

CHAPTER

38

WATER/WASTE



777-200/300 FAULT ISOLATION MANUAL

CHAPTER 38 WATER/WASTE

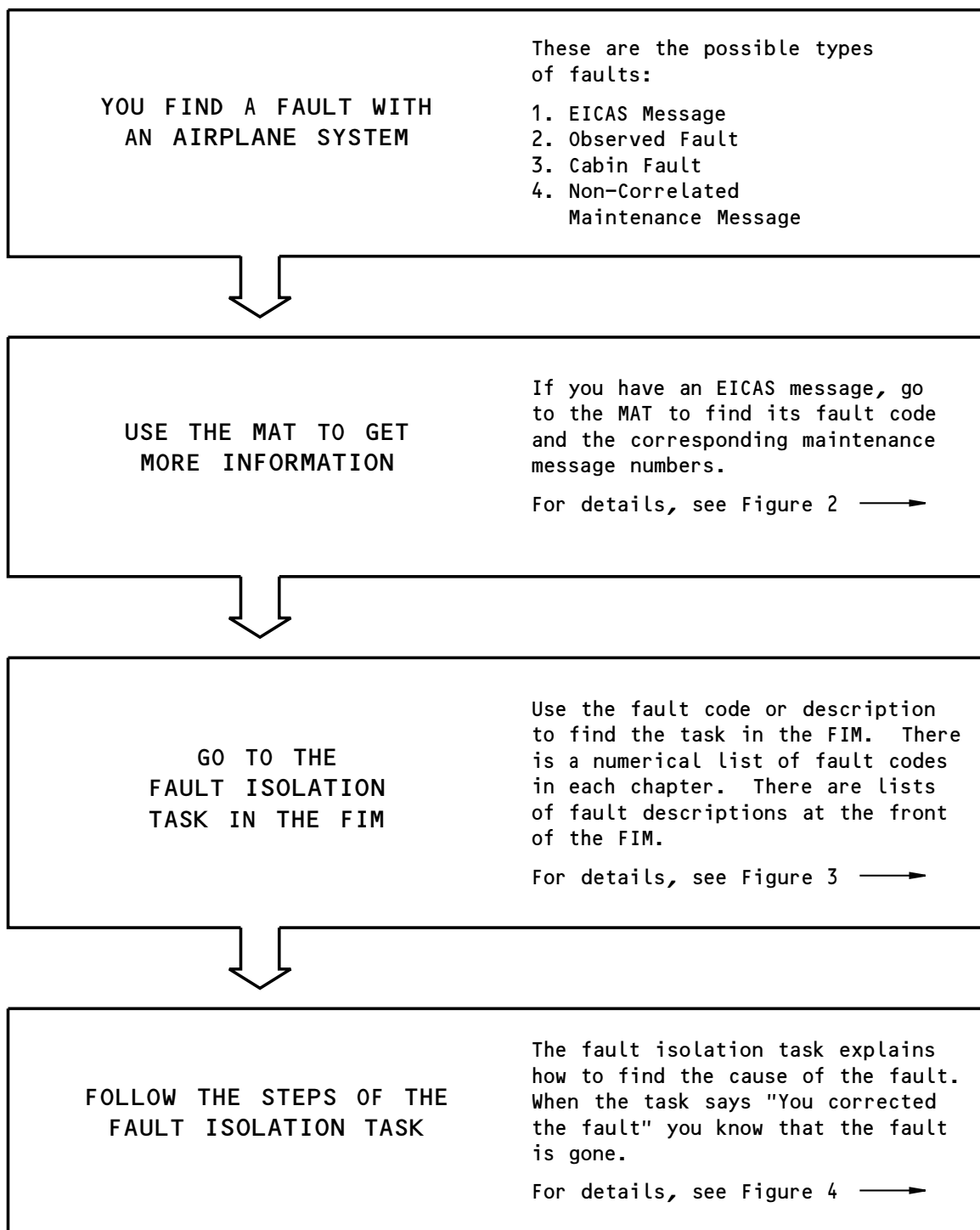
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A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

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E84424 S0000132469_V1

Basic Fault Isolation Process
Figure 1

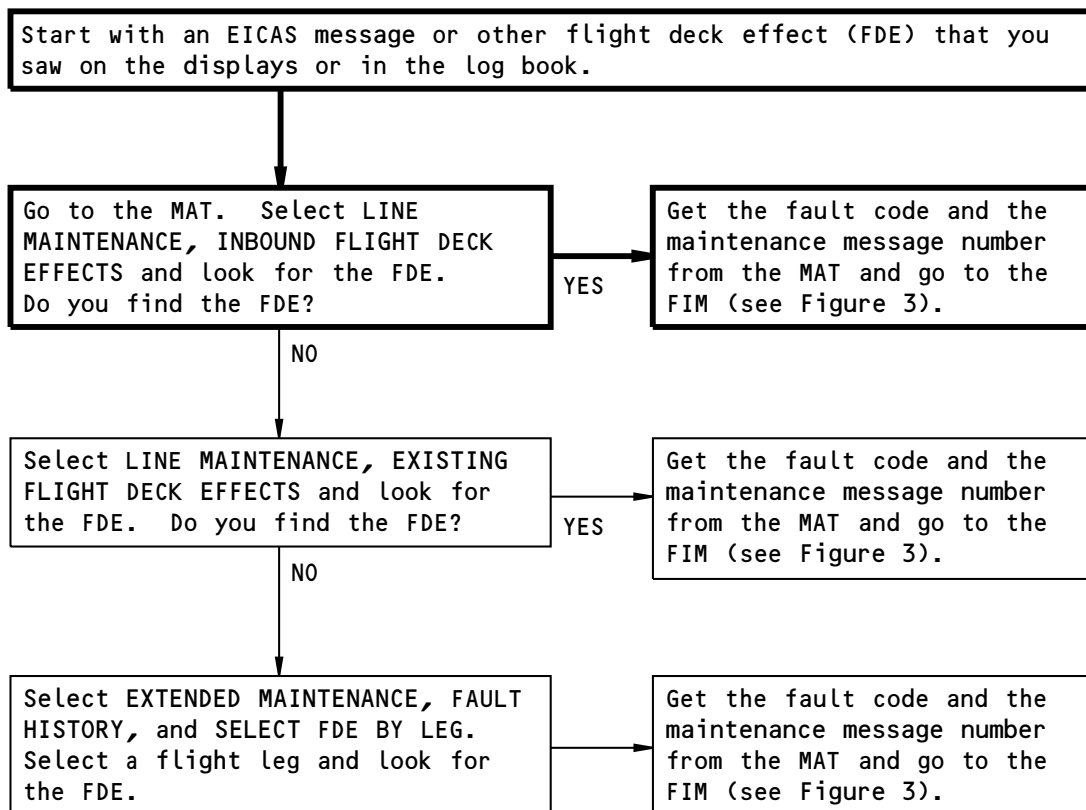
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NOTE: The bold lines show the most common path.

E84425 S0000132475_V1

Getting Fault Information from the MAT
Figure 2

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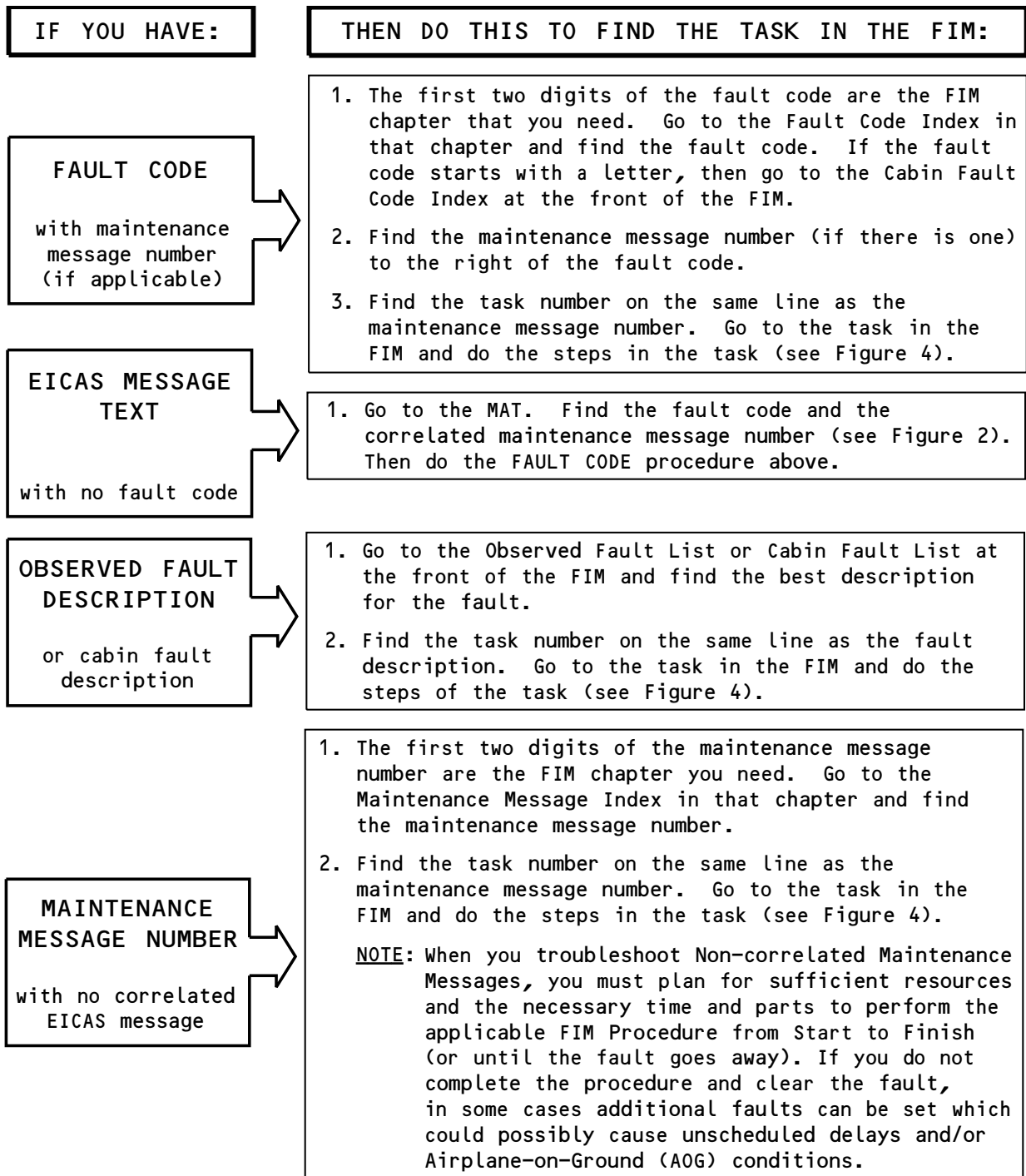
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E84427 S0000132476_V2

Finding the Fault Isolation Task in the FIM
Figure 3

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ASSUMED CONDITIONS AT START OF TASK

- External electrical power is ON
- Hydraulic power and pneumatic power are OFF
- Engines are shut down
- No equipment in the system is deactivated

INITIAL EVALUATION PARAGRAPH

- The Initial Evaluation paragraph at the start of the task helps you determine whether you can detect the fault right now.
- If you cannot detect the fault right now, then the task cannot isolate the fault and the Initial Evaluation paragraph will say that there was an intermittent fault.
- If you have an intermittent fault, you must use your judgement (and follow your airline's policy) to decide which components to replace. Then monitor the airplane to see if the fault happens again on subsequent flights.

