) to pressurize the door rotation cylinder to move the port door to the rotated closed position. The "Door Closed" position switch (07-ZSC-911) register ZSC911 should be remain forced not activated when the door is fully rotated.	Verify that the port door rotates closed. Verify that the port door rotated closed position switch 07-ZSC-911 register ZSC911 remains forced not activated.	✓	✓	KR KR
19	The door rotated closed position switch functions as an interlock for the Entry/Exit Port. The drum exit sequence should not proceed to lower the port door closed until the "Door Closed" position switch is activated. Wait 2 minutes.	Verify that the port door does not lower closed during the 2 minute waiting period.	✓	✓	KR
20	Unforce register ZSC911 (Entry/Exit Port 107-DO-07-203) to allow position switch 07-ZSC-911 to indicate that the port door is rotated closed. Record the unforced register status in the space provided below. Unforced ZSC911 Register Status: <u>1</u> <u>13/103</u>	Verify that register ZSC911 is unforced. Verify that the register status is recorded in the space provided.	✓	✓	KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
Examine Port Door Lowered (Closed) Interlock					
21	Because the port door is rotated closed, position switch 07-ZSC-911 should be activated, indicating that the door is rotated closed and the sequence should continue. After position switch 07-ZSC-911 indicates that the port door is rotated closed, the PCS should pulse energize solenoid valve 07-FEV-910N/C (Close) to lower the port door closed. The PCS should automatically de-energize vacuum generation solenoid valve 07-FEV-910D/V and vacuum isolation solenoid valve 07-FEV-910F to remove vacuum from the drum lid. The PCS should then energize solenoid valve 07-FEV-910L/E (Extend) to extend the drum lid detachment cylinder.	Verify that the port (107-DO-07-203) door lowers closed.	✓		KP
22		Verify that the drum lid detachment cylinder is extended for port 107-DO-07-203. Verify that the drum lid does not ~ adhere to the port door.	✓	✓	KP
23	The PCS should automatically energize the lift table motor 107-LT-09-201D/M1 to lower the lift table to "Drum Centering" height. 35 1/8" - 3 5 3/16"	Verify that the lift table lowers to "Drum Centering" height. Verify that the port door lowers to the "closed" position.	✓	✓	KP
24	The door lowered closed position switch functions as an interlock for the Entry/Exit Port. The port door should not lock until the door lowered closed position switch 07-ZS-912A is activated. Wait 2 minutes.	Verify that the port door locking cylinders do not extend during the two (2) minute waiting period.	✓	✓ Wait 2 minutes	KP
25	Unforce the status of position switch 07-ZS-912A (Entry/Exit Port 107-DO-07-203) to allow this switch to indicate that the port door is lowered closed. Record the unforced register status in the space provided below. Unforced ZS912A Register Status: 1	Verify that register ZS912A is unforced. Verify that the register status is recorded in the space(s) provided	✓	✓	KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 07-DO-07-203 Examine Port Door Locked Interlock					
26	When position switch 07-ZS-912A status is unforced, this switch should correctly indicate the position of the port door. Because the PCS has lowered the lift table to "Drum Centering" height, the port door should be completely lowered and position switch 07-ZS-912A should be activated, indicating that the port door is lowered closed. After position switch 07-ZS-912A is activated, the PCS should energize solenoid valve 07-FEV-910E/L (Lock) to extend the port door locking cylinders.	Verify that the port door locking cylinders fully extend to lock the port door.	✓		KJ
27	The door locked position switches 07-ZSC-910A and 07-ZSC-910B function as an interlock for the Entry/Exit Port. The drum exit sequence should stop if the door locked position switches are not activated. Wait 2 minutes.	Verify that the drum lid detachment cylinder does not retract during the two (2) minute waiting period.	✓		KJ
28	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "DO-07-203 Failed to Close and Lock" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "DO-07-203 Failed to Close and Lock" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "DO-07-203 Failed to Close and Lock" alarm is displayed.	✓ ✓ ✓		KJ KJ KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
29	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "DO-07-203 Failed to Close and Lock" alarm is displayed on this screen.	✓	✓	KR
30	Unforce the status of door locked position switch (07-ZS-910A and 07-ZS-910B) registers ZSC910A and ZSC910B (Entry/Exit Port 107-DO-07-203) to allow these switches to indicate that the port door is locked. Record the unforced register status in the space provided below. Unforced ZSC910A Register Status: <u>1 (ON) I: 30/16</u> Unforced ZSC910B Register Status: <u>1 (ON) I: 30/7</u>	Verify that registers ZSC910A and ZSC910B are unforced. Verify that the register status is recorded in the space(s) provided.	✓	✓	KR
31	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-203 MENU" is displayed.	✓	✓	KR
32	The PCS should automatically de-energize the port close (lower) solenoid valve 07-FEV-910N/C (Close) The PCS should then pulse energize solenoid valve 07-FEV-910L/R (Retract) to retract the drum lid detachment cylinder.	Verify that the drum lid detachment cylinder is retracted.	✓	✓	KR

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
Examine The HVAC Seal Interlock					
33	The PCS should automatically de-energize solenoid valve 07-FEV-3285A (Deflate) to deflate the HVAC seal for Drum Entry/Exit Port 107-DO-07-203. The HVAC seal should deflate.	Verify that the HVAC seal deflates.	✓		KR
34	The PCS should automatically de-energize solenoid valve 07-FEV-324B (Retract) to retract the drum centering device for Drum Entry/Exit Port 107-DO-07-203. The drum centering device should retract. Position switches 07-ZSO-915A and 07-ZSO-915B, because of their forced status, should continue to indicate that the drum Centering Device is extended.	Verify that the drum centering device retracts.	✓		KR
35	The HVAC seal pressure switch 07-PS-917 and the Drum Centering Device position switches 07-ZSO-915A and 07-ZSO-915B function as interlocks for the Entry/Exit Port drum exit sequence. The drum exit sequence should not proceed if the HVAC seal pressure switch is activated, indicating that the HVAC seal is inflated. Similarly, the drum exit sequence should not proceed if the Drum Centering Device position switches are not activated, indicating that the Drum Centering Device is extended. Wait 2 minutes.	Verify that a "PORT CLOSED AND LOCKED" status message is not displayed at OIU-12-105B during the 2 minute waiting period.	✓		KR
36	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "DO-07-203 Failed to Close and Lock" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Port 203 Centering Device Abnormal Position" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Port 203 Centering Device Abnormal Position" alarm is displayed.	✓	✓	KR KR KR

Step #	TEST PROCEDURE STEPS (13027A-57)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
37	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "PORT CLOSED AND LOCKED" status message is not displayed on this screen.	✓		Kb
38	Unforce the status of the drum centering device position switch (07-ZSO-915A and 07-ZSO-915B) registers ZSO915A and ZSO915B (Entry/Exit Port 107-DO-07-203) to allow these switches to indicate that the drum centering device is retracted. Record the unforced register status in the space provided below. Unforced ZSO915A Register Status: _____ Unforced ZSO915B Register Status: _____	Verify that registers ZSO915A and ZSO915B are unforced. Verify that the register status is recorded in the space(s) provided.	✓		Kb
39	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-105B.	Verify that the "PORT CLOSED AND LOCKED" message is not displayed.	✓		Kb

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
Examine The Drum Centering Device Not Retracted Interlock					
40	Unforce the status of the HVAC seal pressure switch 07-PS-917 register PS917 (Entry/Exit Port 107-DO-07-203) to allow this switch to indicate that the HVAC seal is deflated. Record the unforced register status in the space provided below. Unforced PS917 Register Status: <u>0</u> "PORT CLOSED" ON OIU.	Verify that register PS917 is unforced. Verify that the register status is recorded in the space provided.	✓		Ka
41	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-203 MENU" is displayed.	✓		Ka

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
Close 322 Liter (85 Gallon) Entry/Exit Port					
42	Because all Entry/Exit Port closing interlocks have been satisfied, the PCS should display a "PORT CLOSED-AND-LOCKED" status message at OIU-12-105B. KL 11/10/97	Verify that a "PORT CLOSED-AND-LOCKED" status message is displayed at OIU-12-105B. KL	✓		KL

11/10/97

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203 Examine "Abnormal Position" Alarm					
43	NOTE: An "Close and Lock Pos Not Verified" alarm should be generated if the port door lock position switches indicate that the port door is unlocked after the drum exit sequence has been completed. Force the status of port lock position switch (07-ZSC-910A and 07-ZSC-910B) registers ZSC910A and ZSC910B (Entry/Exit Port 107-DO-07-203) to not activated to indicate that the port door is not locked. Record the register status in the spaces provided below. Register Forced Status Method of Confirmation ZSC910A 0 I 30/16 ZSC910B 0 I 30/07	Verify that registers ZSC910A and ZSC910B are forced not activated. Verify that the register status is recorded in the space(s) provided.	✓		KJL
44	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Close and Lock Pos Not Verified" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Close and Lock Pos Not Verified" alarm should be displayed on this screen. Port 203	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm is flashing. Verify that the "LOCAL ALARMS" screen with an active "Close and Lock Pos Not Verified" alarm is displayed.	✓		KJL

Step #	TEST PROCEDURE STEPS (13027A-57)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-57.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
45	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged Close and Lock Pos Not Verified" alarm is displayed on this screen.	✓	✓	KJ
46	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-OU-12-105B.	Verify that the "PORT DO-07-203 MENU" is displayed.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-57)		EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-57.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203						
Examine Lift Table "Failed To Lower" Alarm						
47	Attempt to move the 322 liter (85 gallon) Entry/Exit Port lift table (107-LT-09-201D) by activating the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201D). Because the port is closed but not locked (simulated), the "LOWER" pushbutton at the lift table local control pedestal should be disabled and have no effect on the lift table.		Verify that activating the "LOWER" pushbutton has no effect on the lift table.	✓		KP
48	Force the status of position switch 07-ZS-912A register ZS912A (Entry/Exit Port 107-DO-07-203) to not activated to indicate that the port door is not lowered closed. Record the forced register status in the space provided below. Register Forced Status ZS912A 0 Method of Confirmation 					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (8.5 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
52	Change LT 201D "Failed to Lower" TD from current value to 5 sec. Record Register Contents. TD Register: T4:116 Contents: 170 KL 11/06/97	Verify LT 201D TD value is set to 5 sec. and record register contents. KL 11/06/97	✓		KL
53	Activate the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201D) to lower the Bagless Transfer Port lift table to its lowered position below AGV height. The "DOWN OVERTRAVEL" status indicator 09-ZL-227C at the Lift Table Local Control Pedestal (107-PC-09-201D) should not be illuminated when the lift table is lowered.	Visually confirm that the lift table is lowered. Verify that the "DOWN OVERTRAVEL" status indicator 07-ZL-227C is not illuminated.	✓		KL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
Examine Lift Table "Conveyor Reverse Failed" Alarm					
54	Review the "PORT DO-07-203 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing.	☒		KJL
	Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201D) Failed to Lower" alarm.	Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing.	☒		KJL
	Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201D) Failed to Lower" alarm should be displayed on this screen.	Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201D) Failed to Lower" alarm is displayed.	☒		KJL
	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm.	Verify that the appropriate alarm is selected (highlighted).	☒		KJL
55	Press the "ACK" button to acknowledge the selected alarm.	Verify that the selected alarm is acknowledged.	☒		KJL
	Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201D) Failed to Lower" alarm is displayed on this screen.	☒		KJL
	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-203 MENU" at 107-01U-12-105B.	Verify that the "PORT DO-07-203 MENU" is displayed.	☒		KJL
57	Restore Register T4:116 to value recorded in Step 52 <i>Restore to 60 sec.</i>	Verify Register T4:116 is set to the correct value.	☒		KJL