FAULT ISOLATION STEPS

- The FIM task steps are presented in a specified order. "The If... then" statements will guide you along a logical path. But if you do not plan to follow the FIM task exactly, make sure that you read it before you start to isolate the fault. Some FIM procedures start with important steps that have an effect on the other steps in the procedure.
- When you are at the endpoint of the path, the step says "You corrected the fault." Complete the step and exit the procedure.
- The Recommended Maintenance Action that shows on the MAT for the maintenance message gives a list of possible causes in order by probability of failure. In the FIM procedure, the possible causes can be in a different order from the MAT.

WIRING CHECKS

When a step says "Do a wiring check", do these three types of electrical checks for the specified contacts (pins):

- continuity from contact to contact
- shorts between the contacts
- shorts from each contact to ground

E84428 S0000132477_V3

Doing the Fault Isolation Task
Figure 4

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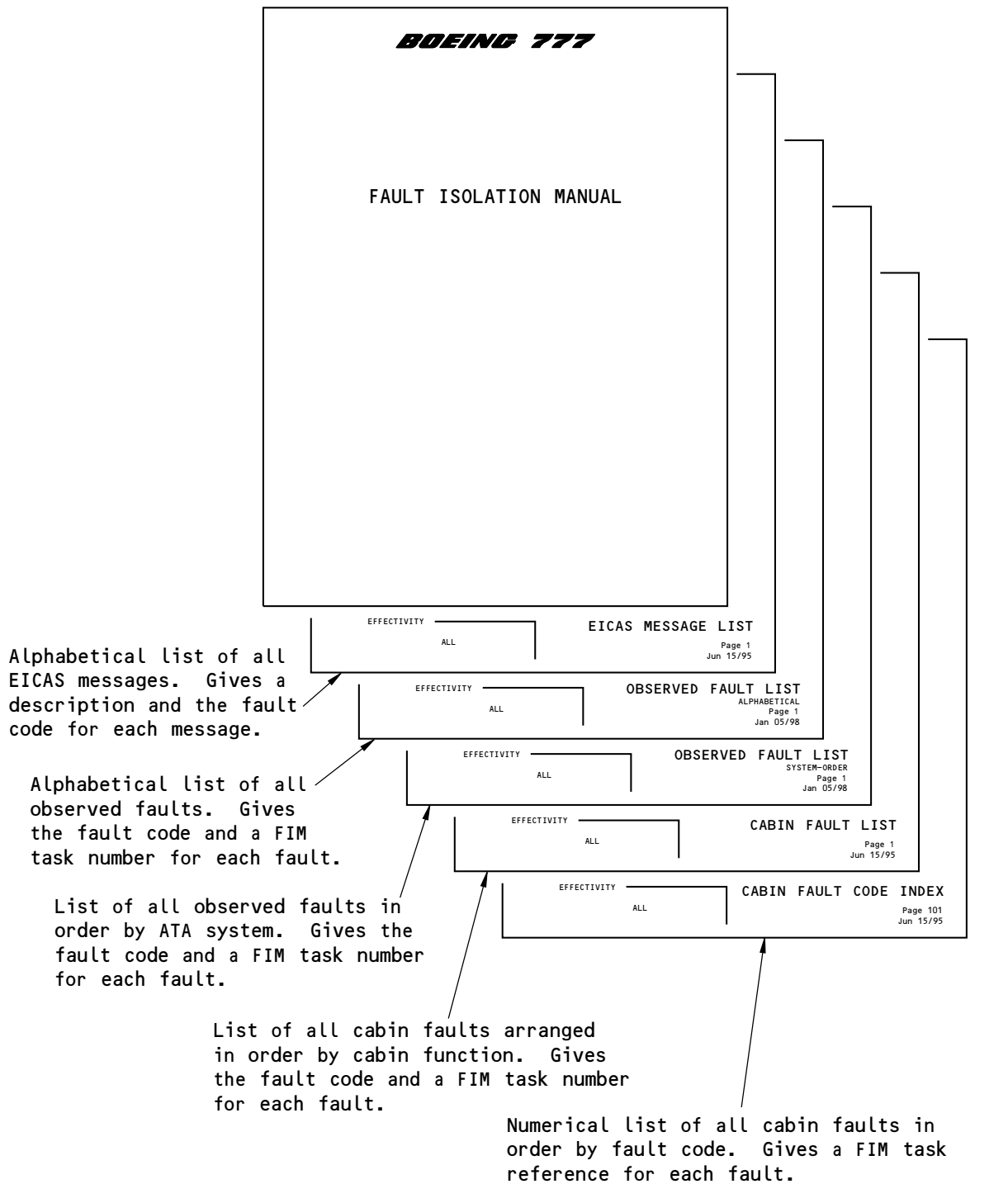
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Subjects at Front of FIM
Figure 5

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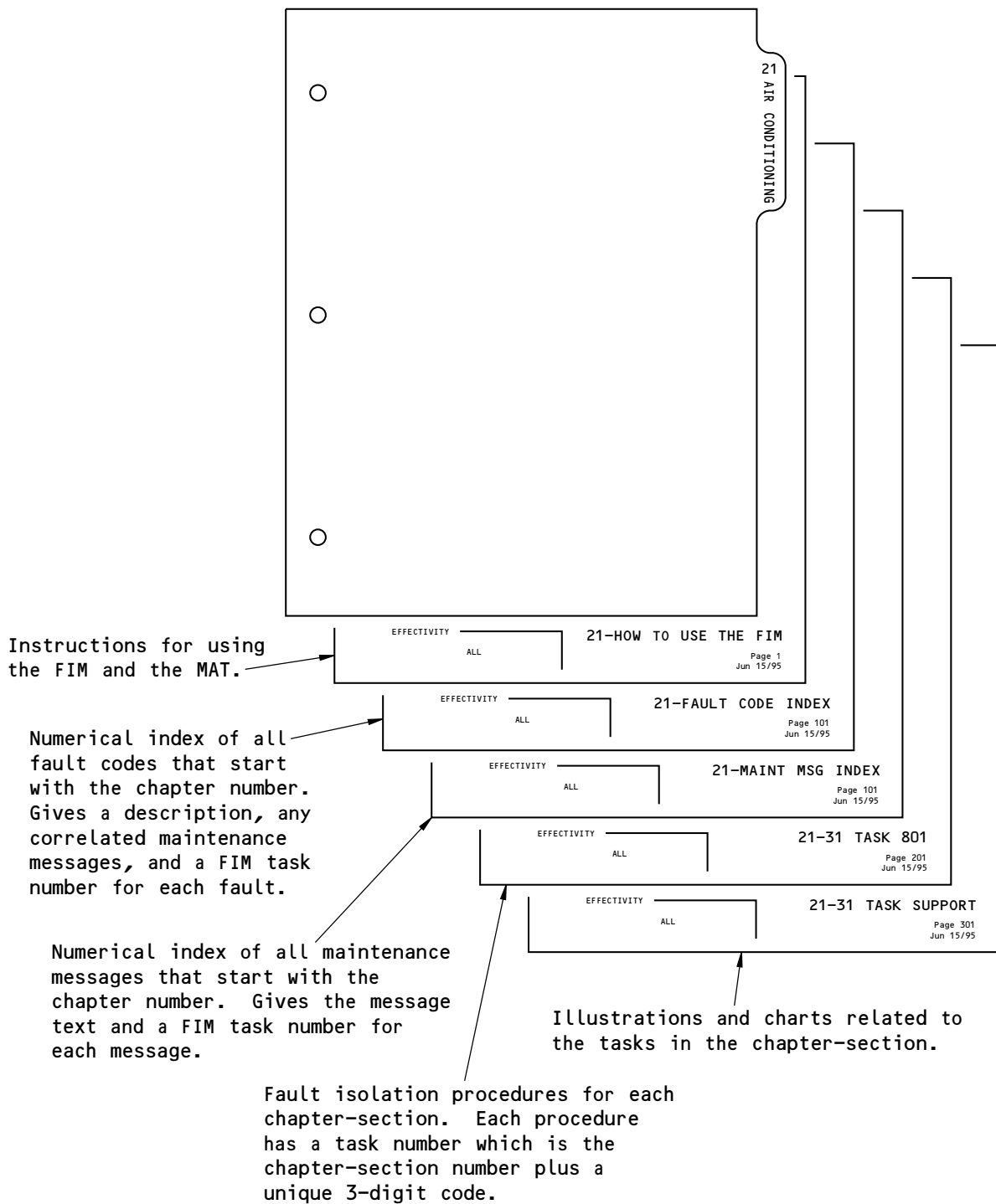
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F39837 S0000132479_V1

Subjects in Each FIM Chapter
Figure 6

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
381 611 00	Potable water: needs servicing.		23-98 TASK 803
381 811 00	Potable water: tank does not fill.		38-10 TASK 807
381 812 00	Potable water: tank leaks.		38-10 TASK 808
381 813 00	Potable water: indicator at service panel shows level of zero.		38-10 TASK 811
381 814 00	Potable water: indicator at CSCP or CACP shows level of zero.		38-10 TASK 809
381 817 00	Potable water: no water flows from any faucet on airplane.		38-10 TASK 814
381 821 00	Potable water: preselect system does not fill potable water tank.		38-10 TASK 812
381 831 44	Water leakage: visible at cargo compartment ceiling - forward cargo compartment.		38-10 TASK 819
381 831 45	Water leakage: visible at cargo compartment ceiling - aft cargo compartment.		38-10 TASK 819
383 811 00	Waste tank drain valve: handle does not drain tank when pulled.		38-30 TASK 812
383 812 00	Waste tank: does not precharge.		38-30 TASK 807
383 821 43	Waste tank status display on CSCP or CACP: Shows tank full when tank is not full - tank 2 (= mid tank).		38-30 TASK 821
383 821 44	Waste tank status display on CSCP or CACP: Shows tank full when tank is not full - tank 1 (= forward tank).		38-30 TASK 821
383 821 45	Waste tank status display on CSCP or CACP: Shows tank full when tank is not full - tank 3 (= aft tank).		38-30 TASK 821
383 831 00	Toilets: Toilets (all) for a specific waste tank do not flush.		38-30 TASK 822

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MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
38-11000	Relay (VACUUM BLOWER SYS 1) in P110 is not in commanded position.	38-30 TASK 817
38-11001	Relay (VACUUM BLOWER SYS 1) in P110 is not in commanded position.	38-30 TASK 831
38-12000	Relay (VACUUM BLOWER SYS 2&3) in P210 is not in commanded position.	38-30 TASK 818
38-12001	Relay (VACUUM BLOWER SYS 2&3) in P210 is not in commanded position.	38-30 TASK 832
38-21020	Waste Tank (WT) is failed. Detected by: OEU.	38-30 TASK 816
38-21031	Waste Tank Sensor (WTS) is failed. Detected by: OEU.	38-30 TASK 815
38-21040	Waste Tank Sensor (WTS) is fouled. Detected by: OEU.	38-30 TASK 813

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801. Lavatory Faucet Leak - Fault Isolation

A. Fault Isolation Procedure

- (1) Feel the water that comes from the faucet.
 - (a) If the water is hot, then it is necessary to replace or adjust the hot water cartridge.
 - (b) If the water is cold, then it is necessary to replace or adjust the cold water cartridge.
 - (c) If the is not hot or cold, then it is necessary to replace or adjust the hot and cold water faucet cartridges.
- (2) Do one of these tasks:
 - (a) To replace the applicable lavatory faucet cartridge(s), do this task: Cartridge Valve Assembly Replacement (Adams Rite), AMM TASK 38-11-08-960-801.
 - (b) To adjust the applicable lavatory faucet cartridge(s), do this task: Drain Valve Adjustment (Adams Rite), AMM TASK 38-11-08-820-802.
 - (c) If the leak stops, then you corrected the fault.

————— **END OF TASK** —————

802. Galley Faucet Leak - Fault Isolation

A. Fault Isolation Procedure

- (1) Close the water shutoff valve for the galley.
- (2) Replace or adjust the applicable galley faucet(s).

NOTE: Refer to the component maintenance manual from the vendor of the applicable galley to replace or adjust the faucet.
- (3) Open the water shutoff valve for the galley.
 - (a) If the leak stops, then you corrected the fault.

————— **END OF TASK** —————

803. Faucet Water Flow not Sufficient - Fault Isolation

A. Initial Evaluation

- (1) Open the faucet for 10 seconds.
 - (a) If the flow is not satisfactory, then do these steps:

ARO 001-005

NOTE: Make sure that all applicable water shutoff valves and isolation valves are open before you start.

ARO 006-999

NOTE: Make sure that all applicable water shutoff valves are open before you start.

ARO ALL

- 1) Go to one of the other lavatories and then open the faucet for 10 seconds.
- 2) If the water flow is satisfactory, then do the Fault Isolation Procedure below.
- 3) If the water flow is not satisfactory, then do these steps:
 - a) Do this task: Potable Water System Flow not Sufficient - Fault Isolation, 38-10 TASK 814
- (b) If the flow is satisfactory, then there was an intermittent fault.

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B. Fault Isolation Procedure

- (1) Do a check of the level of the water in the water tanks.
 - (a) If the level of the water is low, then do these steps:
 - 1) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 2) Open the faucet for 10 seconds.
 - 3) If the water flow is satisfactory, you corrected the fault.
 - (b) If the level of the water is not low, then continue.
- (2) Do a check of the shutoff valve for the water supply.
 - (a) If the shutoff valve is closed, then open the valve.
 - 1) Open the faucet for 10 seconds.
 - 2) If the water flow is satisfactory, you corrected the fault.
 - (b) If the shutoff valve is open, then continue.
- (3) Do a check of the faucet for the correct operation.
 - (a) If the faucet does not operate correctly, replace the water faucet.

These are the tasks:

Faucet Assembly Removal (Adams Rite), AMM TASK 38-11-08-000-801,
Faucet Assembly Installation (Adams Rite), AMM TASK 38-11-08-400-801.
 - (b) Open the faucet for 10 seconds.
 - (c) If the water flow is satisfactory, you corrected the fault.

————— **END OF TASK** —————

804. No Hot Water at Faucet - Fault Isolation

A. Fault Isolation Procedure

- (1) Look at the power control switch for the hot water heater:
 - (a) If the heater control switch is OFF, then set it to ON.

NOTE: If the problem is at a galley faucet, then refer to the component maintenance manual from the vendor of the applicable galley for detail of the water heater.

 - 1) Open the hot water faucet for 10 seconds.
 - 2) If the water is hot, you corrected the fault.
 - (b) If the power control switch is ON, then continue.
- (2) Push the overheat switch in the top cover of the hot water heater.
 - (a) Open the hot water faucet for 10 seconds.
 - (b) If the water is hot, you corrected the fault.
 - (c) If the water is not hot, then continue.
- (3) Replace the hot water heater.

These are the tasks:

Water Heater Removal, AMM TASK 38-13-01-000-801,
Water Heater Installation, AMM TASK 38-13-01-400-801.

 - (a) Open the hot water faucet for 10 seconds.

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- (b) If the water is hot, then you corrected the fault.

————— END OF TASK —————

805. Faucet Water Too Hot - Fault Isolation

A. Fault Isolation Procedure

- (1) Look at the temperature control switch on the bottom of the hot water heater.

NOTE: The temperature control switch has 3 positions. LOW is for 105°F water, MEDIUM is for 115°F water, and HIGH is for 125°F water.

NOTE: If the problem is at a galley faucet, then refer to the component maintenance manual from the vendor of the applicable galley for detail of the water heater.

- (a) If the temperature switch is not set to the correct position, then do these steps.
- 1) Set the switch is to the correct position.
 - 2) Open the hot water faucet for 10 seconds.
 - 3) If the water temperature is satisfactory, then you corrected the fault.
- (b) If the temperature switch is set to the correct position, then continue.
- (2) Replace the hot water heater.

These are the tasks:

Water Heater Removal, AMM TASK 38-13-01-000-801,

Water Heater Installation, AMM TASK 38-13-01-400-801.

- (a) Open the hot water faucet for 10 seconds.
- (b) If the water temperature is satisfactory, then you corrected the fault.

————— END OF TASK —————

807. Potable Water Tank Does Not Fill - Fault Isolation

A. Initial Evaluation

- (1) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
- (a) If you can fill the water tank, there was an intermittent fault.
- NOTE: It is possible that the water lines were frozen.
- (b) If you cannot fill the water tank, then continue.

B. Fault Isolation Procedure

- (1) Replace the water filter.
- Water Filter - Potable Water Fill Line - Removal, AMM TASK 38-11-07-020-802
- Water Filter - Potable Water Fill Line-Installation, AMM TASK 38-11-07-400-801
- (2) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
- (a) If the water tank fills, you corrected the fault.
- (b) If you cannot fill the water tank, then continue.
- (3) Do this check of the fill/overflow valve at the potable water tank:
- (a) Do this task: Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801.
- (b) Pull the handle for the fill/overflow valve at the service panel.
- (c) Look at the fill/overflow valve to see if it is in the fill position.

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- (d) If the fill/overflow valve is not open, then do these steps:
 - 1) Look at the control cable for the fill/overflow valve to see if it is connected.
 - 2) If the control cable is not connected, do these steps:
 - a) Replace the control cable for the fill/overflow valve.
These are the tasks:
Fill/Overflow Valve Control Cable Removal, AMM TASK 38-11-04-000-804,
Fill/Overflow Valve Control Cable Installation, AMM TASK 38-11-04-400-804.
 - b) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - c) If the water tank fills, you corrected the fault.
 - d) To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
 - 3) If the control cable is connected, do these steps:
 - a) Replace the fill/overflow valve,
These are the tasks:
Fill/Overflow Valve Removal, AMM TASK 38-11-04-000-803,
Fill/Overflow Valve Installation, AMM TASK 38-11-04-400-803.
 - b) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - c) If the water tank fills, you corrected the fault.
 - d) To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
- (e) If the fill/overflow valve is open, then continue.
- (4) Do this check of the tank vent valve at the potable water tank:
 - (a) Do this task: Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801.
 - (b) Check if the Manual Lever is in POS 1 position.
 - (c) If the Manual Lever is not in POS 1 position, then do these steps to replace the vent valve.
 - 1) Do these tasks:
Vent Valve Removal, AMM TASK 38-11-14-000-801
Vent Valve Installation, AMM TASK 38-11-14-400-801
 - 2) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 3) If the water tank fills, you corrected the fault.
 - 4) To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
 - (d) If the Manual Lever is in POS 1 position, then continue.
- (5) Do this check for the Aft Preselect Valve:
 - (a) Do this task: Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801.
 - (b) If the Aft Preselect Valve handle is in POS 2 when filling the potable water system, do these steps:
 - 1) Replace the Aft Preselect Valve:

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- Aft Preselect Valve Removal, AMM TASK 38-11-13-020-801
Aft Preselect Valve Installation, AMM TASK 38-11-13-400-801
- 2) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 3) If the water tank fills, you corrected the fault.
 - 4) To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
 - 5) If the Aft Preselect Valve handle does not move to POS 1 position after replacing it, refer to: Potable Water Tank Preselect System Problems - Fault Isolation, 38-10 TASK 812.
- (c) If the Aft Preselect Valve handle is in POS 1 position, then continue.
- (6) Do this check for blockage of the water lines:
- (a) Feel the fill and overflow water lines at the potable water tanks.
 - (b) If the lines are blocked, then do these steps:
 - 1) Replace the water hose that is not serviceable.
 - 2) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 3) If you can fill the water tank, you corrected the fault.
 - a) To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.