KJL-11/06/97

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
58	NOTE: This step will be used to simulate a power failure at the lift table. The 480 volt lift table local disconnect will be opened during drum transfer under the glovebox port. Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201D) to energize the lift table conveyor motor in reverse (107-LT-09-201D/M2). After drum has moved approximately one foot, open the 480 volt lift table local disconnect to remove power from the lift table. The "AGV END" status indicator (09-ZL-227A) at the Lift Table Local Control Pedestal (107-PC-07-201D) should not be illuminated, indicating that the drum is not at the AGV end of the Lift Table. The roller conveyor should stop. After approximately 10 seconds, close the 480 volt lift table local disconnect to restore power to the lift table. The roller conveyor should not start up again after power is restored.	Verify that the drum is not positioned at the AGV end of the Lift Table. Verify that the "AGV END" status indicator is not illuminated. Verify that the lift table roller conveyors have stopped and remain stopped.	☒ ☒ ☒	 <	

Reverse
8/11/07

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☐	Witness (initial)
TEST CASE 13027A-87.13 REMOVE 322 LITER (85 GALLON) DRUM FROM ENTRY/EXIT PORT 107-DO-07-203					
60	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Conveyor Rev Failed" alarm is displayed on this screen.	☒	☐	KP
61	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-201 MENU" at 107-01U-12-105B.	Verify that the "PORT DO-07-201 MENU" is displayed and the screen status displays "Sequence failed".	☒	☐	KH
62	Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201F) to energize the lift table conveyor motor in reverse (107-LT-09-201F/M2) until the drum is at the AGV end of the Lift Table. The "AGV END" status indicator (09-ZL-231A) at the Lift Table Local Control Pedestal (107-PC-07-201F) should be illuminated, indicating that the drum is at the AGV end of the Lift Table.	Verify that the drum is at the AGV end of the Lift Table. Verify that the "AGV END" status indicator (09-ZL-231A) is illuminated.	☒	☐	KH
63	Activate the lift table "RAISE" pushbutton at the lift table local control pedestal (107-PC-09-201F) to raise the lift table to AGV Height. The "AGV HEIGHT" status indicator at the Lift Table Local Control Pedestal (107-PC-07-201F) should be illuminated, indicating that the drum is at the AGV Height.	Visually Verify that the Lift Table (107-LT-09-201F) is at AGV height. Verify that the "AGV HEIGHT" status indicator is illuminated.	☒	☐	KH
Test Case 13027A-87.13 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.14 RETURN NON-COMPLIANT ITEM TRANSFER STAND TO DRUM PORT (107-DO-07-201)					
1	WARNING: The "MATE DRUM TO BAGLESS TRANSFER PORT" and "REMOVE TRANSFER STAND AND ITEMS FROM DRUM" test cases are prerequisites for this test case. Do not perform this test case unless the pre-requisite test cases have already been successfully completed.	Verify that the "MATE DRUM TO BAGLESS TRANSFER PORT" and "REMOVE TRANSFER STAND AND ITEMS FROM DRUM" test cases have already been successfully completed prior to running this test case.	✓		Kjh
2	A Drath & Schrader drum should be mated to the Bagless Transfer Port (107-DO-07-201).	Verify that a Drath & Schrader drum is mated to the Bagless Transfer Port (107-DO-07-201).	✓		Kjh
3	The Bagless Transfer Port door should be rotated completely open to allow the non-compliant item transfer stand to be placed in the Drath & Schrader drum.	Verify that the Bagless Transfer Port is open.	✓		Kjh
4	The manipulator should be located at park position number 2 near the 208 liter (85 gallon) Entry/Exit Port (107-DO-07-203). The manipulator arms should be parked. If the manipulator is not in this position, use the manipulator controls to move the manipulator to park position number 2 and park the manipulator arms.	Visually verify that the waste manipulator is at park position number 2 with both arms parked.	✓		Kjh
5	During test case 13027A-87.04 "REMOVE TRANSFER STAND AND ITEMS FROM DRUM", the non-compliant item transfer stand should have been attached to the glovebox monorail hoist and positioned near the 322 liter (85 gallon) entry exit port (107-DO-07-203).	Verify that the non-compliant item transfer stand is attached to the glovebox hoist.	✓		Kjh
6	NOTE: The hoist pendant 107-PC-07-009A "PENDANT SELECT" switch should have been turned to the "PEND A" position during test procedure setup. This action should disable hoist pendant 107-PC-07-009B. Examine hoist pendant 107-PC-07-009B	Verify that the non-compliant item transfer stand is positioned near the 322 liter (85 gallon) entry exit port.	✓		Kjh
7	Activate the hoist pendant 107-PC-07-009B "LOWER" pushbutton to attempt to lower the hoist hook. Because hoist pendant 107-PC-07-009B is not enabled, the hoist hook should not lower.	Verify that the "ENABLED" indicator for hoist pendant 107-PC-07-009B is NOT illuminated.	✓		Kjh
		Verify that the hoist hook does not move when the hoist pendant 107-PC-07-009B "LOWER" pushbutton is activated.	✓		Kjh

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.14 RETURN NON-COMPLIANT ITEM TRANSFER STAND TO DRUM PORT (107-PC-07-20)					
8	Activate the Trolley/Hoist Pendant 107-PC-07-009A "RAISE" pushbutton as needed to raise the hoist with the non-compliant item transfer stand until the transfer stand is positioned at least one foot above all items in the transfer stand travel path.	Verify that there is at least one foot (approximately) of travel clearance beneath the non-compliant item transfer stand along the entire length of the glovebox.	✓		KJ
9	Activate the Trolley/Hoist Pendant (107-PC-07-009A) "Left" and "Right" pushbuttons as needed to energize trolley motor 107-CR-07-201/M1 (Trolley Traverse Drive) forward so that the trolley SLOWLY travels the entire length of its travel path, and is positioned over the 208 liter (55 gallon) Bagless Transfer Port. The "LEFT" indicator should be illuminated, indicating that the hoist is positioned at the Bagless Transfer Port.	Visually verify that the hoist trolley with non-compliant item transfer stand is positioned over the Bagless Transfer Port. Verify that the "LEFT" indicator is illuminated.	✓		KJ
10	Activate the Trolley/Hoist Pendant 107-PC-07-009A "LOWER" pushbutton to lower the hoist with the non-compliant item transfer stand until the bottom of the transfer stand is positioned within one foot of the Drath and Schrader drum mated to the Bagless Transfer Port. Inspect the position of the transfer stand relative to the drum.	Verify that the transfer stand is properly centered to allow the transfer stand to be lowered into the drum.	✓		KJ
11	Activate the Trolley/Hoist Pendant 107-PC-07-009A "LOWER" pushbutton to slowly lower the non-compliant item transfer stand into the Drath and Schrader drum. Continue to lower hoist hook until slack is noted in the hoist chain.	Verify that the non-compliant item transfer stand is fully seated in the Drath and Schrader drum. Verify that slack is noted in the hoist chain.	✓		KJ
12	Remove the hoist hook from the non-compliant item transfer stand by lowering the hoist until slack is noted, then raising the hoist.	Verify that the hoist hook is removed from the non-compliant item transfer stand	✓		KJ
13	Activate the Trolley/Hoist Pendant (107-PC-07-009A) "RAISE" pushbutton to slowly raise the hoist until the hoist is fully raised. The Trolley/Hoist Pendant (107-PC-07-009A) "Raised Limit" indicator should be illuminated, indicating that the hoist is fully raised.	Visually verify that the hoist is fully raised. Verify that the Trolley/Hoist Pendant (107-PC-07-009A) "Raised Limit" indicator is illuminated.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.14 RETURN NON-COMPLIANT ITEM TRANSFER STAND TO DRUM PORT 107 DO-07-201					
Test Case 13027A-87.14 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☐	Witness (Initial)
TEST CASE 13027A-87.15-07 REMOVE 200 LITER (55 GALLON) DRUM FROM BAGLESS TRANSFER PORT (107-DO-07-201)					
1	WARNING: The "DRUM TO BAGLESS TRANSFER PORT", "REMOVE TRANSFER STAND AND ITEMS FROM DRUM" and "RETURN NON-COMPLIANT ITEM TRANSFER STAND TO DRUM" test cases are prerequisites for this test case. Do not perform this test case unless the pre-requisite test cases have already been successfully completed.	Verify that the "MATE DRUM TO BAGLESS TRANSFER PORT", "REMOVE TRANSFER STAND" and "RETURN NON-COMPLIANT ITEM TRANSFER STAND TO DRUM" test cases have already been successfully completed prior to running this test case.	☒		Kp
2	A Drath & Schrader drum should be mated to the Bagless Transfer Port (107-DO-07-201).	Verify that a Drath & Schrader drum is mated to the Bagless Transfer Port.	☒		Kp
3	The Bagless Transfer Port door should be rotated completely open.	Verify that the Bagless Transfer Port is open.	☒		Kp
4	The non-compliant item transfer stand should be completely lowered into the Drath & Schrader drum mated to the Bagless Transfer Port (107-DO-07-201).	Verify that the non-compliant item transfer stand is inside the Drath & Schrader drum.	☒		Kp
5	The manipulator should be located at park position number 2 near the 208 liter (85 gallon) Entry/Exit Port (107-DO-07-203). The manipulator arms should be parked. If the manipulator is not in this position, use the manipulator controls to move the manipulator to park position number 2 and park the manipulator arms.	Visually verify that the waste manipulator is at park position number 2 with both arms parked.	☒		Kp
6	Confirm that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B. If a sub-menu is displayed, press the "MAIN MENU" button to return to the Main Menu.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.	☒		Kp
7	Press the "PORT DO-07-201 MENU" button from the "LLW RWM GLOVEBOX MAIN MENU" screen at OIU-12-105B.	Verify that the "PORT DO-07-201 MENU" screen is displayed.	☒		Kp

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87.15.07 REMOVE 200 LITER (55 GALLON) DRUM FROM BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table Lower Interlocks					
8	Attempt to move the 208 liter (55 gallon) Bagless Transfer Port lift table (107-LT-09-201F) by activating the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201F). The Bagless Transfer Port should be open with a drum mated to this port. Because the port is not closed and locked, the "LOWER" pushbutton at the lift table local control pedestal should be disabled and have no effect on the lift table.	Verify that activating the "LOWER" pushbutton has no effect on the lift table.	✓		KL
9	Attempt to move the 200 liter (55 gallon) Bagless Transfer Port lift table (107-LT-09-201F) roller conveyors by activating the lift table "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal (107-PC-09-201F). Because the port is not closed and locked, the "FORWARD" and "REVERSE" pushbuttons at the lift table local control pedestal should be disabled and have no effect on the lift table.	Verify that activating the "FORWARD" and "REVERSE" pushbutton has no effect on the lift table.	✓		KL

TEST PROCEDURE STEPS (13027A-87)				EXPECTED OUTPUT		Pass	Fail	Witness (initial)
TEST CASE 13027A-87.15.07 REMOVE 200 LITER (55 GALLON) DRUM FROM BAGLESS TRANSFER PORT 107/DO-07-201								
Close Bagless Transfer Port								
10	Press the "CLOSE PORT" button from the "PORT DO-07-201 MENU" at OIU-12-105B to close the port. Because the manipulator is at the park position 2, and a drum has been mated to the port, the port should close. The PCS should display a "PORT CLOSING..." message at OIU-12-105B while the port is closing. Because the port has closed, OIU-12-105B should display a "PORT CLOSED" message.			Verify that the Bagless Transfer Port is closed and locked. Verify that a "PORT CLOSING..." message is displayed at OIU-12-105B while the port is closing. Verify that OIU-12-105B displays a "PORT CLOSED" message.		✓		KL
11	Press the "MAIN MENU" button at OIU-12-105B to return to the "LLW RWM GLOVEBOX MAIN MENU" screen.			Verify that the "LLW RWM GLOVEBOX MAIN MENU" screen is displayed at OIU-12-105B.		✓		KL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87:15:07 REMOVE 200 LITER (55 GALLON) DRUM FROM BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table "Failed To Lower" Alarm					
12	Change LT 201F "Failed to Lower" TD from current value to 5 sec. Record Register Contents. 74:108 13:1111 TD Register: 74:110 Contents: 10	Verify LT 201F TD set to 5 sec. and record Register Contents.	✓		KJ
13	Activate the lift table "LOWER" pushbutton at the lift table local control pedestal (107-PC-09-201F) to lower the Bagless Transfer Port lift table to its AGV height. The "AGV HEIGHT" status indicator 09-ZL-231G at the Lift Table Local Control Pedestal (107-PC-09-201F) should be illuminated.	Visually confirm that the lift table is lowered. Verify that the "AGV HEIGHT" status indicator is illuminated.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87:15:07 REMOVE 200 LITER (55 GALLON) DRUM FROM BAGLESS TRANSFER PORT 107-DO-07-201					
Examine Lift Table "Conveyor Reverse Failed" Alarm					
14	Review the "PORT DO-07-201 MENU" status. A flashing "SEQUENCE FAILED" message should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201D) Failed to Lower" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201F) Failed to Lower" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "ACTIVE ALARMS" screen with an active "Lift Table (201F) Failed to Lower" alarm is displayed.	✓		<i>KQ</i>
15	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Failed to Lower" alarm is displayed on this screen.	✓		<i>KQ</i>
16	Restore Register T4:110 to value recorded in Step 12 <i>change to 60 sec.</i>	Verify Register T4:110 is set to the correct value.	✓		<i>KQ</i>
17	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-201 MENU" at OIU-12-105B.	Verify that the "PORT DO-07-201 MENU" is displayed.	✓		<i>KQ</i>