END OF TASK

808. Potable Water Tank Leak - Fault Isolation

A. Fault Isolation Procedure

- (1) Examine the potable water tank for leaks.
 - (2) If you find a leak at the end cap of the water tank, then do these steps:
 - (a) To drain the potable water system, do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802
 - (b) Remove the end cap.
 - (c) Examine the end cap and seal area for damage.
 - (d) If the end cap is damaged, then do these steps:
 - 1) Install a new end cap (use a new O-ring).
 - 2) To fill the potable water system, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810
 - 3) If the potable water tank does not leak, you corrected the fault.
 - (e) If the seal area of the potable water tank is damaged, then do these steps:
 - 1) Replace the potable water tank.

These are the tasks:
Water Tank Removal, AMM TASK 38-11-01-000-803,
Water Tank Installation, AMM TASK 38-11-01-400-803.
 - 2) If the potable water tank does not leak, you corrected the fault.
 - (f) If a potable water tank does not leak at the end cap, then continue.
- (3) If the leak is at one of the connections to the water tank, then do these steps:

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- (a) To drain the potable water system, do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802
- (b) Remove the fitting that has a leak.
- (c) Examine the component and seal area for damage.
- (d) If the fitting is damaged, then do these steps:
 - 1) Install a new fitting (use a new O-ring if one is installed).
 - 2) To fill the potable water system, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810
 - 3) If the potable water tank does not leak, you corrected the fault.
- (e) If the seal area is damaged, then do these steps:
 - 1) Replace the potable water tank.
These are the tasks:
Water Tank Removal, AMM TASK 38-11-01-000-803,
Water Tank Installation, AMM TASK 38-11-01-400-803.
 - 2) To fill the potable water system, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810
 - 3) If the potable water tank does not leak, you corrected the fault.

— END OF TASK —

809. Incorrect or Zero Potable Water Level at CSCP or CACP - Fault Isolation

A. Fault Isolation Procedure

- (1) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - (a) Look at the potable water level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
 - (b) If the water quantity is satisfactory, you corrected the fault.
 - (c) If the water quantity is zero or incorrect, then continue.
- (2) Do a QUICK TEST at the CSCP.
 - (a) Make note of the maintenance message which shows in the Quick Test Fault Results.
 - (b) Find the maintenance message in the applicable FIM Maintenance Message Index.
 - (c) Do a specified fault isolation task for the maintenance message.
 - (d) Look at the potable water level on the CSCP or CACP.
 - (e) If the water quantity is satisfactory, you corrected the fault.
- (3) If the gauge at the aft service panel is zero or incorrect, and the QUICK TEST did not show a fault, then continue:
- (4) Disconnect the connector D3114P at the Aft Door Overdoor Panel and check for 10 VDC between pin 16 and 17 (WDM 38-14-11).
- (5) If there is not 10 VDC at the connector pins specified above, do a continuity check between these pins of connector DM38015 at the water quantity control module and the D3114P connector for Aft Door Overdoor Panel (WDM 38-14-11):

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DM38015	D3114P
pin 45	pin 17
pin 27	pin 16

- (a) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect connectors DM38015 and D3114P.
 - 3) Read the water quantity at the service panel.
 - 4) If the water quantity is satisfactory, you corrected the fault.
- (b) If the water quantity is not satisfactory, then continue.
- (6) Do this check of the electrical signals for the water quantity control module:
 - (a) Do this task: Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801.
 - (b) Do this task: Water Quantity Sensor - Functional Test, AMM TASK 38-14-05-720-801.
 - (c) If a water quantity sensor does not pass the test, do a continuity check between these pins of the connector DM38015 at the water quantity control module and these pins of the connector at the applicable water quantity sensor.

DM38015	DM38016A
DM38015	DM38016A
20	1
21	2

DM38015	DM38016B
55	1
37	2

DM38015	DM38018A
19	1
8	2

DM38015	DM38018B
54	1
36	2

DM38015	DM38017A
18	1
7	2

DM38015	DM38017B
53	1
35	2

- (d) If a water quantity sensor still does not pass the test do these tasks:
 - 1) Water Quantity Sensor Removal, AMM TASK 38-14-05-000-801.
 - 2) Water Quantity Sensor Installation, AMM TASK 38-14-05-400-801.

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- (e) Do this task: Water Quantity Control Module - Adjustment, AMM TASK 38-14-06-760-801.
- (f) If the adjustment task cannot be completed successfully, Do these tasks:
 - 1) Water Quantity Control Module - Removal, AMM TASK 38-14-06-000-801.
 - 2) Water Quantity Control Module - Installation, AMM TASK 38-14-06-400-801.

————— **END OF TASK** —————

810. Ceiling Panel Wet - Fault Isolation

A. Fault Isolation Procedure

- (1) If the wet ceiling panel is in a lavatory or galley, then do these steps:
 - (a) Close the water shutoff valve for the applicable lavatory or galley.
 - (b) If the leak stops, then examine the plumbing downstream of the valve for signs of a leak.
 - 1) Repair or replace the component that has a leak.
 - 2) Open the water shutoff valve that you closed.
 - 3) If there is no leakage, then you corrected the fault.
 - (c) If there is leakage, then continue.
 - (d) Open the water shutoff valve that you closed.
 - (e) If there is leakage, then continue.
- (2) If the wet ceiling panel is not in a lavatory or galley, then do these steps:
 - (a) Press the OFF switch at the Attendant Switch Panel to depressurize the potable water system.
 - (b) If the leak stops, then examine the plumbing in the area of the leak.
 - 1) Repair or replace the component that has a leak.
 - 2) Press the ON switch at the Attendant Switch Panel to pressurize the potable water system.
 - 3) If there is no leakage, then you corrected the fault.
 - (c) If the leak does not stop, then it is possible that condensation in the cabin caused the wet ceiling panel.

————— **END OF TASK** —————

811. Potable Water Level is Incorrect or Zero at Service Panel - Fault Isolation

A. Fault Isolation Procedure

- (1) Make sure that this circuit breaker is closed:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	5	C38600	WTR SYS CTRL

- (a) Read the water quantity at the service panel.
 - (b) If the water quantity is satisfactory, you corrected the fault.
 - (c) If the water quantity is incorrect or zero, then continue.
- (2) Do a check of the level of the water in the water tanks.
 - (a) If the level of the water is low, then do these steps:

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- 1) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
- 2) Read the water quantity at the service panel.
- 3) If the water quantity is satisfactory, you corrected the fault.
- (b) If the water quantity is still incorrect or zero, then continue.
- (3) If the water quantity does not read full when the tank is full or empty when the tank is empty, do this check of the electrical signals for the water quantity control module:
 - (a) Do this task: Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801.
 - (b) Do this task: Water Quantity Sensor - Functional Test, AMM TASK 38-14-05-720-801.
 - (c) If a water quantity sensor does not pass the test do these tasks:
 - 1) Water Quantity Sensor Removal, AMM TASK 38-14-05-000-801.
 - 2) Water Quantity Sensor Installation, AMM TASK 38-14-05-400-801.
 - (d) Do this task: Water Quantity Control Module - Adjustment, AMM TASK 38-14-06-760-801.
 - (e) If the adjustment task cannot be completed successfully, Do these tasks:
 - 1) Water Quantity Control Module - Removal, AMM TASK 38-14-06-000-801.
 - 2) Water Quantity Control Module - Installation, AMM TASK 38-14-06-400-801.
 - (f) If the water quantity sensor functional test and water quantity control module adjustment tasks are completed successfully but water quantity indication is not satisfactory, then continue.
- (4) Do a continuity check between these pins of connector DM38015 at the water quantity control module and the connector for the water quantity gauge, N38001 or N38101. (WDM 38-14-11):

	N38001 or N38101
DM38015	
pin 45	pin 1
pin 27	pin 2

- (a) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect connectors DM38015 and N38001 or N38101.
 - 3) Read the water quantity at the service panel.
- (b) If the water quantity is not satisfactory, then continue.
- (5) Disconnect the electrical connector at the water quantity gauge, N38001 or N38101 (WDM 38-14-11).
- (6) Do a check for 10 VDC between these pins 1 and 2 of connector at the water quantity gauge, N38001 or N38101 (WDM 38-14-11).
 - (a) If there is 10 VDC at the pins of connector N38001 or N38101 specified above, then do these steps:
 - 1) Replace the water quantity gauge, N38001 or N38101.
These are the tasks:
Aft Water Quantity Gauge Removal, AMM TASK 38-14-02-000-802,
Water Quantity Gauge Installation, AMM TASK 38-14-02-400-802.
 - 2) Read the water quantity at the service panel.

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- 3) If the water quantity is satisfactory, you corrected the fault.

— END OF TASK —

812. Potable Water Tank Preselect System Problems - Fault Isolation

A. Initial Evaluation

- (1) Do these steps to test the preselect system from the aft service panel:
 - (a) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - (b) Do these tasks to access the potable water system valves.
Open the Door, AMM TASK 52-36-00-860-801
Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801
 - (c) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 1) Look for movement of the handle for the aft preselect valve and the vent valve when you set the water quantity preselect switch.
 - a) If the handles do not move to POS 1 position, there is a fault in the aft preselect valve.
 - 2) If the water quantity is satisfactory, then there was an intermittent fault. Do these Tasks:
Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801
Close the Door, AMM TASK 52-36-00-860-802
 - (d) If the water quantity is not satisfactory, then continue.

B. Fault Isolation Procedure

- (1) Do this check for a blockage of the water lines:
 - (a) Feel the fill and overflow water lines at the potable water tanks.
 - (b) If the lines are frozen, then do these steps:
 - 1) Replace the water line heater that is not serviceable.
 - 2) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 3) If you can fill the water tank, you corrected the fault.
 - 4) Do these steps to complete the task:
 - a) Do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
 - b) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door
 - (c) If the lines are not frozen, then continue.
 - 1) Replace the water hose that is not serviceable.
 - 2) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 3) If you can fill the water tank, you corrected the fault.
 - 4) Do these steps to complete the task:
 - a) Do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.