Step #	TEST PROCEDURE STEPS (13027A-37)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.15-07 REMOVE 200 LITER (55 GALLON) DRUM FROM BAGLESS TRANSFER PORT 107-DO-07-201					
18	NOTE: This step will be used to simulate a power failure at the lift table. The 480 volt lift table local disconnect will be opened during drum transfer under the glovebox port. Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201F) to energize the lift table conveyor motor in reverse (107-LT-09-201F/M2). After drum has moved approximately one foot, open the 480 volt lift table local disconnect to remove power from the lift table. The "AGV END" status indicator (09-ZL-231A) at the Lift Table Local Control Pedestal (107-PC-07-201F) should not be illuminated, indicating that the drum is not at the AGV end of the Lift Table. The roller conveyor should stop. After approximately 10 seconds, close the 480 volt lift table local disconnect to restore power to the lift table. The roller conveyor should not start up again after power is restored.	Verify that the drum is not positioned at the AGV end of the Lift Table. Verify that the "AGV END" status indicator is not illuminated. Verify that the lift table roller conveyors have stopped and remain stopped.	✓	✓	Kph
19	Review the "PORT DO-07-201 MENU" status. A flashing "SEQUENCE FAILED" message should be displayed and the "ALARMS" button should be flashing. Press the "ALARMS" button. The "LOCAL ALARMS" screen should be displayed, with a flashing "Lift Table (201F) Conveyor Rev-Failed" alarm. Press the "LOCAL ALARMS" screen to display the "LOCAL ALARMS" screen. Buttons should be displayed near the bottom of the screen to allow alarms to be acknowledged. An active "Lift Table (201F) Conveyor Rev Failed" alarm should be displayed on this screen.	Verify that a flashing "SEQUENCE FAILED" message is displayed and the "ALARMS" button is flashing. Verify that the "LOCAL ALARMS" screen is displayed with the active alarm flashing. Verify that the "LOCAL ALARMS" screen with an active "Lift Table (201F) Conveyor Rev Failed" alarm is displayed.	✓	✓	Kph

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.15:07 REMOVE 200 LITER (55 GALLON) DRUM FROM BAGLESS TRANSFER PORT (107-DO-07-201)					
20	Press the bottom area of the "LOCAL ALARMS" screen to activate the alarm selector feature. The currently selected alarm should be highlighted. Press the up and down arrow buttons as needed to select the appropriate alarm. Press the "ACK" button to acknowledge the selected alarm. Press the "DONE" button to return to the "LOCAL ALARMS" screen.	Verify that the appropriate alarm is selected (highlighted). Verify that the selected alarm is acknowledged. Verify that the "LOCAL ALARMS" screen is displayed and that the acknowledged "Lift Table (201F) Conveyor Rev Failed" alarm is displayed on this screen.	✓	✓	KF
21	Press the "RETURN TO CURRENT SCREEN" button to return to the "PORT DO-07-201 MENU" at 107-OIU-12-105B.	Verify that the "PORT DO-07-201 MENU" is displayed and the screen status displays "Sequence failed".	✓		KF
22	Activate the "REVERSE" pushbutton at the Lift Table Local Control Pedestal (107-PC-09-201F) to energize the lift table conveyor motor in reverse (107-LT-09-201F/M2) until the drum is at the AGV end of the Lift Table. The "AGV END" status indicator (09-ZL-231A) at the Lift Table Local Control Pedestal (107-PC-07-201F) should be illuminated, indicating that the drum is at the AGV end of the Lift Table.	Verify that the drum is at the AGV end of the Lift Table. Verify that the "AGV END" status indicator (09-ZL-231A) is illuminated.	✓	✓	KF
Test Case 13027A-87.15 Complete					

Step #	ACCEPTANCE TEST PROCEDURE STEPS (13027A-37)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-37.16 EXAMINE LLW SORTING GLOVEBOX (GB-07-20) MAINTENANCE MENU FUNCTIONS					
Review "SYSTEM VARIABLES MENU" Operations					
1	Press the "SYSTEM VARIABLES" button from the "SORTING GLOVEBOX MAINTENANCE MAIN MENU" at OIU-12-105B.	Verify that the "SYSTEM VARIABLES" button has been pressed.	✓		KH
2	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KH
3	Press the "SET SCREEN CONTRAST" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "SET SCREEN CONTRAST" button has been pressed.	✓		KH
4	The "SET SCREEN CONTRAST" screen should be displayed at OIU-12-105B.	Verify that the "SET SCREEN CONTRAST" screen is displayed.	✓		KH
5	A numeric keypad with "ENTER" key should be displayed to allow system values to be modified.	Verify that a numeric keypad with "ENTER" key is displayed.	✓		KH
6	Using the keypad, set the System Screen Contrast to "3" and press the "ENTER" key. <i>Then press "DONE"</i>	Verify that the System Screen Contrast has been set to "3"	✓		KH
7	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KH
8	The value displayed on the "SET SCREEN CONTRAST" button should be "3"	Verify that the "SET SCREEN CONTRAST" value is "3"	✓		KH
9	Press the "SET DAY" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "SET DAY" button has been pressed.	✓		KH
10	The "SET DAY" screen should be displayed at OIU-12-105B.	Verify that the "SET DAY" screen is displayed.	✓		KH
11	A numeric keypad with "ENTER" key should be displayed to allow system values to be modified.	Verify that a numeric keypad with "ENTER" key is displayed.	✓		KH
12	Using the keypad, set the System Day to "3" and press the "ENTER" key.	Verify that the System Day has been set to "3"	✓		KH
13	Press the "DONE" key.	Verify that the "DONE" key has been pressed.	✓		KH

Step #	ACCEPTANCE TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
14	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KJ
15	The value displayed on the "SET DAY" button should be "3"	Verify that the "SET DAY" value is "3"	✓		KJ
16	Press the "SET MONTH" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "SET MONTH" button has been pressed.	✓		KJ
17	The "SET MONTH" screen should be displayed at OIU-12-105B.	Verify that the "SET MONTH" screen is displayed.	✓		KJ
18	A numeric keypad with "ENTER" key should be displayed to allow system values to be modified.	Verify that a numeric keypad with "ENTER" key is displayed.	✓		KJ
19	Using the keypad, set the System Month to "3" and press the "ENTER" key. <i>"3" is displayed</i>	Verify that the System Month has been set to "3"	✓		KJ
20	Press the "DONE" key.	Verify that the "DONE" key has been pressed.	✓		KJ
21	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KJ
22	The value displayed on the "SET MONTH" button should be "3"	Verify that the "SET MONTH" value is "3"	✓		KJ
23	Press the "SET YEAR" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "SET YEAR" button has been pressed.	✓		KJ
24	The "SET YEAR" screen should be displayed at OIU-12-105B.	Verify that the "SET YEAR" screen is displayed.	✓		KJ
25	A numeric keypad with "ENTER" key should be displayed to allow system values to be modified.	Verify that a numeric keypad with "ENTER" key is displayed.	✓		KJ
26	Using the keypad, set the System Year to "3" and press the "ENTER" key.	Verify that the System Year has been set to "3"	✓		KJ
27	Press the "DONE" key.	Verify that the "DONE" key has been pressed.	✓		KJ
28	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KJ

Step #	ACCEPTANCE TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✗	Witness (Initial)
29	The value displayed on the "SET YEAR" button should be "3"	Verify that the "SET YEAR" value is "3"	✓		KM
30	Press the "SET HOURS" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "SET HOURS" button has been pressed.	✓		KP
31	The "SET HOURS" screen should be displayed at OIU-12-105B.	Verify that the "SET HOURS" screen is displayed.	✓		Kjk
32	A numeric keypad with "ENTER" key should be displayed to allow system values to be modified.	Verify that a numeric keypad with "ENTER" key is displayed.	✓		KL
33	Using the keypad, set the System Hours to "15" and press the "ENTER" key.	Verify that the System Hours have been set to "15"	✓		Kg
34	Press the "DONE" key.	Verify that the "DONE" key has been pressed.	✓		KP
35	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KL
36	The value displayed on the "SET HOURS" button should be "15" NOTE: This value should represent 3 p.m. in the afternoon. If the value does not represent 3 p.m., then this step fails.	Verify that the "SET HOURS" value is "15"	✓		KP
37	Press the "SET MINUTES" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "SET MINUTES" button has been pressed.	✓		KP
38	The "SET MINUTES" screen should be displayed at OIU-12-105B.	Verify that the "SET MINUTES" screen is displayed.	✓		KP
39	A numeric keypad with "ENTER" key should be displayed to allow system values to be modified.	Verify that a numeric keypad with "ENTER" key is displayed.	✓		KP
40	Using the keypad, set the System Minutes to "3" and press the "ENTER" key.	Verify that the System Minutes have been set to "3"	✓		KPL
41	Press the "DONE" key.	Verify that the "DONE" key has been pressed.	✓		KL
42	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KL
43	The value displayed on the "SET MINUTES" button should start at "3" and then advance. (e.g., System Minutes will change each minute.)	Verify that the initial "SET MINUTES" value is "3"	✓		KL

Step #	ACCEPTANCE TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
44	Press the "SET SECONDS" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "SET SECONDS" button has been pressed.	✓		KJ
45	The "SET SECONDS" screen should be displayed at OIU-12-105B.	Verify that the "SET SECONDS" screen is displayed.	✓		KJ
46	A numeric keypad with "ENTER" key should be displayed to allow system values to be modified.	Verify that a numeric keypad with "ENTER" key is displayed.	✓		KJ
47	Using the keypad, set the System Seconds to "3" and press the "ENTER" key.	Verify that the System Seconds have been set to "3"	✓		KJ
48	Press the "DONE" key.	Verify that the "DONE" key has been pressed.	✓		KJ
49	The "SYSTEM VARIABLES MENU" should be displayed at OIU-12-105B.	Verify that the "SYSTEM VARIABLES MENU" is displayed.	✓		KJ
50	The value displayed on the "SET SECONDS" button should start at "3" and then rapidly advance (e.g., System Seconds will change each second.)	Verify that the "SET SECONDS" initial value is "3"	✓		KJ

Step #	ACCEPTANCE TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
Test Case Shutdown					
51	Press the "MAINTENANCE MAIN MENU" button from the "SYSTEM VARIABLES MENU" at OIU-12-105B.	Verify that the "MAINTENANCE MAIN MENU" button has been pressed.	✓		K/L
52	Return all LLW RWM Glovebox items to their parked, stable positions.	Verify that all LLW Sorting Glovebox items are parked.	✓		K/L
53	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed at OIU-12-105B.	Verify that the "LLW RWM GLOVEBOX MAIN MENU" is displayed.	✓		K/L
Test Case 13027A-87.16 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.17 EXAMINE AEROSOL CAN PUNCTURE DEVICE OPERATION					
NOTE: This test case will verify that the Aerosol Can Puncture device functions as per design requirements.					
1	Install aerosol can puncture device filter and collection bottle.	Verify aerosol can puncture device filter and collection bottle are installed.	✓		KV
2	Insert an Aerosol Can (pressurized) into the holder. <i>up side down</i>	Verify a pressurized aerosol can is installed in the holder.	✓		KAP
3	Clamp the lid in place.	Verify the lid is in place.	✓		KAP
4	Puncture the side of the can.	Verify the can is punctured.	✓		KAP
5	Verify the puncture by the collection of the can contents in the collection chamber.	Verify the collection chamber collects the contents of the aerosol can.	✓		KAP
6	Remove the can.		✓		KAP
7	Remove aerosol can puncture device filter and collection bottle.		✓		KAP
Test Case 13027A-87.17 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.18 EXAMINE "REHOME" FUNCTION OF LIFT TABLE 107-LT-09-201D					
NOTE: This test case will verify that the rehome function associated with Lift Table 107-LT-09-201D SERVO control is implemented and functions from OIU-105B.					
1	Remove/verify removed drum from Lift Table 107-LT-09-201D.	Verify no drum is present on 107-LT-09-201D.	✓		KJL
2	Raise the Lift Table approximately 1-inch above AGV height. <i>COVER. Kt 11/10/97</i>	Verify Lift Table 107-LT-09-201D is one inch above AGV Height.	✓		KJL
3	Rehome Lift Table using OIU "REHOME LIFT TABLE LT-09-201D" function.		✓		KJL
4	Verify Lift Table is rehomed.	Verify that Lift Table moves to AGV height.	✓		KJL
		Verify Lift Table rollers are $27 \pm 1/8$ " above floor. <i>27"</i>	✓		KJL
		Verify "AGV HEIGHT" indicator on 107-PC-09-201D is illuminated.	✓		KJL
Test Case 13027A-87.18 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.19 EXAMINE "REHOME" FUNCTION OF LIFT TABLE 107-LT-09-201E					
NOTE: This test case will verify that the rehome function associated with Lift Table 107-LT-09-201E SERVO control is implemented and functions from OIU-105B.					
1	Remove/verify removed drum from Lift Table 107-LT-09-201E.	Verify no drum is present on 107-LT-09-201E.	✓		KD
2	Raise the Lift Table approximately 1-inch above AGV height.	Verify Lift Table 107-LT-09-201E is one inch above AGV Height.	✓		KD
3	Rehome Lift Table using OIU "REHOME LIFT TABLE LT-09-201E" function.		✓		KF
4	Verify Lift Table is rehome.	Verify that Lift Table moves to AGV height. Verify Lift Table rollers are $27 \pm 1/8$ " above floor. $26 \frac{7}{8}$ " Verify "AGV HEIGHT" indicator on 107-PC-09-201E is illuminated.	✓		KF
			✓		KF
			✓		KF
Test Case 13027A-87.19 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.20 EXAMINE "REHOME" FUNCTION OF LIFT TABLE 107-LT-09-201F					
NOTE: This test case will verify that the rehome function associated with Lift Table 107-LT-09-201F SERVVO control is implemented and functions from OIU-103B.					
1	Remove/verify removed drum from Lift Table 107-LT-09-201F.	Verify no drum is present on 107-LT-09-201F.	✓		KP
2	Raise the Lift Table approximately 1-inch above AGV height.	Verify Lift Table 107-LT-09-201F is one inch above AGV Height.	✓		KP
3	Rehome Lift Table using OIU "REHOME LIFT TABLE LT-09-201F" function.	Verify that Lift Table moves to AGV height.	✓		KP
4	Verify Lift Table is rehome. Verify that Lift Table moves AGV height. Verify Lift Table rollers are 27±1/8" above floor. Verify "AGV HEIGHT" indicator on 107-PC-09-201F is illuminated.	Verify Lift Table rollers are 27±1/8" above floor. <i>26 3/4"</i> Verify "AGV HEIGHT" indicator on 107-PC-09-201F is illuminated.	✓	* ✓	KP
			✗		KP
			✗		KP
Test Case 13027A-87.20 Complete					

* *Rehome OK KP*

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.21 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201 E STOP					
1	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OIU screen. If it is not, switch from the presently displayed menu to the "LLW RWM GLOVEBOX MAIN MENU".	Verify that the "LLW RWM GLOVEBOX MAIN MENU" is displayed.	✓		KJ
2	Press "PORT DO-07-201 MENU" on the "LLW RWM GLOVEBOX MAIN MENU".	Verify that the "PORT DO-07-201 MENU" is displayed.	✓		KJ
3	The "PORT DO-07-201 MENU" should be displayed.	Verify that the Bagless Transfer port control console is in the Full Automatic Mode.	✓		KJ
4	Visually inspect the Glovebox area. Confirm that the bagless transfer port that will be tested and all items associated with this glovebox are ready for operation and that no debris or other foreign matter is present that would disrupt testing.	Verify that the bagless transfer port has been prepared for operation and testing.	✓		KJ
5	Prepare one empty 208 liter (55 gallon) Drath and Schrader drum with Cross Lid. This type of drum is designed to function with the Bagless Transfer Port.	Verify that a Drath and Schrader drum with lid is available for testing.	✓		KJ
6	At control pedestal PC-07-201F place "M/O/N" switch to "NORMAL".	Verify that "M/O/N" switch is set to "NORMAL".	✓		KJ
7	Verify that all LLW RWM Glovebox items have been placed in their parked positions including the following items: <u>ITEM</u> Hoist Trolley Monorail Hoist Manipulator	Verify that all glovebox items present have been placed in their parked positions.	✓		KJ
	<u>Tag Number</u> 107-CR-07-201 Monorail Hoist positioned directly over the Bagless Transfer Port, Hoist fully raised		✓		KJ
	<u>Parked Position</u> 107-EM-07-201 Manipulator at parked position number 2 (farthest from Bagless Transfer Port (107-DO-07-201) with both manipulator arms fully parked		✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (Initial)
TEST CASE 13027A-87.21 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DQ-201 E STOP					
8	Place a 208 liter (55 gallon) Drath & Schrader drum with inner drum lid, transfer stand, and outer lid at the AGV end of lift table 107-LT-09-201F such that the drum interrupts the light beam of photosensor ZS-231F. The "AGV END" light on the Control Pedestal should be illuminated. Message "NO DRUM AT LIFT TABLE" should be displayed on the OIU screen. <i>ERRONEOUS STEP</i>	Verify that the drum is interrupting the light beam of the photosensor. Verify that the "AGV END" light is illuminated. Verify that the "NO DRUM AT LIFT TABLE" message is displayed. Verify that the drum is no longer interrupting the light beam of the photosensor. Verify that the "DRUM AT LIFT TABLE" message is displayed. Verify that the switch is in the "PANEL" position.	☒ ☒ ☒ ☒ ☒	☒ ☒ ☒ ☒	KP KP KAP KP KP KP
9	Move the drum toward the port far enough so the photosensor light beam has been reestablished. Message "DRUM AT LIFT TABLE" should be displayed on the OIU screen. <i>ERRONEOUS STEP</i>		☒	☒	KP
10	The "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201F should be in the "PANEL" position. If it is in the "AGV" position, place the switch in the "PANEL" position. Press "FORWARD" on Control Pedestal PC-07-201F.		☒	☒	KP
11	Drum should move forward until centered under the port, motor should automatically de-energize. The "DRUM UNDER PORT" light on the Control Pedestal should be illuminated.	Verify that the conveyor motor de-energizes when the drum is centered under the port. Verify that the "DRUM UNDER PORT" light is illuminated.	☒ ☒	☒ ☒	KP KP KP
12	Press "RAISE" on Control Pedestal PC-07-201E. The drum should raise to until the predetermined weight setpoint has been reached and then stop. The "DRUM IN POSITION" light on the Control Pedestal should be illuminated, indicating that the predetermined weight setpoint has been reached. <i>Set point height 744 kg actual 740</i>	Verify that the drum raises and then stops at the weight setpoint. Verify that the "DRUM IN POSITION" light is illuminated.	☒ ☒ ☒	☒ ☒ ☒	KP KP KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.21 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201 E STOP					
13	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "OPEN PORT" on the "PORT DO-07-201 MENU". Message "PORT OPENING..." should be displayed on the OIU screen.		✓		KP
14	After the port starts rotating open, place "EMERGENCY STOP" switch 107-HS-201A in the "TRIP" position.	Verify that the "PORT OPENING..." message is displayed.	✓		KP
15	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door	Verify that the "EMERGENCY STOP" switch is in the "TRIP" position.	✓		KP
16	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door.	✓		KP
17	Verify that the Bagless Transfer Port 107-DO-07-201 controller has transferred to manual control: EMERGENCY STOP IS DISPLAYED ON PORT CONTROLLER.	Verify that the Bagless Transfer Port 107-DO-07-201 controller has transferred to manual control.	✓		KP
18	Reset "EMERGENCY STOP" switch 107-HS-201A.	Verify "EMERGENCY STOP" switch is reset.	✓		KP
19	Press "CLOSE PORT" on the "PORT DO-07-201 MENU" PLACE CONTROLLER IN MANUAL mode. Manually close port. Verify ^{11/10/07} Message "PORT CLOSING..." should be displayed on the OIU screen.	Verify that the "PORT CLOSING..." message is displayed.	✓		KP
20	Place Bagless Transfer Port 107-DO-07-201 in "AUTOMATIC MODE" on controller ^{KP 11/10/07}	Verify that the Bagless Transfer Port 107-DO-07-201 is in "AUTOMATIC MODE".	✓		KP
21	Press "OPEN PORT" on the "PORT DO-07-201 MENU". Message "PORT OPENING..." should be displayed on the OIU screen.	Verify that the "PORT OPENING..." message is displayed.	✓		KP

PORT Functions as designed. This test does not depict actual function. See test notes
 KP 11/10/07

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.21 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201 E STOP					
21	The port should raise, unlock and rotate fully open.	Verify that the port raises, unlocks and rotates fully open.	✓		Kye
	The drum lid should be attached to the port door.	Verify that the drum lid is attached to the port door.	✓		Kye
	Message "PORT OPEN" should be displayed on the OIU screen.	Verify that the "PORT OPEN" message is displayed.	✓		Kye
22	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "CLOSE PORT" on the "PORT DO-07-201 MENU".	Verify that the "PORT CLOSING..." message is displayed.	✓		Kye
23	Message "PORT CLOSING..." should be displayed on the OIU screen. After the port starts rotating closed place "EMERGENCY STOP" switch 107-HS-201B in the "TRIP" position.	Verify that the "EMERGENCY STOP" switch is in the "TRIP" position.	✓		Kye
24	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door.	✓		Kye
25	Verify that the Bagless Transfer Port 107-DO-07-201 controller has transferred to manual control. <i>Place controller into "Manual Control". Close PORT in Manual mode.</i>	Verify that the Bagless Transfer Port 107-DO-07-201 controller has transferred to manual control.	✓		Kye
26	Reset "EMERGENCY STOP" switch 107-HS-201B.	Verify "EMERGENCY STOP" switch is reset.	✓		Kye
27	Place Bagless Transfer Port 107-DO-07-291 in "AUTOMATIC MODE"	Verify that the Bagless Transfer Port 107-DO-07-201 is in "AUTOMATIC MODE".	✓		Kye
28	Press "CLOSE PORT" on the "PORT DO-07-201 MENU"	Verify that the "PORT CLOSING..." message is displayed.	✓		Kye