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- b) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door

- (2) Disconnect connector DS38102 (WDM 38-14-12).
(3) Do a continuity check between pin 1 and the pin at the switch position given for the water quantity preselect switch, DS38102:

SWITCH POSITION	DS38102
1/8	pin 3
1/4	pin 4
3/8	pin 5
1/2	pin 6
5/8	pin 7
3/4	pin 8
7/8	pin 9
FULL	pin 10
OFF/RESET	pin 2

- (a) If you find a problem with the switch, do these steps:
- 1) Replace the water quantity preselect switch.
These are the tasks:
Preselect Switch Removal, AMM TASK 38-14-01-000-801,
Preselect Switch Installation, AMM TASK 38-14-01-400-801.
 - 2) Re-connect connector DS38102.
 - 3) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - 4) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 5) If you fill the system to the preselect water quantity, you corrected the fault.
 - 6) Do these steps to complete the task:
 - a) Do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
- (b) If there is no problem with the switch, then continue.
- (4) Disconnect the connectors DM38015 and DS38102 (WDM 38-14-12).
- (5) Do a continuity check between these pins of connector DM38015 at the water quantity control module and the connector for the water quantity preselect switch, DS38102:

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DM38015

pin 44	pin 3
pin 26	pin 4
pin 12	pin 5
pin 4	pin 6
pin 5	pin 7
pin 16	pin 8
pin 33	pin 9
pin 52	pin 10
pin 25	pin 2

DS38102

- (a) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect connectors DM38015 and DS38102.
 - 3) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - 4) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 5) If you fill the system to the preselect water quantity, you corrected the fault.
 - 6) Do these steps to complete the task:
 - a) Do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
- (b) If you do not find a problem with the wiring, then continue.
- (6) Manually fill the potable water tanks: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - (a) Look at the water level on the quantity gauge on the aft service panel and on the CSCP or CACP.
 - (b) If the water level quantity is not satisfactory on the quantity gauge at the aft service panel or on the CSCP or CACP, do these steps:
 - 1) Do this task: Incorrect or Zero Potable Water Level at CSCP or CACP - Fault Isolation, 38-10 TASK 809.
 - (c) If the water level quantity is satisfactory on the quantity gauge at the aft service panel or on the CSCP or CACP, then continue:
- (7) Check if you can move aft preselect valve handle manually from POS 1 to POS 2 positions.
 - (a) If the aft preselect handle does not move manually, then continue.
 - (b) Replace the aft preselect valve.

These are the tasks:

Aft Preselect Valve Removal, AMM TASK 38-11-13-020-801.

Aft Preselect Valve Installation, AMM TASK 38-11-13-400-801.

 - 1) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - 2) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 3) If you fill the system to the preselect water quantity, you corrected the fault.
 - 4) Do these steps to complete the task:

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- a) Do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
 - b) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door
 - (c) If the aft preselect valve handle moves from POS 1 to POS 2 freely, then continue.
- (8) Do this check of the electrical signals for the aft preselect valve:
- (a) Disconnect connector DV38002 (WDM 38-14-12).
 - (b) Move the preselect switch from the OFF position.
 - (c) Do a check for 28 VDC between these pins 11 and 5 of connector DV38002.
 - 1) If there is 28 VDC at the pins of connector DV38002 specified above, then do these steps:
 - a) If you did not replace the aft preselect valve, then do these tasks:
Aft Preselect Valve Removal, AMM TASK 38-11-13-020-801.
Aft Preselect Valve Installation, AMM TASK 38-11-13-400-801.
 - b) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - c) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - d) If you fill the system to the preselect water quantity, you corrected the fault.
 - (d) If there is not 28 VDC at the pins of connector DV38002 specified above, then do these steps:
 - 1) Disconnect connector DK38020 (WDM 38-14-12).
 - 2) Do a check for 28 VDC between pins C2 and C1.
 - 3) If there is 28 VDC between pins C2 and C1, then do these steps:
 - a) Replace K38020 ELECT VALVES CONTROL RELAY.
 - b) Do a check for 28 VDC at the pins C2 and C1 of the
 - c) If there is 28 VDC at the pins 5 and 11 of DV38002 connector, then you corrected the fault.
 - d) Connect connector DK38020.
 - e) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - f) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - g) If you fill the system to the preselect water quantity, you corrected the fault.
 - h) If there is not 28 VDC at the pins 5 and 11 of connector DV38002 specified above, do these steps:
 - 4) Disconnect connector DK38012 (WDM 38-14-12).
 - 5) Do a check for 28 VDC between these pins A2 and A1 of connector DK38012.
 - 6) If there is 28 VDC at the pins of connector DK38012, then do these steps:
 - a) Replace relay K38012.
 - b) Do a check for 28 VDC at the pins 5 and 11 of the DV38002 connector.

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- c) If there is 28 VDC at the pins 5 and 11 of DV38002 connector, then you corrected the fault.
 - d) Connect connector DK38012.
 - e) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - f) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - g) If you fill the system to the preselect water quantity, you corrected the fault.
- (e) If there is not 28 VDC at the pins 5 and 11 of connector DV38002 , do these steps:
- 1) Disconnect connector DK38012.
 - 2) Repair the wiring.
 - 3) Connect connector DK38012.
 - 4) Do a check again for 28 VDC at pins 5 and 11 of the connector DV38002.
 - a) If there is 28 VDC at the pins of connector DV38002 specified above, then you corrected the fault.
 - b) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - c) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - d) If you fill the system to the preselect water quantity, you corrected the fault.
- (f) If there is 28 VDC at connector DK38012 and there is not 28 VDC at connector DV38002 specified above, do these steps:
- 1) Disconnect connector DK38013.
 - 2) Do a check for 28 VDC between these pins B2 and B3 of connector DK38013.
 - 3) If there is 28 VDC at the pins of connector DK38013 specified above, then do these steps:
 - a) Replace relay DK38013.
 - b) Re-connect connector DK38013.
 - c) Do a check again for 28 VDC at the pins of the connector DV38002.
 - d) If there is 28 VDC at the pins of connector DV38002 specified above, then you corrected the fault.
 - e) Re-connect connector DV38002.
 - f) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
 - g) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - h) If you fill the system to the preselect water quantity, you corrected the fault.
 - 4) If there is not 28 VDC at the pins of connector DV38002 specified above, then continue:
 - 5) Repair the wiring between DK38013 and DK38012.
 - 6) Connect connector DK38013.
 - 7) Do a check again for 28 VDC at the pins of the connector DV38002.
 - a) If there is 28 VDC at the pins of connector DV38002 specified above, then you corrected the fault.
 - b) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.

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- c) Use the preselect system to, do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
- d) If you fill the system to the preselect water quantity, you corrected the fault.

———— **END OF TASK** ————

813. CSCP/CACP Potable Water Status Display - Shows Fault Message - Fault Isolation

A. Initial Evaluation

- (1) If the airplane is not at a full stop or level cruise, the INVALID DATA indication is not valid.
NOTE: It is possible that motion of the water in the water tanks is the cause of this problem.
 - (a) If there is an INVALID DATA indication, then do these steps:
 - 1) Do a QUICK TEST of the CSCP.
 - 2) Look at the potable water level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
 - 3) If the water quantity is satisfactory, there was an intermittent fault.
 - (b) If there is an INVALID DATA indication, then continue.

B. Fault Isolation Procedure

- (1) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - (a) Look at the potable water level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
 - (b) If the water quantity is satisfactory, you corrected the fault.
 - (c) If the water quantity is INVALID DATA, then continue.
- (2) Do this check to see if the two water quantity indications in the cabin (CSCP or CACP) and at the service panel agree:
 - (a) Look at the water quantity gauge at the aft service panel for the potable water system.
 - (b) If the water quantity is zero at the aft service panel, then do these steps:
 - 1) Find the maintenance message in the FIM maintenance Message Index for the potable water level zero at service panel.
 - 2) Do a specified fault isolation task for the maintenance message.
 - (c) If the gauge at the aft service panel is not zero, then do these steps:
 - 1) Do a QUICK TEST of the CSCP.
 - 2) Make note of the maintenance message which shows in the Quick Test Fault Results.
 - 3) Find the maintenance message in the applicable FIM maintenance Message Index.
 - 4) Do a specified fault isolation task for the maintenance message.
 - 5) Look at the potable water level on the CSCP or CACP.
 - 6) If the water quantity is satisfactory, you corrected the fault.
 - (d) If the water quantity is INVALID DATA, then continue.
- (3) If the QUICK TEST does not show a fault, do a check for 10 VDC between pins 16 and 17 of connector D3114P, at the Overdoor Panel - Door 4 Right (WDM 38-14-11):
 - (a) If there is not 10 VDC at the pins of connector D3114P specified above, do these steps.
 - 1) Repair the wiring.

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- 2) Re-connect connector D3114P.
- 3) Look at the potable water level on the CSCP or CACP.
- 4) If the water quantity is satisfactory, you corrected the fault.
- (b) If there is 10 VDC at the pins of connector D3114P specified above, do a check for 10 VDC between these pins 9 and 10 of connector DM23408C, at the OEU M23408 (WDM 38-14-11):
 - 1) If there is 10 VDC at the pins of connector DM23408C specified above, re-connect connector DM23408C.
 - a) Fault is in the CSCP, do the ALL TEST test.
 - b) Repair or replace the component identified in the ALL TEST test.
 - c) Look at the potable water level on the CSCP or CACP.
 - d) If the water quantity is satisfactory, you corrected the fault.
 - 2) If there is not 10 VDC at the pins of connector DM23408C specified above, then continue.
- (c) If the water quantity is INVALID DATA, then continue.
- (4) Do this check of the electrical signals for the water quantity control module:
 - (a) Do this task: Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801.
 - (b) Do this task: Water Quantity Sensor - Functional Test, AMM TASK 38-14-05-720-801
 - (c) If a water quantity sensor does not pass the test do these tasks:
 - 1) Water Quantity Sensor Removal, AMM TASK 38-14-05-000-801.
 - 2) Water Quantity Sensor Installation, AMM TASK 38-14-05-400-801.
 - (d) Do this task: Water Quantity Control Module - Adjustment, AMM TASK 38-14-06-760-801
 - (e) If the adjustment task cannot be completed successfully, Do these tasks:
 - 1) Water Quantity Control Module - Removal, AMM TASK 38-14-06-000-801.
 - 2) Water Quantity Control Module - Installation, AMM TASK 38-14-06-400-801.
 - (f) If the water quantity sensor functional test and water quantity control module adjustment tasks are completed successfully but water quantity indication is not satisfactory, then continue.
- (5) Do a continuity check between these pins of connector DM38015 at the control module and the connector for the water quantity gauge, N38001 (WDM 38-14-11):

DM38015	N38001
pin 45	pin 1
pin 27	pin 2

- (a) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect connectors DM38015 and N38001.
 - 3) Read the water quantity at the service panel.
 - 4) If the water quantity is satisfactory, you corrected the fault.
 - 5) Do these steps to complete the task:

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- a) Do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.