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.21 FULL AUTOMATIC CYCLE - 200 LITER (55 GALLON) BAGLESS TRANSFER PORT 107-DO-07-201 E STOP					
29	The port door should rotate down, the locking mechanism should engage, the port door should lower, and the drum lid should be released. <i>ERRONEOUS STEP</i> Message "PORT CLOSED" should be displayed on the OIU screen.	Verify that the port door rotates down, the locking mechanism engages, the port door lowers, and the drum lid is released. Verify that the "PORT CLOSED" message is displayed.	✓	✓	<i>[Signature]</i> 04/18/97
Test Case 13027A-87.21 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.22 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202 E-STOP					
1	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OIU screen. If it is not, switch from the presently displayed menu to the "LLW RWM GLOVEBOX MAIN MENU". Select "Port DO-07-202 MENU".	Verify that the "LLW-RWM- GLOVEBOX MAIN MENU" is displayed. <i>PORT DO-07-202 MENU</i>	✓		KP
2	Place a 208 liter (55 gallon) drum at the AGV end of lift table 107-LT-09-201B such that the drum interrupts the light beam of photosensor ZS-229E. Adjust Lift Table to AGV height. The "AGV END" light on the Control Pedestal should be illuminated	Verify that the drum is interrupting the light beam of the photosensor.	✓		KP
		Verify that the "AGV END" light is illuminated.	✓		KP
	Message "NO DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the "NO DRUM AT LIFT TABLE" message is displayed.	✓		KP
3	Move the drum toward the port far enough so the photosensor light beam has been reestablished. Message "DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the drum is no longer interrupting the light beam of the photosensor.	✓		KP
		Verify that the "DRUM AT LIFT TABLE" message is displayed.	✓		KP
4	The "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201B should be in the "NORMAL" position. If it is in the "AGV" position, place the switch in the "NORMAL" position.	Verify that the switch is in the "NORMAL" position.	✓		KP
5	Press "FORWARD" on Control Pedestal PC-07-201E. Drum should move forward until centered under the port, motor should automatically de-energize.	Verify that the conveyor motor de-energizes when the drum is centered under the port.	✓		KP
	The "DRUM UNDER PORT" light on the Control Pedestal should be illuminated.	Verify that the "DRUM UNDER PORT" light is illuminated.	✓		KP
6	Press "RAISE" on Control Pedestal PC-07-201E. The drum should raise to the Drum Centering Height. The "DRUM IN POSITION" light on the Control Pedestal should be illuminated.	Verify that the "DRUM IN POSITION" light is illuminated.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.22 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202 E STOP					
7	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "OPEN PORT" on the "PORT DO-07-202 MENU". Message "PORT OPENING..." should be displayed on the OIU screen. The drum centering clamps should extend to center the drum.	Verify that the "PORT OPENING..." message is displayed.	✓		Kf
8	The drum centering clamps should extend to center the drum.	Verify that the drum centering clamps extend to center the drum.	✓		Kf
9	The vacuum system should be activated by the PCS.	Verify that the vacuum system is activated.	✓		Kf
10	The HVAC seal should inflate.	Verify that the HVAC seal is inflated.	✓		Kf
11	The PCS should energize vent valves FEV-913C&D, thereby releasing pressure on the door open/close cylinders.	Verify that vent valves FEV-913C&D are energized.	✓		Kf
12	The port door locking bolts should both retract.	Verify that both locking bolts retract.	✓		Kf
13	The lift table servo motor should raise the drum to the Door in Position height and then stop.	Verify that the door is raised to the Door in Position height and then stops.	✓		Kf
14	The port door open cylinders should raise the port door to the open position. The drum lid should remain attached to the port door.	Verify that the port door raises to the open position. Verify that the drum lid remains attached to the port door.	✓		Kf
15	After the port starts rotating open, place "EMERGENCY STOP" switch 107-HS-201A in the "TRIP" position.	Verify that the "EMERGENCY STOP" switch is in the "TRIP" position.	✓		Kf
16	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door.	✗	✓	Kf
17	Reset "EMERGENCY STOP" switch 107-HS-201A.	Verify "EMERGENCY STOP" switch is reset.	✓		Kf

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.22 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202 E STOP					
18	The port door should rotate fully open. Message "PORT OPEN" should be displayed on the OIU screen.	Verify that the port is rotated fully open. Verify that the "PORT OPEN" message is displayed.	✓		KJ
19	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "CLOSE PORT" on the "PORT DO-07-202 MENU". Message "PORT CLOSING..." should be displayed on the OIU screen.	Verify that the "PORT CLOSING..." message is displayed.	✓		KJ
20	After the port starts rotating closed, place "EMERGENCY STOP" switch 107-HS-201B in the "TRIP" position.	Verify that the "EMERGENCY STOP" switch is in the "TRIP" position.	✓		KJ
21	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door.	✓		KJ
22	Reset "EMERGENCY STOP" switch 107-HS-201B.	Verify "EMERGENCY STOP" switch is reset.	✓		KJ
23	The port door should rotate fully closed.	Verify that the port is rotated fully closed.	✓		KJ
24	The port door open cylinders should lower the port door to the Door in Position height.	Verify that the port door lowers to the Door in Position height.	✓		KJ
25	Vacuum on the drum lid should be released by the PCS .	Verify that the vacuum is released from the drum lid.	✓		KJ
26	The drum lid detachment cylinder should be extended by the PCS.	Verify that the drum lid detachment cylinder is extended.	✓		KJ
27	The lift table should lower to the Drum Centering height by the PCS. The port door should be fully lowered to the closed position.	Verify that the lift table is lowered to the Drum Centering height. Verify that the port door is fully closed.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87-22 FULL AUTOMATIC CYCLE - 208 LITER (55 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-202 E STOP					
28	The port door locking cylinders should fully extend to lock the port.	Verify that the port door locking cylinders are fully extended.	✓		Kg
29	The drum lid detachment cylinder should be retracted by the PCS.	Verify that the drum lid detachment cylinder is retracted.	✓		Kg
30	The drum centering clamps should fully retract.	Verify that the drum centering clamps fully retract.	✓		Kg
	The HVAC seal should fully deflate.	Verify that the HVAC seal is fully deflated.	✓		Kg
	Message "PORT CLOSED" should be displayed on the OIU screen.	Verify that the "PORT CLOSED" message is displayed.	✓		Kg
31	Press "LOWER" on Control Pedestal PC-07-201E. The drum should lower to the AGV Height. The "AGV HEIGHT" light on the Control Pedestal should be illuminated.	Verify that the "AGV HEIGHT" light is illuminated.	✓		Kg
32	Press "REVERSE" on Control Pedestal PC-07-201E. The conveyor should move the drum to the AGV end position. The "AGV END" light on the Control Pedestal should be illuminated.	Verify that the "AGV END" light is illuminated.	✓		Kg
33	Place the "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201E in the "AGV" position.	Verify that the switch is in the "AGV" position.	✓		Kg
Test Case 13027A-87-22 Complete					

NK 11/10/11
 1330 HIT "DRUM READY FOR PICK UP"
 1336 DRUM PICK UP IN PROGRESS DISPLAYED ON SCREEN

Kg 11/10/11

✓ Kg
 ✓ Kg

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.23 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 E STOP					
1	The "LLW RWM GLOVEBOX MAIN MENU" should be displayed on the OIU screen. If it is not, switch from the presently displayed menu to the "LLW RWM GLOVEBOX MAIN MENU". Select "Port DO-07-203 MENU".	Verify that the "LLW RWM GLOVEBOX MAIN MENU" is displayed.	✓		K
2	Place a 322 liter (85 gallon) drum at the AGV end of lift table 107-LT-09-201D such that the drum interrupts the light beam of photosensor ZS-229E. The "AGV END" light on the Control Pedestal should be illuminated Message "NO DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the drum is interrupting the light beam of the photosensor. Verify that the "AGV END" light is illuminated. Verify that the "NO DRUM AT LIFT TABLE" message is displayed.	✓		K
3	Move the drum toward the port far enough so the photosensor light beam has been reestablished. Message "DRUM AT LIFT TABLE" should be displayed on the OIU screen.	Verify that the drum is no longer interrupting the light beam of the photosensor. Verify that the "DRUM AT LIFT TABLE" message is displayed.	✓		K
4	The "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201D should be in the "NORMAL" position. If it is in the "AGV" position, place the switch in the "NORMAL" position.	Verify that the switch is in the "NORMAL" position.	✓		K
5	Press "LOWER" on Control Pedestal PC-07-201D. The lift table should lower to a preprogrammed position of $18" \pm 1/8"$ above the floor.	Verify that the lift table lowers to the preprogrammed position.	✓		K
6	Press "FORWARD" on Control Pedestal PC-07-201D. Drum should move forward until centered under the port, motor should automatically de-energize. The "DRUM UNDER PORT" light on the Control Pedestal should be illuminated.	Verify that the conveyor motor de-energizes when the drum is centered under the port. Verify that the "DRUM UNDER PORT" light is illuminated.	✓		K

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass / Fail	Witness (initial)
TEST CASE 13027A-87.23 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 E STOP				
7	Press "RAISE" on Control Pedestal PC-07-201D. The drum should raise to the Drum Centering Height. The "DRUM IN POSITION" light on the Control Pedestal should be illuminated.	Verify that the "DRUM IN POSITION" light is illuminated.	✓	KV
8	Press "PORT DO-07-203 MENU" on the "LLW RWM GLOVEBOX MAIN MENU". The "PORT DO-07-203 MENU" should be displayed.	Verify that the "PORT DO-07-203 MENU" is displayed.	✓	KL
9	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "OPEN PORT" on the "PORT DO-07-203 MENU". <i>Forced Lid in Position sensor 5/11/97</i> Message "PORT OPENING..." should be displayed on the OIU screen. <i>X</i>	Verify that the "PORT OPENING..." message is displayed.	✓	KL
10	The drum centering clamps should extend to center the drum.	Verify that the drum centering clamps extend to center the drum.	✓	KA
11	The vacuum system should be activated by the PCS.	Verify that the vacuum system is activated.	✓	KL
12	The HVAC seal should inflate.	Verify that the HVAC seal is inflated.	✓	KJ
13	The PCS should energize vent valves FEV-913A&B, thereby releasing pressure on the door open/close cylinders.	Verify that vent valves FEV-913A&B are energized.	✓	KJ
14	The port door locking bolts should both retract.	Verify that both locking bolts retract.	✓	KJ
15	The lift table servo motor should raise the drum to the Door in Position height and then stop.	Verify that the door is raised to the Door in Position height and then stops.	✓	KJ
16	The port door open cylinders should raise the port door to the open position. The drum lid should remain attached to the port door.	Verify that the port door raises to the open position. Verify that the drum lid remains attached to the port door.	✓	KJ
17	After the port starts rotating open, place "EMERGENCY STOP" switch 107-HS-201A in the "TRIP" position.	Verify that the "EMERGENCY STOP" switch is in the "TRIP" position.	✓	KJ

Step #	TEST PROCEDURE STEPS (13027A-37)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.23 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 E STOP					
18	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door.	✓		KJ
19	Reset "EMERGENCY STOP" switch 107-HS-201A.	Verify "EMERGENCY STOP" switch is reset.	✓		KJ
20	The port door should rotate fully open.	Verify that the port is rotated fully open.	✓		KJ
	Message "PORT OPEN" should be displayed on the OIU screen.	Verify that the "PORT OPEN" message is displayed.	✓		KJ
21	NOTE: When this step is initiated, a series of steps will be performed automatically. Press "CLOSE PORT" on the "PORT DO-07-203 MENU". Message "PORT CLOSING..." should be displayed on the OIU screen.	Verify that the "PORT CLOSING..." message is displayed.	✓		KJ
22	After the port starts rotating closed, place "EMERGENCY STOP" switch 107-HS-201B in the "TRIP" position.	Verify that the "EMERGENCY STOP" switch is in the "TRIP" position.	✓		KJ
23	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door	Verify that the port door stops rotating, holds in place, and the lid remains attached to the door.	✓		KJ
24	Reset "EMERGENCY STOP" switch 107-HS-201B.	Verify "EMERGENCY STOP" switch is reset.	✓		KJ
25	The port door should rotate fully closed.	Verify that the port is rotated fully closed.	✓		KJ
26	The port door open cylinders should lower the port door to the Door in Position height.	Verify that the port door lowers to the Door in Position height.	✓		KJ
27	Vacuum on the drum lid should be released by the PCS.	Verify that the vacuum is released from the drum lid.	✓		KJ
28	The drum lid detachment cylinder should be extended by the PCS.	Verify that the drum lid detachment cylinder is extended.	✓		KJ