END OF TASK

814. Potable Water System Flow not Sufficient - Fault Isolation

A. Initial Evaluation

- (1) Open a faucet for 10 seconds.
- (a) If the flow is not satisfactory, do the following:
- 1) Make sure that the System OFF Switch is not activated at the Attendant Switch Panel.
 - 2) Check the Fault Indicator Light at the Attendant Switch Panel:

ARO 001-005

NOTE: Make sure that all applicable water shutoff valves and isolation valves are open before you start.

ARO 006-999

NOTE: Make sure that all applicable water shutoff valves are open before you start.

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- (b) If the Fault Indicator Light is Illuminated do these steps:
- 1) Press the Fault Isolation Light/Reset Switch to reset the system.
NOTE: When the Reset Switch is pressed, the fault lights are cleared and controller fault detection login restarts and determines if the fault is still present. if the fault is present, the fault light will re-illuminate. Once the Reset Switch has been pressed, the reset output controller is disabled for 5 minutes to prevent masking of an error.
 - 2) If the Fault Indicator Light is not illuminated do these steps:
 - a) Open the faucet for 10 seconds.
 - b) If the water flow is satisfactory, you corrected the fault.
 - 3) If the Fault Indicator Light is illuminated again, then do the Fault Isolation Procedure.
- (c) If the flow is satisfactory, then there was an intermittent fault.

B. Fault Isolation Procedure

- (1) Do a check of the level of the water in tanks.
- (a) If the level of the water is low, then do these steps:
- 1) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.
 - 2) Open the faucet for 10 seconds.
 - 3) If the flow is satisfactory, then you corrected the fault.
- (b) If the water level is not low, then continue.
- (2) Do this check for a blockage of the water lines:
- (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door

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- (b) To remove the endwall panel of the bulk cargo compartment, do this task: Bulk Cargo Compartment Aft End Wall Removal, AMM TASK 25-52-19-000-801.
 - (c) Feel the inlet and outlet water lines at the potable water tanks.
 - (d) If the lines are frozen, then do these steps:
 - 1) Replace the water line heater that is not serviceable.
These are the tasks:
Water Supply In-Line Heater Removal, AMM TASK 30-71-06-000-801,
Water Supply In-Line Heater Installation, AMM TASK 30-71-06-400-801.
 - 2) Open the faucet for 10 seconds.
 - 3) If the water flow is satisfactory, you corrected the fault.
 - 4) To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
 - (e) If the lines are not frozen, then continue.
- (3) Do these steps to check the water pumps:
- (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
154AR	Aft Potable Water Service Door
 - (b) Pull the aft system drain valve handle.
NOTE: This should activate both Pump #1 and Pump #2.
 - (c) Check if both Pump #1 and Pump #2 are operating.
NOTE: You can tell if the pumps are operating by touching and feeling the vibration on the pumps.
 - (d) If Pump #1 is not working, do the following steps:
 - 1) Disconnect the electrical connector DM38012 at Pump #1, M38012 (WDM 38-14-11).
 - 2) Do a check for 3-phase 115 VAC between pin 1, pins 4, 6, and 8 of connector DM38012.
 - a) If there is 115 VAC at the pins 4, 6, and 8 of the connector DM38012, then connect the connector DM38012 to the Pump #1, M38012.
 - <1> Replace Pump #1.
These are the tasks:
Potable Water Pump Removal, AMM TASK 38-10-02-000-802
Potable Water Pump Installation, AMM TASK 38-10-02-400-802
 - <2> Close the aft system drain valve handle.
 - <3> Open the faucet for 10 seconds.
 - <4> If the water flow is satisfactory, you corrected the fault.
 - <5> Close this access panel:

<u>Number</u>	<u>Name/Location</u>
154AR	Aft Potable Water Service Door

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- b) If there is no 115 VAC at pins 4, 6, and 8 of the connector DM38012, then continue.

<1> Do a check for 28 VDC at pin X1, and for 115 VAC at pins A1, B1, and C1 of Water System Pump #1 Power Relay K38018.

<2> If there is 28 VDC at pin X1, and 115 VAC at pins A1, B1, and C1 of Water System Pump #1 Power Relay K38018.

<a> Replace the wiring connecting K38018 and M38012 (WDM 38-14-11).

 Close the aft system drain valve handle.

<c> Open the faucet for 10 seconds.

<d> If the water flow is satisfactory, you corrected the fault.

<e> Close this access panel:

<u>Number</u>	<u>Name/Location</u>
154AR	Aft Potable Water Service Door

<3> If there is no 28 VDC at pin X1, or 115 VAC at pins A1, B1, and C1 of Water System Pump #1 Power Relay K38018, then continue.

<a> Check for 28 VDC at pin X2, and for 115 VAC at pins A2, B2, and C2 on Water System Pump #1 Power Relay K38018.

 If there is 28 VDC at pin X2, and 115 VAC at pins A2, B2, and C2:

I. Replace the K38018 (WDM 38-14-11).

II. Close the aft system drain valve handle.

III. Open the faucet for 10 seconds.

IV. If the water flow is satisfactory, you corrected the fault.

V. Close this access panel:

<u>Number</u>	<u>Name/Location</u>
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<c> If there is no 28 VDC at pin X2, or 115 VAC at pins A2, B2, and C2:

I. Make sure that these circuit breakers are closed:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	12	C38310	WTR SYS ELECT PUMP 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	5	C38600	WTR SYS CTRL

II. Close the aft system drain valve handle.

III. Open the faucet for 10 seconds.

IV. If the water flow is satisfactory, you corrected the fault.

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V. To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.

VI. Close this access panel:

<u>Number</u>	<u>Name/Location</u>
154AR	Aft Potable Water Service Door

(e) If Pump #2 is not working, do the following steps:

- 1) Disconnect the electrical connector DM38013 at Pump #2, M38013 (WDM 38-14-11).
- 2) Do a check for 3-phase 115 VAC between pin 1, pins 4, 6, and 8 of connector DM38013.
 - a) If there is 115 VAC at the pins 4, 6, and 8 of the connector DM38013, then connect the connector DM38013 to the Pump #2, M38013.

<1> Replace Pump #2.

These are the tasks:

Potable Water Pump Removal, AMM TASK 38-10-02-000-802

Potable Water Pump Installation, AMM TASK 38-10-02-400-802

<2> Close the aft system drain valve handle.

<3> Open the faucet for 10 seconds.

<4> If the water flow is satisfactory, you corrected the fault.

<5> Close this access panel:

<u>Number</u>	<u>Name/Location</u>
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- b) If there is no 115 VAC at pins 4, 5, and 8 of the connector DM38013, then continue.

<1> Do a check for 28 VDC at pin X1 and for 115 VAC at pins A1, B1, and C1 of Water System Pump #2 Power Relay K38016.

<2> If there is 28 VDC at pin X1 and 115 VAC at pins A1, B1, and C1 of Water System Pump #2 Power Relay K38016.

<a> Replace the wiring connecting K38016 and M38013 (WDM 38-14-11).

 Close the aft system drain valve handle.

<c> Open the faucet for 10 seconds.

<d> If the water flow is satisfactory, you corrected the fault.

<e> Close this access panel:

<u>Number</u>	<u>Name/Location</u>
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<3> If there is no 28 VDC at pin X1 or 115 VAC at pins A1, B1, and C1 of Water System Pump #2 Power Relay K38016, then continue.

<a> Check for 28 VDC at pin X2 and for 115 VAC at pins A2, B2, and C2 on Water System Pump #2 Power Relay K38016.

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- If there is 28 VDC at pin X2 and 115 VAC at pins A2, B2, and C2
- I. Replace the K38016 (WDM 38-14-11).
 - II. Close the aft system drain valve handle.
 - III. Open the faucet for 10 seconds.
 - IV. If the water flow is satisfactory, you corrected the fault.
 - V. Close this access panel:

<u>Number</u>	<u>Name/Location</u>
154AR	Aft Potable Water Service Door

- <c> If there is no 28 VDC at pin X2 or 115 VAC at pins A2, B2, and C2:

- I. Make sure that these circuit breakers are closed:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	12	C38311	WTR SYS ELECT PUMP 2

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	5	C38600	WTR SYS CTRL

- II. Close the aft system drain valve handle.
- III. Open the faucet for 10 seconds.
- IV. If the water flow is satisfactory, you corrected the fault.
- V. To complete this task, do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.
- VI. Close this access panel:

<u>Number</u>	<u>Name/Location</u>
154AR	Aft Potable Water Service Door

- VII. If the water flow is not satisfactory, then continue.

- (4) Do these steps to check the interlock switch, motorized valves and valve relays:
 - (a) Check the screen and hose on the vent valve for blockage.
 - 1) If the vent hose is blocked, remove the blockage.
 - 2) If the vent screen is blocked, do this task: Vent Valve Screen - Cleaning, AMM TASK 38-11-14-160-801
 - a) Open the faucet for 1 minute.
 - b) If the water flow is satisfactory, you corrected the fault.
 - (b) At the water service panel push the TANK FILL VALVE control handle to the CLOSED (in) position.

NOTE: This puts the system components in normal (flight) mode.

- 1) Do this check of the fill/overflow valve interlock switch:

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- a) At the P320 panel disconnect D32013P and check for continuity between pins 14 and 17.
 - <1> If continuity exists between pins 14 and 17, the interlock switch S38012 on the fill/overflow valve has failed in the fill mode. Replace the switch S38012.
 - <a> These are the tasks:
 - Fill/Overflow Valve Removal, AMM TASK 38-11-04-000-803
 - Fill/Overflow Valve Installation, AMM TASK 38-11-04-400-803
 - Open the faucet for 1 minute.
 - <c> If the water flow is satisfactory, you corrected the fault.
 - b) If continuity does not exist between pins 14 and 17, continue.
- 2) Do these checks at the system valves:
 - a) At the aft preselect valve, disconnect DV38002 and check for 28VDC at pin 5 and open at pin 6.
 - <1> If there is 28VDC, the relay K38020 has failed in the energized position. Replace the relay K38020.
 - <2> Open the faucet for 1 minute .
 - <3> If the water flow is satisfactory, you corrected the fault
 - <4> If there is not 28VDC, the aft preselect valve has failed in position 1. Replace the aft preselect valve.
 - <a> These are the tasks:
 - Aft Preselect Valve Removal, AMM TASK 38-11-13-020-801
 - Aft Preselect Valve Installation, AMM TASK 38-11-13-400-801
 - Open the faucet for 1 minute .
 - <c> If the water flow is satisfactory, you corrected the fault
 - b) At the vent valve, disconnect DV38001 and check for 28VDC at pin 5 and open at pin 6.
 - <1> If there is 28VDC, the relay K38020 has failed in the energized position. Replace the vent valve relay K38020.
 - <a> Open the faucet for 10 seconds.
 - If the water flow is satisfactory, you corrected the fault
 - <2> If there is not 28VDC, the vent valve has failed in position 1. Replace the vent valve.
 - <a> These are the tasks:
 - Vent Valve Removal, AMM TASK 38-11-14-000-801
 - Vent Valve Installation, AMM TASK 38-11-14-400-801
 - Open the faucet for 1 minute seconds.
 - <c> If the water flow is satisfactory, you corrected the fault
 - (c) If the problem continues, replace the preselect valve relay K38013.
 - (d) Do this task: Bulk Cargo Compartment Aft End Wall Installation, AMM TASK 25-52-19-400-801.