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.23 FULL AUTOMATIC CYCLE - 322 LITER (85 GALLON) DRUM ENTRY/EXIT PORT 107-DO-07-203 E STOP					
29	The lift table should lower to the Drum Centering height by the PCS. The port door should be fully lowered to the closed position.	Verify that the lift table is lowered to the Drum Centering height. Verify that the port door is fully closed.	✓		KJ
30	The port door locking cylinders should fully extend to lock the port.	Verify that the port door locking cylinders are fully extended.	✓		KJ
31	The drum lid detachment cylinder should be retracted by the PCS.	Verify that the drum lid detachment cylinder is retracted.	✓		KJ
32	The drum centering clamps should fully retract. The HVAC seal should fully deflate. Message "PORT CLOSED" should be displayed on the OIU screen.	Verify that the drum centering clamps fully retract. Verify that the HVAC seal is fully deflated. Verify that the "PORT CLOSED" message is displayed.	✓ ✓ ✓		KJ KJ KJ
33	Press "LOWER" on Control Pedestal PC-07-201D. The drum should lower to the preprogrammed position.	Verify that the lift table lowers to the preprogrammed position.	✓		KJ
34	Press "REVERSE" on Control Pedestal PC-07-201D. The conveyor should move the drum to the AGV end position. The "AGV END" light on the Control Pedestal should be illuminated.	Verify that the "AGV END" light is illuminated.	✓		KJ
35	Press "RAISE" on Control Pedestal PC-07-201D. The lift table should raise to the AGV height. The "AGV HEIGHT" light on the Control Pedestal should be illuminated.	Verify that the "AGV HEIGHT" light is illuminated.	✓		KJ
36	Place the "AGV/PANEL" switch on lift table Local Control Pedestal PC-07-201D in the "AGV" position.	Verify that the switch is in the "AGV" position.	✓		KJ
Test Case 13027A-87.23 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87.24 LLW RWM GLOVEBOX MONORAIL HOIST B-STOP					
1	Place the Glovebox Monorail Hoist pendant 107-PC-07-009A "Pendant Select" switch to the "PEND A" position. The enabled indicator on "PEND A" should be illuminated.	Verify that the 107-PC-07-009A hoist pendant "Pendant Select" switch is placed in the "PEND A" position. Verify that the "ENABLED" indicator is illuminated.	✓		KP
2	Confirm that the LLW RWM Glovebox Monorail Hoist (107-CR-07-201) is unloaded (no transfer stand attached) and fully raised. If necessary, unload the hoist and use the hoist/trolley pendant (107-PC-07-009A) to fully raise the hoist. The hoist "RAISED LIMIT" indicator should be illuminated, indicating that the hoist is fully raised.	Visually verify that the hoist is unloaded (no transfer stand attached) and fully raised. Verify that hoist "RAISED LIMIT" indicator is illuminated.	✓		KP
3	Activate the Trolley/Hoist Pendant (105-PC-07-009A) Right pushbutton to energize trolley motor 107-CR-07-201/M1 so that the trolley moves towards Port 202.	Verify that Trolley/Hoist Pendant Right pushbutton is energized.	✓		KP
4	After the trolley starts moving, place "EMERGENCY STOP" switch 107-HS-201A IN THE "TRIP" position.	Verify that the "EMERGENCY STOP" switch is in the "TRIP" position	✓		KP
5	Verify that the Trolley 107-CR-07-201 stops moving.	Trolley 107-CR-07-201 stops moving.	✓		KP
6	Attempt to move Trolley 107-CR-07-201 Left/Right by depressing the "LEFT/RIGHT" pushbuttons on 107-PC-07-009AC.	Verify that Trolley 107-CR-07-201 does not move.	✓		KP
7	Attempt to Lower/Raise Hoist 107-CR-07-201 by depressing "LOWER/RAISE" on 107-PC-07-009A.	Verify that Hoist: 107-CR-07-201 does not lower or raise.	✓		KP
8	Reset "EMERGENCY STOP" switch 107-HS-201A.	Verify that "EMERGENCY STOP" switch 107-HS-201A is reset.	✓		KP
9	Place Glovebox Monorail Hoist Pendant 107-PC-07-009A "PENDANT SELECT" select switch to the "PEND B" position.	Verify that the Glovebox Monorail Hoist Pendant 107-PC-07-009A "PENDANT SELECT" switch is set to "PEND B" position.	✓		KP

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST CASE 13027A-87.24 LLW RWM GLOVEBOX MONORAIL HOIST E-STOP					
10	Lower Hoist 107-CR-07-201 by depressing the "LOWER" button on hoist pendant 107-PC-07-009B.	Verify the "LOWER" pushbutton on Hoist Pendant 107-PC-07-009B has been depressed.	✓		KP
11	After the hoist starts lowering, place "EMERGENCY STOP" switch 107-HS-201B in the "TRIP" position.	Verify that "EMERGENCY STOP" switch 107-HS-201B is in the "TRIP" position.	✓		KP
12	Verify that Hoist 107-CR-07-201 stops lowering.	Hoist 107-CR-07-201 stops lowering.	✓		KP
13	Attempt to raise Hoist 107-CR-07-201 by depressing "RAISE" on pendant 107-PC-07-009B.	Verify that Hoist 107-CR-07-201 does not raise.	✓		KP
14	Attempt to move Trolley 107-CR-07-201 Left/Right by depressing the "LEFT/RIGHT" pushbuttons on 107-PC-07-009B.	Verify that Trolley 107-CR-07-201 does not move.	✓		KP
15	Reset "EMERGENCY STOP" switch 107-HS-201B.	Verify that "EMERGENCY STOP" switch 107-HS-201B is reset.	✓		KP
16	Raise Hoist 107-CR-07-201 to the raised position, "RAISED LIMIT" indicator on 107-PC-07-009B is illuminated.	Verify that the "RAISED LIMIT" indicator 107-PC-07-009B is illuminated.	✓		KP
17	Return Hoist/Trolley 107-CR-07-201 to the parked position, centered over Bagless Transfer Port 201 with the "LEFT" indicator on pendant 107-PC-07-009B illuminated.	Verify Hoist/Trolley 107-CR-07-201 is parked over Port 201.	✓		KP
18	Place Glovebox Monorail Hoist Pendant 107-PC-009A "PENDANT SELECT" switch to the "PEND A" position.	Verify that the Glovebox Monorail Hoist Pendant 107-PC-009A "PENDANT SELECT" switch is in the "PEND A" position.	✓		KP
Test Case 13027A-87.24 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (Initial)
TEST CASE 13027A-87/25 EXAMINE PORT 202 VACUUM SEAL					
1	Install 0-30" Hg Vacuum Gauge on PORT 202 Vacuum sensing line.	Verify that 0-30" Vacuum Gauge is installed.	✓		KL
2	Place a 208 liter (55 gallon) drum with weighted lid at the AGV end of Lift Table 107-LT-09-201B.	Verify that the drum is positioned on the lift table at the AGV end.	✓		KL
3	Mate the 55 gallon drum with weighted lid to Port 202.	Verify that the drum is at Port 202.	✓		KL
4	Press "PORT DO-07-202 MAINTENANCE MENU" on the "MAINTENANCE MAIN MENU". The "PORT DO-07-202 MAINTENANCE MENU" should be displayed.	Verify that "PORT DO-07-202 MAINTENANCE MENU" is selected. Verify that the "PORT DO-07-202 MAINTENANCE MENU" is displayed.	✓		KL
5	Press "OPEN ISOLATION VALVE" on the "PORT DO-07-202 MAINTENANCE MENU" <i>Vacuum OFF. KL-11/0197</i>	Verify that the vacuum supply valve is open.	✓		KL
6	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 202 Vacuum sensing line. <i>0" Hg (B.L.)</i>	Verify that indicated vacuum is recorded.	✓		KL
7	Verify Port 202 Vacuum System is not on.	Verify vacuum not present on Port 202.	✓		KL
8	Press "TURN ON VACUUM" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the vacuum supply system is on.	✓		KL
9	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 202 Vacuum sensing line and verify the value is greater than 14" Hg. <i>18.2" Hg (> 14" Hg)</i>	Verify that the indicated vacuum is greater than 14" Hg and is recorded.	✓		KL
10	Press "UNLOCK PORT" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that both shot bolts are fully retracted.	✓		KL
11	Press "RAISE DOOR" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the Port Door is open.	✓		KL
12	Verify that the Port 202 port door is open and that the weighted lid is attached to the port door.	Verify that the weighted lid is attached to the port door.	✓		KL

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass ✓	Fail ✓	Witness (initial)
TEST CASE 13027A-87/25 EXAMINE PORT 202 VACUUM SEAL					
13	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 202 Vacuum sensing line and verify the value is greater than 14" Hg. <i>13.2 14-11/16" *Hg (> 14" Hg)</i>	Verify that the indicated vacuum is greater than 14" Hg and is recorded.	✓		KJL
14	Press "LOWER DOOR" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the Port Door is closed.	✓		KJL
15	Press "TURN OFF VACUUM" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that the vacuum supply system is off.	✓		KJL
16	Press "OPEN ISOLATION VALVE" on the "PORT DO-07-202 MAINTENANCE MENU" <i>EXTRINSIC STEP KJL 11/10/17</i>	Verify that the vacuum supply valve is open.	✓		KJL
17	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 202 Vacuum sensing line and verify the value is greater than 14" Hg. <i>13.2 14-11/16" *Hg (< 2" Hg)</i>	Verify that the indicated vacuum is less than 2" Hg and is recorded.	✓		KJL
18	Press "EXTEND LID DETACH" on the "PORT DO-07-202 MAINTENANCE MENU"	Verify that the lid detach cylinder fully extends.	✓		KJL
19	Verify the lid is detached from Port 202 port door.	Lid is detached from Port 202 port door.	✓		KJL
20	Press "RETRACT LID DETACH" on the "PORT DO-07-202 MAINTENANCE MENU"	Verify that the lid detach cylinder fully retracts.	✓		KJL
21	Press "LOCK PORT" on the "PORT DO-07-202 MAINTENANCE MENU".	Verify that both shot bolts are fully extended.	✓		KJL
22	Remove the 55 gallon drum from Port 202.		✓		KJL
23	Remove the 0-30" Hg Vacuum Gauge installed on the Port 202 Vacuum sensing line.	Verify that 0-30" Hg Vacuum Gauge is removed.	✓		KJL
Test Case 13027A-87/25 Complete					

Step #	TEST PROCEDURE STEPS 13027A-87-26 (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87-26 EXAMINE PORT 203 VACUUM SEAL					
1	Install 0-30" Hg Vacuum Gauge on Port 203 Vacuum sensing line.	Verify that 0-30" Vacuum Gauge is installed.	☒		KR
2	Place a 222 liter (85 gallon) drum with weighted lid at the AGV end of Lift Table 107-LT-09-201E.	Verify that the drum is positioned on the lift table at the AGV end.	☒		KR
3	Place the 85 gallon drum with weighted lid to Port 203.	Verify that the drum is at Port 203.	☒		KR
4	Press "PORT DO-07-203 MAINTENANCE MENU" on the "MAINTENANCE MAIN MENU".	Verify that "PORT DO-07-203 MAINTENANCE MENU" is selected.	☒		KR
	The "PORT DO-07-203 MAINTENANCE MENU" should be displayed.	Verify that the "PORT DO-07-203 MAINTENANCE MENU" is displayed.	☒		KR
5	Press "OPEN ISOLATION VALVE" on the "PORT DO-07-203 MAINTENANCE MENU" SEE VACUUM ORG <i>ERRUN 6003 STEP 14/14/97</i>	Verify that the vacuum supply valve is open.	☒		KR
6	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 203 Vacuum sensing line. <i>(14/10/97) 19.0" Hg (B.L.)</i>	Verify that indicated vacuum is recorded.	☒		KR
7	Verify Port 203 Vacuum System is not on.	Verify vacuum not present on Port 203	☒		KR
8	Press "TURN ON VACUUM" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the vacuum supply system is on.	☒		KR
9	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 203 Vacuum sensing line and verify the value is greater than 14" Hg. <i>19" * Hg (> 14" Hg)</i>	Verify that the indicated vacuum is greater than 14" Hg and is recorded.	☒		KR
10	Press "UNLOCK PORT" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that both shot bolts are fully retracted.	☒		KR
11	Press "RAISE DOOR" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the Port Door is open.	☒		KR
12	Verify that the Port 203 port door is open and that the weighted lid is attached to the port door.	Verify that the weighted lid is attached to the port door.	☒		KR