————— END OF TASK —————

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816. Potable Water is Contaminated - Fault Isolation

A. Fault Isolation Procedure

- (1) Do this task: Potable Water System - Drain, AMM TASK 12-14-01-616-802.
- (2) Do this task: Potable Water System - Disinfectant, AMM TASK 38-10-00-600-801.
- (3) Do this task: Potable Water Tank - Fill, AMM TASK 12-14-01-600-810.

————— END OF TASK —————

819. Water Drain Leak - Fault Isolation

A. Fault Isolation Procedure

- (1) Examine the cargo areas for water leaks.
- (2) If you find a leak in the cargo compartment overhead, then do these steps:
 - (a) Do this task: Potable Water System - Depressurization, AMM TASK 38-10-00-860-801.
 - (b) Press the OFF Switch at the Attendant Switch Panel to turn off the system.
NOTE: The OFF Switch removes all power from both pumps without having to open a circuit breaker. It will illuminate when it is used to shut down the system.
 - (c) Do this task: Ceiling Liner Removal, AMM TASK 25-52-09-000-801.
 - (d) Remove the fitting that has a leak.
 - (e) Examine the component and seal area for damage.
 - (f) If the fitting is damaged, then do these steps:
 - 1) Install a new fitting (use a new O-ring if one is installed).



MAKE SURE THAT ALL THE LAVATORY DRAIN VALVES ARE IN THE CLOSED POSITION BEFORE YOU PRESSURIZE THE POTABLE WATER SYSTEM. A LAVATORY DRAIN VALVE IN THE OPEN POSITION CAN TRAP WATER IN THE SYSTEM DRAIN LINES, WHICH CAN FREEZE DURING FLIGHT AND CAUSE DAMAGE TO THE EQUIPMENT.

- 2) To pressurize the potable water system, press the OFF Switch at Attendant Switch Panel.
NOTE: The Off Switch should not be illuminated when pressed again and will start the system.
- 3) If the potable water tank does not leak, you corrected the fault.
- (g) If the seal area is damaged, then do these steps:
 - 1) Replace the component.
 - 2) Press the OFF Switch at the Attendant Switch Panel to turn off the system.
NOTE: The OFF Switch removes all power from both pumps without having to open a circuit breaker. It will illuminate when it is used to shut down the system.
 - 3) If the fitting does not leak, you corrected the fault.
- (h) To complete this task, do these steps:
 - 1) Do this task: Ceiling Liner - Installation, AMM TASK 25-52-09-400-801.

————— END OF TASK —————

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826. Fault Indication Light at CASP is on - Fault Isolation

A. Initial Evaluation

- (1) Press the Fault Light/Reset Switch to reset the system.

NOTE: When the Reset Switch is pressed, the fault lights are cleared and controller fault detection logic restarts and determines if the fault is still present. If the fault is present, the fault light will re-illuminate. Once the Reset Switch has been pressed, the reset output controller is disabled for 5 minutes to prevent masking of an error.

- (2) Open a lavatory or galley faucet and check the water flow. If the water flow is satisfactory, you corrected the fault.
- (3) If the fault reoccurs or the water flow is not satisfactory, do the following procedure.

B. Fault Isolation Procedure

- (1) Do this check of the controller:

- (a) If the Override (Controller) light is on, do these steps:

- 1) Open a lavatory or galley faucet and check the water flow.
- 2) If there is water flow, do these steps:
 - a) Turn off the Override (Controller) switch and recheck for water flow.
 - b) If there is no longer water flow, replace the controller.
 - c) If there is water flow, continue.
- 3) If there is not water flow, continue.

- (b) If the Override (Controller) light is not on do these steps:

- 1) Open a lavatory or galley faucet and check the water flow.
- 2) If there is no water flow, do these steps:
 - a) Turn on the Override (Controller) switch and recheck the water flow.
 - b) If there is water flow, replace the controller.
 - c) If there is no water flow, continue.
- 3) If there is water flow, continue

- (2) Do this task : Potable Water System Flow not Sufficient - Fault Isolation, 38-10 TASK 814

———— **END OF TASK** ————

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802. Lavatory Sink Drain Stopper Inoperative - Fault Isolation

A. Fault Isolation Procedure

- (1) Do a check of the operation for the drain valve assembly.
 - (a) Push the button on the faucet to operate the drain valve assembly.
 - (b) Make sure the drain valve assembly operates.
 - (c) If the operation of the drain valve assembly is satisfactory, then there was an intermittent fault.
- (2) If the drain valve assembly does not open, replace the drain valve assembly.

These are the tasks:

Drain Valve Assembly Removal (Adams Rite), AMM TASK 38-11-08-000-802,
Drain Valve Assembly Installation (Adams Rite), AMM TASK 38-11-08-400-802.

 - (a) Push the button on the faucet to operate the drain valve assembly.
 - (b) Make sure the drain valve assembly operates.
 - (c) If the operation of the drain valve assembly is satisfactory, then you corrected the fault.
- (3) If the operation of the drain valve assembly is possible but is not satisfactory, do this task:
Drain Valve Adjustment (Adams Rite), AMM TASK 38-11-08-820-802.
 - (a) Push the button on the faucet to operate the drain valve assembly.
 - (b) If the operation of the drain valve assembly is satisfactory, then you corrected the fault.

————— **END OF TASK** —————

803. Sink Drain Plugged - Fault Isolation

A. Fault Isolation Procedure

- (1) Examine the sink outlet for unwanted material.
 - (a) If the sink outlet is clogged, clean the unwanted material.
 - 1) Make sure the water flows freely from the drain line.
 - 2) If the water flows freely from the drain line, then you corrected the fault.
 - (b) If the sink outlet is clean, then continue.
- (2) Do this check of the drain line to make sure it is not frozen:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door
 - (b) To get access to the drain line(s), do the applicable steps that follow:
 - 1) Do this task: Sidewall Liner Removal, AMM TASK 25-52-06-000-801.
 - 2) Do this task: Ceiling Liner Removal, AMM TASK 25-52-09-000-801.
 - 3) Do this task: Floor Panels and Walkways Removal, AMM TASK 25-52-10-000-801.
 - 4) Do this task: Bulk Cargo Floor Removal, AMM TASK 25-52-11-000-801.
 - (c) Feel the drain line and drain line heater.
 - (d) If the drain line is frozen, do this task: Drain Mast and Gray Water Drain Line Heaters Operational Test, AMM TASK 30-71-00-720-801.
 - (e) If the drain line heater does not pass the operational test, do these tasks:

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- Waste Drain Line Heater Removal, AMM TASK 30-71-03-000-801
- Waste Drain Line Heater Installation, AMM TASK 30-71-03-400-801
- 1) Make sure the water flows freely from the drain line.
- 2) If the water flows freely from the drain line, then you corrected the fault.

(f) Do these applicable steps to complete the task:

- 1) Do this task: Sidewall Liner Installation, AMM TASK 25-52-06-400-801.
- 2) Do this task: Ceiling Liner - Installation, AMM TASK 25-52-09-400-801.
- 3) Do this task: Floor Panels and Walkways Installation, AMM TASK 25-52-10-400-801.
- 4) Do this task: Bulk Cargo Floor Installation, AMM TASK 25-52-11-400-801.
- 5) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
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(g) If the drain line is not frozen, then continue.

(3) To make sure the restrictor valve operates satisfactorily, do this task: Drain Mast Restrictor Valve Operational Test, AMM TASK 38-31-00-700-801.

(a) If the forward restrictor valve does not operate satisfactorily, then replace the forward restrictor valve.

These are the tasks:

Forward Gray Water Drain Restrictor Valve Removal, AMM TASK 38-31-02-000-801,
Forward Gray Water Drain Restrictor Valve Installation, AMM TASK 38-31-02-400-801.

(b) If the aft restrictor valve does not operate satisfactorily, then replace the aft restrictor valve.

These are the tasks:

Aft Gray Water Drain Restrictor Valve Removal, AMM TASK 38-31-02-000-802,
Aft Gray Water Drain Restrictor Valve Installation, AMM TASK 38-31-02-400-802.

- 1) Make sure the water flows freely from the drain line.
- 2) If the water flows freely from the drain line, then you corrected the fault.

(c) Do these applicable steps to complete the task:

- 1) Do this task: Sidewall Liner Installation, AMM TASK 25-52-06-400-801.
- 2) Do this task: Ceiling Liner - Installation, AMM TASK 25-52-09-400-801.
- 3) Do this task: Floor Panels and Walkways Installation, AMM TASK 25-52-10-400-801.
- 4) Do this task: Bulk Cargo Floor Installation, AMM TASK 25-52-11-400-801.
- 5) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
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(d) If the restrictor valve is open, then continue.

(4) Look for the clogged drain line or drain mast, then do these steps.

(a) If a drain line is clogged, then do these steps:

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- 1) Do this task to clean the clogged drain line: Gray Water System - Cleaning, AMM TASK 38-31-00-100-801.

NOTE: Only do procedure 4.

- a) Make sure the water flows freely from the drain line.
 - b) If the water flows freely from the drain line, then you corrected the fault.
- 2) If the water does not flow freely from the drain line, then continue.
 - 3) Remove the clogged drain line.
 - 4) Clean the clogged drain line with a plumbing snake. Do this task: Gray Water System - Cleaning, AMM TASK 38-31-00-100-801.

NOTE: Only do procedure 3.