Step #	TEST PROCEDURE STEPS 13027A-87 (13027A-87)	EXPECTED OUTPUT	Pass ☒	Fail ☒	Witness (initial)
TEST CASE 13027A-87-26 EXAMINE PORT 203 VACUUM SEAL					
13	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 203 Vacuum sensing line and verify the value is greater than 14" Hg. <u>19.2</u> " Hg (> 14 " Hg)	Verify that the indicated vacuum is greater than 14" Hg and is recorded.	☒		KP
14	Press "LOWER DOOR" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the Port Door is closed.	☒		KP
15	Press "TURN OFF VACUUM" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the vacuum supply system is off.	☒		KP
16	Press "OPEN ISOLATION VALVE" on the "PORT DO-07-203 MAINTENANCE MENU" CERONEDUS. STEP 11/16/97	Verify that the vacuum supply valve is open.	☒		KP
17	Record vacuum indicated on 0-30" Hg Vacuum gauge installed on Port 203 Vacuum sensing line and verify the value is greater than 14" Hg. 0.13 19.2 11/16/97 returns to 20" Hg KP 11/16/97	Verify that the indicated vacuum is less than 2" Hg and is recorded.	2/1/97 ☒	☒	KP 12-11/16/97
18	Press "EXTEND LID DETACH" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the lid detach cylinder fully extends.	☒		KP
19	Verify the lid is detached from Port 203 port door.	Lid is detached from Port 203 port door.	☒		KP
20	Press "RETRACT LID DETACH" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that the lid detach cylinder fully retracts.	☒		KP
21	Press "LOCK PORT" on the "PORT DO-07-203 MAINTENANCE MENU".	Verify that both shot bolts are fully extended.	☒		KP
22	Remove the 85 gallon drum from Port 203.		☒		KP
23	Remove the 0-30" Hg Vacuum Gauge installed on the Port 203 Vacuum sensing line.	Verify that 0-30" Hg Vacuum Gauge is removed.	☒		KP
Test Case 13027A-87-26 Complete					

Step #	TEST PROCEDURE STEPS (13027A-87)	EXPECTED OUTPUT	Pass	Fail	Witness (initial)
TEST PROCEDURE 13027A-87 SHUTDOWN					
1	Unforce all LCU 102 registers.	Verify that all LCU registers are unforced.	✓		KP 9/10/07
2	Return all glovebox and testing equipment items to a safe, secure position.	Verify that all items used during testing are returned to a safe, secure position.	✓		KP
TEST PROCEDURE 13027A-87 SHUTDOWN COMPLETE					
TEST PROCEDURE 13027A-87 COMPLETE					

LLW RWM GLOVEBOX PERFORMANCE TEST DATA SHEETS

Instructions: Use these data sheets to verify that all appropriate equipment items, inputs, outputs, and OIU points are available and correctly labeled for the LLW RWM Init Tables (107-LT-09-201D, 107-LT-09-201E, and 107-LT-09-201F).

N/A Attached sheets AS-2

throughout for information only.

R/W 11/18/99

Digitized in contractors ATA, left is for
cross-reference purpose only. R/W 11/18/99

LLW RWM LIFT TABLE CHECKOUT DATA SHEET #1

107-LT-09-201D (Port DO-07-203) LLW RWM DRUM LIFT TABLE

PROCEDURE: 13027A-87 TITLE: LLW RWM GLOVEBOX ACCEPTANCE TEST

TAG ID	DESCRIPTION	Pass	Fail	Witness (initial)	NOTES
INPUTS					
09-HS-227A	LOG-AGE-OFF-NORMAL (C-0-R)-SWITCH				MAINTENANCE, OFF TESTED 11-18-91 Information only
09-HS-227B/U	RAISE LIFT TABLE PUSHBUTTON	✓			
09-HS-227B/D	LOWER LIFT TABLE PUSHBUTTON	✓			
09-HS-227C/F	ROLLER CONVEYOR FORWARD PUSHBUTTON	✓			
09-HS-227C/R	ROLLER CONVEYOR REVERSE PUSHBUTTON	✓			
09-HS-227D	AGV/PANEL SWITCH-LIFT TABLE LOCAL CONTROL		1X		
09-ZS-227A	AGV HANDSHAKE SIGNAL S1				
09-ZS-227B	AGV HANDSHAKE SIGNAL S2 (NOT USED)				
09-ZS-227C	LIFT TABLE DOWN OVERTRAVEL				
09-ZS-227D	LIFT TABLE UP OVERTRAVEL				
09-ZS-227E	DRUM AT END OF CONVEYOR				
09-ZS-227F	DRUM UNDER GLOVEBOX PORT				
09-ZS-227G	AGV MATING HEIGHT				
09-XS-227A/B	ROPE SWITCH A/B				
OUTPUTS					
09-ZY-227A	AGV HANDSHAKE SIGNAL S1				
09-ZY-227B	AGV HANDSHAKE SIGNAL S2 (NOT USED)				
107-LT-09-201D/F	ROLLER CONVEYOR FORWARD				
107-LT-09-201D/R	ROLLER CONVEYOR REVERSE				
107-LT-09-201D/RS	LIFT TABLE SERVO MOTOR CONTROLLER COMMUNICATIONS INTERFACE (RS232C)				
09-ZL-227D	DRUM IN POSITION				
OPERATOR INTERFACE UNIT POINTS					
STATUS	L-O-R SWITCH POSITION (1 = REMOTE)				
STATUS	AGV LOCAL SWITCH IN AGV				
STATUS	LIFT TABLE REQUIRES DRUM PICKUP				
STATUS	LIFT TABLE REQUIRES DRUM DROPOFF				
STATUS	TRANSFER FROM LIFT TABLE TO AGV COMPLETE				

STATUS	TRANSFER FROM AGV TO LIFT TABLE COMPLETE				
STATUS	AGV SERVICING LIFT TABLE				
STATUS	DRUM ON CONVEYOR				
STATUS	DRUM ON AGV				
STATUS	ID NUMBER OF DRUM ON LIFT TABLE				

N/A Information only R/W 11/18/99

LLW RWM LIFT TABLE CHECKOUT DATA SHEET #2
107-LT-09-201E (Port DO-07-202) LLW RWM DRUM LIFT TABLE
TEST PROCEDURE: 13027A-87 TITLE: LLW RWM GLOVEBOX ACCEPTANCE TEST

TAG ID	DESCRIPTION	Pass ✓	Fail ✓	Witness (initial)	NOTES
INPUTS					
09-HS-229A	LOCAL-OFF-REMOTE (L-O-R) SWITCH				N/A Information only 8/4 11/18/97
09-HS-229B/U	RAISE LIFT TABLE PUSHBUTTON				
09-HS-229B/D	LOWER LIFT TABLE PUSHBUTTON				
09-HS-229C/F	ROLLER CONVEYOR FORWARD PUSHBUTTON				
09-HS-229C/R	ROLLER CONVEYOR REVERSE PUSHBUTTON				
09-HS-229D	AGV/PANEL SWITCH-LIFT TABLE LOCAL CONTROL				
09-ZS-229A	AGV HANDSHAKE SIGNAL S1				
09-ZS-229B	AGV HANDSHAKE SIGNAL S2 (NOT USED)				
09-ZS-229C	LIFT TABLE DOWN OVERTRAVEL				
09-ZS-229D	LIFT TABLE UP OVERTRAVEL				
09-ZS-229E	DRUM AT END OF CONVEYOR				
09-ZS-229F	DRUM UNDER GLOVEBOX PORT				
09-ZS-229G	AGV MATING HEIGHT				
09-XS-229A/B	ROPE SWITCH A/B				
OUTPUTS					
09-ZY-229A	AGV HANDSHAKE SIGNAL S1				
09-ZY-229B	AGV HANDSHAKE SIGNAL S2 (NOT USED)				
107-LT-09-201E/F	ROLLER CONVEYOR FORWARD				
107-LT-09-201E/R	ROLLER CONVEYOR REVERSE				
107-LT-09-201E/RS	LIFT TABLE SERVO MOTOR CONTROLLER COMMUNICATIONS INTERFACE (RS232C)				
09-ZL-229D	DRUM IN POSITION				
OPERATOR INTERFACE UNIT POINTS					
STATUS	L-O-R SWITCH POSITION (1 = REMOTE)				
STATUS	AGV/LOCAL SWITCH IN AGV				
STATUS	LIFT TABLE REQUIRES DRUM PICKUP				
STATUS	LIFT TABLE REQUIRES DRUM DROPOFF				
STATUS	TRANSFER FROM LIFT TABLE TO AGV COMPLETE				

107-LT-09-201E (Port DO-07-202) LLW RWM DRUM LIFT TABLE				
TEST PROCEDURE: 13027A-87 TITLE: LLW RWM GLOVEBOX ACCEPTANCE TEST				
LLW RWM LIFT TABLE CHECKOUT DATA SHEET #2				
TAG ID	DESCRIPTION	Pass	Fail	Witness (initial)
STATUS	TRANSFER FROM AGV TO LIFT TABLE COMPLETE	✓	✓	
STATUS	AGV SERVICING LIFT TABLE			
STATUS	DRUM ON CONVEYOR			
STATUS	DRUM ON AGV			
STATUS	ID NUMBER OF DRUM ON LIFT TABLE			

11/18/97
RW
0 p/y
FV For tomorrow
p/x

LLW RWM LIFT TABLE CHECKOUT DATA SHEET #3

107-LT-09-201F (Port DO-07-201) LLW RWM DRUM LIFT TABLE

TEST PROCEDURE: 13027A-87 TITLE: LLW RWM GLOVEBOX ACCEPTANCE TEST

TAG ID	DESCRIPTION	Pass	Fail	Witness (initial)	NOTES
INPUTS					
09-HS-231A	MAINTENANCE-OFF-NORMAL (M-O-N) SWITCH				Information ONLY N/A R/W 11/18/99
09-HS-231B/U	RAISE LIFT TABLE PUSHBUTTON				
09-HS-231B/D	LOWER LIFT TABLE PUSHBUTTON				
09-HS-231C/F	ROLLER CONVEYOR FORWARD PUSHBUTTON				
09-HS-231C/R	ROLLER CONVEYOR REVERSE PUSHBUTTON				
09-HS-231D	AGV/PANEL SWITCH-LIFT TABLE LOCAL CONTROL				
09-ZS-231A	AGV HANDSHAKE SIGNAL S1				
09-ZS-231B	AGV HANDSHAKE SIGNAL S2 (NOT USED)				
09-ZS-231C	LIFT TABLE DOWN OVERTRAVEL				
09-ZS-231D	LIFT TABLE UP OVERTRAVEL				
09-ZS-231E	DRUM AT END OF CONVEYOR				
09-ZS-231F	DRUM UNDER GLOVEBOX PORT				
09-ZS-231G	AGV MATING HEIGHT				
09-XS-231A/B	ROPE SWITCH A/B				
09-WIT-231	CONVEYOR WEIGHT TRANSMITTER				
OUTPUTS					
09-ZY-231A	AGV HANDSHAKE SIGNAL S1				
09-ZY-231B	AGV HANDSHAKE SIGNAL S2 (NOT USED)				
LT-09-201F/F	ROLLER CONVEYOR FORWARD				
LT-09-201F/R	ROLLER CONVEYOR REVERSE				
LT-09-201F/RS	LIFT TABLE SERVO MOTOR CONTROLLER COMMUNICATIONS INTERFACE (RS-422)				
09-ZI-231D	DRUM IN POSITION				
OPERATOR INTERFACE UNIT POINTS					
STATUS	M-O-N SWITCH POSITION (1 = NORMAL)				
STATUS	AGV/PANEL SWITCH IN AGV				
STATUS	LIFT TABLE REQUIRES DRUM PICKUP				
STATUS	LIFT TABLE REQUIRES DRUM DROPOFF				
STATUS	TRANSFER FROM LIFT TABLE TO AGV COMPLETE				

PTB-001

LLW RWM LIFT TABLE CHECKOUT DATA SHEET #3

107-LT-09-201F (Port DO-07-201) LLW RWM DRUM LIFT TABLE
TEST PROCEDURE: 13027A-87 TITLE: LLW RWM GLOVEBOX ACCEPTANCE TEST

TAG ID	DESCRIPTION	Pas	Fail	Witness (initial)	NOTES
STATUS	TRANSFER FROM AGV TO LIFT TABLE COMPLETE	✓	✓		
STATUS	AGV SERVICING LIFT TABLE				
STATUS	DRUM ON CONVEYOR				
STATUS	DRUM ON AGV				
STATUS	ID NUMBER OF DRUM ON LIFT TABLE				
VALUE	OPERATOR SET POINT FOR DRUM SEATING				

11/18/87
H. J. F. 11/18/87

11/18/87

HTR-001

LEW RWM GLOVEBOX EQUIPMENT ITEM CHECKOUT LIST

ITEM	CHECKOUT	Pass	Fail	Witness (initial)
LEW RWM Glovebox Bagless Transfer Port (107-DO-201)				
Double Lid Lock Cylinder				
Double Lid Raise and Lower Cylinder				
Grip Drum Lid Cylinder				
Rotate Port Door Cylinder				
"Drum in Place" Position switch #1				
"Drum in Place" Position switch #2				
"Drum Lid Available" position switch				
"Lid Gripper Hold" position switch				
"Lid Gripper Release" position switch				
"Double Lid Vertical Up" position switch				
"Double Lid Vertical Down" position switch				
"Double Lid Lock Open" position switch				
"Double Lid Lock Close" position switch				
"Double Lid System Open" position switch				
"Double Lid System Closed" position switch				
"Door Closed" Bagless Transfer Port Output				
"Door Opened" Bagless Transfer Port Output				
"Close Door" Bagless Transfer Port Input				
"Open Door" Bagless Transfer Port Input				
LEW RWM Glovebox Bagless Transfer Port Auxiliary Equipment (Control Panel Switch Cabinet)				
On/Off Turn Switch				
Emergency Stop Pushbutton (Labeled "Emergency Stop")				
Start Pushbutton (Green)				
Stop Pushbutton (Red)				

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LLW RWM GLOVEBOX EQUIPMENT ITEM CHECKOUT LIST

ITEM	CHECKOUT	
	Pass	Fail
Control Panel Key Lock with Key	☒	☒
LCD Display with membrane keyboard	☒	☒
LLW RWM Glovebox 208 liter (55 gallon) Entry/Exit Port (107-DQ-07-202)	☒	☒
"Drum Port Closed and Locked" position switch	Label: 07-ZSC-908A Status:	
"Drum Port Closed and Locked" position switch	Label: 07-ZSC-908B Status:	
"Door Down" position switch	Label: 07-ZSC-909 Status:	
"Drum Port Rotated" position switch	Label: 07-ZSO-909 Status:	
"Drum Door Closed" position switch	Label: 07-ZS-900A Status:	
"Drum Door in position" position switch	Label: 07-ZS-900B Status:	
"Drum Door Open" position switch	Label: 07-ZS-900C Status:	
"System Established Adequate Vacuum" vacuum switch	Label: 07-PS-900 Status:	
"Drum Lid in Position" position switch	Label: 07-ZS-907 Status:	
"Drum Port Centering Device Retracted" position switch	Label: 07-ZSO-914A Status:	
"Drum Port Centering Device Retracted" position switch	Label: 07-ZSO-914B Status:	
"Drum Port HVAC Seal Deflated" pressure switch	Label: 07-PS-916 Status:	
"Drum Centering" solenoid	Label: 07-FEV-324A Status:	
"Entry/Exit Port Lock" solenoid	Label: 07-FEV-910/L Status:	
"Entry/Exit Port Unlock" solenoid	Label: 07-FEV-910/UN Status:	
"Entry/Exit Port Open" solenoid	Label: 07-FEV-910K/O Status:	
"Entry/Exit Port Close" solenoid	Label: 07-FEV-910K/C Status:	
"Entry/Exit Port Drum Lid Removal System Vacuum" solenoid	Label: 07-FEV-910/V Status:	
"Entry/Exit Port Lid Detach Extend" solenoid	Label: 07-FEV-910M/E Status:	
"Entry/Exit Port Lid Detach Retract" solenoid	Label: 07-FEV-910M/R Status:	
"Entry/Exit Port Door Close" solenoid	Label: 07-FEV-910O/C Status:	
"Entry/Exit Port Door Open" solenoid	Label: 07-FEV-910O/O Status:	
"Entry/Exit Port Door Close Pressure Vent" solenoid	Label: 07-FEV-913D Status:	
"Entry/Exit Port Door Open Pressure Vent" solenoid	Label: 07-FEV-913C Status:	

HR-021

LLW RWM GLOVEBOX EQUIPMENT ITEM CHECKOUT LIST

ITEM	CHECKOUT			Pass	Fail	Witness (initial)
"Entry/Exit Port Vacuum Isolation" solenoid	Label: 07-FEV-910G	Status:		✓		
"Entry/Exit Port HVAC Control Seal" solenoid	Label: 07-FEV-325A	Status:		✓		
LLW RWM Glovebox 322 liter (85 gallon) Entry/Exit Port (107-DO-07-203)						
"Drum Port Closed and Locked" position switch	Label: 07-ZSC-910A	Status:				
"Drum Port Closed and Locked" position switch	Label: 07-ZSC-910B	Status:				
"Door Down" position switch	Label: 07-ZSC-911	Status:				
"Drum Port Rotated" position switch	Label: 07-ZSO-911	Status:				
"Drum Door Closed" position switch	Label: 07-ZS-912A	Status:				
"Drum Door in position" position switch	Label: 07-ZS-912B	Status:				
"Drum Door Open" position switch	Label: 07-ZS-912C	Status:				
"System Established Adequate Vacuum" vacuum switch	Label: 07-PS-901	Status:				
"Drum Lid in Position" position switch	Label: 07-ZS-913	Status:				
"Drum Port Centering Device Retracted" position switch	Label: 07-ZSO-915A	Status:				
"Drum Port Centering Device Retracted" position switch	Label: 07-ZSO-915B	Status:				
"Drum Port HVAC Seal Deflated" pressure switch	Label: 07-PS-917	Status:				
"Drum Centering" solenoid	Label: 07-FEV-324B	Status:				
"Entry/Exit Port Lock" solenoid	Label: 07-FEV-910E/L	Status:				
"Entry/Exit Port Unlock" solenoid	Label: 07-FEV-910E/UN	Status:				
"Entry/Exit Port Open" solenoid	Label: 07-FEV-910H/O	Status:				
"Entry/Exit Port Close" solenoid	Label: 07-FEV-910H/C	Status:				
"Entry/Exit Port Drum Lid Removal System Vacuum" solenoid	Label: 07-FEV-910D/V	Status:				
"Entry/Exit Port Lid Detach Extend" solenoid	Label: 07-FEV-910L/E	Status:				
"Entry/Exit Port Lid Detach Retract" solenoid	Label: 07-FEV-910L/R	Status:				
"Entry/Exit Port Door Close" solenoid	Label: 07-FEV-910N/C	Status:				
"Entry/Exit Port Door Open" solenoid	Label: 07-FEV-910N/O	Status:				
"Entry/Exit Port Door Close Pressure Vent" solenoid	Label: 07-FEV-913B	Status:				
"Entry/Exit Port Door Open Pressure Vent" solenoid	Label: 07-FEV-913A	Status:				

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LLW RWM GLOVEBOX EQUIPMENT ITEM CHECKOUT LIST

ITEM	CHECKOUT		
	Pass	Fail	Witness (initial)
"Entry/Exit Port Vacuum Isolation" solenoid			
Label: 07-FEV-910F			
Status:			
"Entry/Exit Port HVAC Control Sol" solenoid			
Label: 07-FEV-325B			
Status:			
LLW RWM Glovebox Monorail Hoist (107-CR-07-201)			
Hoist Trolley Position Switch			
Label: 07-ZS-906A			
Status:			
Hoist Trolley Position Switch			
Label: 07-ZS-906C			
Status:			
"Hoist Raised" Position Switch			
Label: 07-ZS-906C			
Status:			
LLW RWM Glovebox Monorail Hoist Pendant (107-PC-07-009A)			
Pendant Select Switch			
Status:			
Trolley Travel "LEFT" Pushbutton			
Status:			
Trolley Travel "RIGHT" Pushbutton			
Status:			
Hoist "RAISE" Pushbutton			
Status:			
Hoist "LOWER" Pushbutton			
Status:			
Trolley "ENABLED" Indicator			
Status:			
Trolley "LEFT" Indicator			
Status:			
Trolley "CENTER" Indicator			
Status:			
Trolley "RIGHT" Indicator			
Status:			
Hoist "RAISED LIMIT" Indicator			
Status:			
LLW RWM Glovebox Monorail Hoist Pendant (107-PC-07-009B)			
Trolley Travel "LEFT" Pushbutton			
Status:			
Trolley Travel "RIGHT" Pushbutton			
Status:			
Hoist "RAISE" Pushbutton			
Status:			
Hoist "LOWER" Pushbutton			
Status:			
Trolley "ENABLED" Indicator			
Status:			
Trolley "LEFT" Indicator			
Status:			
Trolley "CENTER" Indicator			
Status:			
Trolley "RIGHT" Indicator			
Status:			
Hoist "RAISED LIMIT" Indicator			
Status:			
LLW RWM Glovebox Waste Manipulator (107-EM-07-201)			

1178-021

LLW RWM GLOVEBOX EQUIPMENT ITEM CHECKOUT LIST

ITEM	CHECKOUT		Witness (Initial)
	Pass	Fail	
"Manipulator Parked at Position 1" position switch			
"Manipulator Parked at Position 2" position switch			
"Manipulator Arm Parked" position switch			
"Manipulator Arm Parked" position switch			
Miscellaneous LLW RWM Glovebox Equipment Items			
Sample Transfer Port			
Consumable Entry Port (#3-3/4")			
Consumable Entry Port (#2-1/4")			
Weight Scale			
Pneumatic Value Manifold			
Neutralization Container			
Non-Compliant Item Transfer Stand			
Pipet Rack			
Bottle Caddie			
Aerosol Demister			
Bar Code Dispenser			
Aerosol Can Puncture Equipment			
Jar Mill			
Ph Meter/Probe			
Conductivity Probe			
Organic Vapor Analyzer			

End of Equipment Checkout List

DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	WRAP Engineering	Date 11/18/97
Project Title/Work Order		EDT No. 620625 <i>clm11/18/97</i>
HNF-SD-W026-ATR-021, LLW RWM ATR		ECN No. N/A <i>641751</i>

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
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ML Graham	T4-52				X
JK Kersten	T4-52	X			
KJ Leist	T4-52				X
WR Thackaberry	T4-52				X
JR Weidert	T4-52				X
Engineering Files	A3-88	X			
Project Files	G3-11				X