- 5) Install the cleaned drain line.
 - a) Make sure the water flows freely from the drain line.
 - b) If the water flows freely from the drain line, then you corrected the fault.
 - c) If the water does not flow freely from the drain line, replace the drain line.

- (b) If the forward drain mast is clogged, replace the forward drain mast.

These are the tasks:

Forward Drain Mast Removal, AMM TASK 38-31-01-000-801,

Forward Drain Mast Installation, AMM TASK 38-31-01-400-801.

- 1) Make sure the water flows freely from the drain mast.
- 2) If the water flows freely from the drain mast, then you corrected the fault.

- (c) If the aft drain mast is clogged, replace the aft drain mast.

These are the tasks:

Aft Drain Mast Removal, AMM TASK 38-31-01-000-802,

Aft Drain Mast Installation, AMM TASK 38-31-01-400-802.

- 1) Make sure the water flows freely from the drain mast.
- 2) If the water flows freely from the drain mast, then you corrected the fault.

- (d) Do the applicable steps to complete the task:

- 1) Do this task: Sidewall Liner Installation, AMM TASK 25-52-06-400-801.
- 2) Do this task: Ceiling Liner - Installation, AMM TASK 25-52-09-400-801.
- 3) Do this task: Floor Panels and Walkways Installation, AMM TASK 25-52-10-400-801.
- 4) Do this task: Bulk Cargo Floor Installation, AMM TASK 25-52-11-400-801.
- 5) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
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————— **END OF TASK** —————

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804. Waste Tank Display - Shows Fault Message - Fault Isolation

A. Initial Evaluation

- (1) Do these steps to check the Waste Tank Level Indication at the Cabin System Control Panel (CSCP):
 - (a) Look at the waste tank level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
 - 1) If the waste tank level is satisfactory, you corrected the fault.
 - 2) If the waste tank level is EMPTY or INVALID DATA, then continue.

NOTE: The waste tank level will show 1/16 to 1/8 after the system is filled with precharge.

- (2) FOR THE WASTE TANK 1;

If the waste tank level for system 1 shows EMPTY or INVALID DATA, then continue.

- (a) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
F	1	C23415	ZONE MGMT UNIT 1

- (b) Stop for 5 seconds.
- (c) Close this circuit breaker:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
F	1	C23415	ZONE MGMT UNIT 1

- (d) Look at the waste tank level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
 - 1) If the waste tank level is satisfactory, you corrected the fault.
 - 2) If the waste tank level shows EMPTY or INVALID DATA, then do the Fault Isolation Procedure below.

- (3) FOR THE WASTE TANK 2;

If the waste tank level for system 2 shows EMPTY or INVALID DATA, then continue.

- (a) Open this circuit breaker and install safety tag:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	25	C23417	ZONE MGMT UNIT 2

- (b) Stop for 5 seconds.
- (c) Close this circuit breaker:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	25	C23417	ZONE MGMT UNIT 2

- (d) Look at the waste tank level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).

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- 1) If the waste tank level is satisfactory, you corrected the fault.
 - 2) If the waste tank level shows EMPTY or INVALID DATA, then do the Fault Isolation Procedure below.
- (4) FOR THE WASTE TANK 3;
- If the waste tank level for system 3 shows EMPTY or INVALID DATA, then continue.
- (a) Open this circuit breaker and install safety tag:
- Left Power Management Panel, P110**
- | <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|------------------|
| H | 4 | C23419 | ZONE MGMT UNIT 3 |
- (b) Stop for 5 seconds.
- (c) Close this circuit breaker:
- Left Power Management Panel, P110**
- | <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|------------------|
| H | 4 | C23419 | ZONE MGMT UNIT 3 |
- (d) Look at the waste tank level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
- 1) If the waste tank level is satisfactory, you corrected the fault.
 - 2) If the waste tank level shows EMPTY or INVALID DATA, then do the Fault Isolation Procedure below.

B. Fault Isolation Procedure

- (1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - (a) Look at the waste tank level on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
 - (b) If the waste tank level is satisfactory, you corrected the fault.
 - (c) If the waste tank level is INVALID DATA, then continue.
- (2) Do a QUICK TEST of the CSCP.
 - (a) Make note of the maintenance message which shows in the Quick Test Fault Results.
 - (b) Find the maintenance message in the applicable FIM Maintenance Message Index.
 - (c) Do a specified fault isolation task for the maintenance message, and then do these steps:
 - 1) Look at the waste tank level on the CSCP or CACP.
 - 2) If the waste tank level is satisfactory, you corrected the fault.
 - (d) If the waste tank level is INVALID DATA, then continue.
- (3) Do this check to see which waste tank has the INVALID DATA message.
 - (a) Look at the waste tank level on the CSCP or CACP.
 - 1) If the waste tank 1 has the INVALID DATA message, use (WDM 38-32-11).
 - 2) If the waste tank 2 has the INVALID DATA message, use (WDM 38-32-12).
 - 3) If the waste tank 3 has the INVALID DATA message, use (WDM 38-32-13).
- (4) Fill the waste tank that has the INVALID DATA message with water.

NOTE: Waste tank capacity is approximately 65 gallons.

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(5) FOR THE WASTE TANK 3;

If the QUICK TEST does not show a fault, do a check for 10 VDC between pins 38 and 39 of connector D3114P, at the Overhead Panel - Door 4 Right (WDM 38-32-13):

- (a) If there is 10 VDC at the pins of connector D3114P specified above, then do these steps:
 - 1) Re-connect connector D3114P.
 - 2) Disconnect connector DM23408C from the OEU - Door 4 Right, then continue.
- (b) If there is not 10 VDC at the pins of connector D3114P specified above, do these steps.
 - 1) Repair the wiring.
 - 2) Re-connect connector D3114P.
 - 3) Look at the waste tank level on the CSCP or CACP.
 - 4) If the waste tank level is satisfactory, you corrected the fault.
- (c) If the waste tank level is INVALID DATA, then continue.

(6) FOR THE WASTE TANK 3;

If there is 10 VDC at the pins of connector D3114P for the waste tank 3 specified above, do a check for 10 VDC between these pins 7 and 8 of connector DM23408C, at the OEU - Door 4 Right (WDM 38-32-13):

- (a) If there is not 10 VDC at the pins of connector DM23408C specified above, do these steps.
 - 1) Repair the wiring.
 - 2) Re-connect connector DM23408C.
 - 3) Look at the waste tank level on the CSCP or CACP.
 - 4) If the waste tank level is satisfactory, you corrected the fault.
- (b) If there is 10 VDC at the pins of connector DM23408C specified above, then continue.

(7) FOR THE WASTE TANK 2;

If the QUICK TEST does not show a fault, do a check for 10 VDC between these pins 9 and 10 of connector DM23407C, at the OEU - Door 4 Left (WDM 38-32-12):

- (a) If there is not 10 VDC at the pins of connector DM23407C specified above, do these steps.
 - 1) Repair the wiring.
 - 2) Re-connect connector DM23407C.
 - 3) Look at the waste tank level on the CSCP or CACP.
 - 4) If the waste tank level is satisfactory, you corrected the fault.
- (b) If there is 10 VDC at the pins of connector DM23407C specified above, then continue.

(8) FOR THE WASTE TANK 1;

If the QUICK TEST does not show a fault, do a check for 10 VDC between these pins 7 and 8 of connector DM23407C, at the OEU - Door 4 Left (WDM 38-32-11):

- (a) If there is not 10 VDC at the pins of connector DM23407C specified above, do these steps.
 - 1) Repair the wiring.
 - 2) Re-connect connector DM23407C.
 - 3) Look at the waste tank level on the CSCP or CACP.



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- 4) If the waste tank level is satisfactory, you corrected the fault.
- (b) If there is 10 VDC at the pins of connector DM23407C specified above, then continue.
- (9) If there is 10 VDC at the pins of connector DM23407C (DM23408C) specified above, do these steps:
 - (a) Re-connect connector DM23407C (DM23408C).
 - (b) Fault is in the CSCP, do the BITE test.
 - (c) Repair or replace the component identified in the BITE test.
 - (d) Look at the waste tank level on the CSCP or CACP.
 - (e) If the waste tank level is satisfactory, you corrected the fault.

END OF TASK

805. Toilet Flush System - Does Not Turn Off - Fault Isolation

A. Fault Isolation Procedure

- (1) Do this check for a flow of rinse water.
 - (a) If there is a continuous flow of rinse water, for the applicable lavatory:
Open and close these circuit breakers:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	9	C38604	FL CTRL LAV SYS 1 GND
D	10	C38605	FL CTRL LAV SYS 2 GND
D	11	C38606	FL CTRL LAV SYS 3 GND

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	17	C38608	FL CTRL LAV SYS 1 FLT

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	6	C38610	FL CTRL LAV SYS 2 FLT
N	7	C38612	FL CTRL LAV SYS 3 FLT

- 1) If the flow of rinse water stops, then do these steps:
 - a) Push the flush switch for the toilet.
 - b) Make sure the flow of rinse water stops after approximately 1.2 seconds.
 - c) If the flow of rinse water fully stops after approximately 1.2 seconds, then there was an intermittent fault.
- 2) If the flow of rinse water does not stop, then continue.
- (2) Do a check of the flush control assembly.
 - (a) Disconnect the rinse valve connector from the flush control assembly.
 - (b) Do a check for 28 volts dc between pin B and pin C of the flush control assembly.
 - 1) If there is 28 volts dc between pin B and pin C of the flush control assembly, replace the flush control assembly.

These are the tasks:

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Flush Control Assembly Removal, AMM TASK 38-32-01-010-803-001,
Flush Control Assembly Installation, AMM TASK 38-32-01-400-804-001.

- a) Push the flush switch for the toilet.
- b) If the flow of rinse water stops after approximately 1.2 seconds, then you corrected the fault.
- (c) If there is not 28 volts dc between pin B and pin C of the flush control assembly, then continue.
- (3) Do a check of the rinse valve.
 - (a) Disconnect the rinse valve connector from the flush control assembly.
 - 1) If there is flow of water, replace the rinse valve.

These are the tasks:
Rinse Valve Removal, AMM TASK 38-32-01-000-802-001,
Rinse Valve Installation, AMM TASK 38-32-01-400-803-001.
 - 2) Push the flush switch for the toilet.
 - 3) If the flow of rinse water stops after approximately 1.2 seconds, then you corrected the fault.
 - (4) Do this check for an unusual air noise at the toilet.
 - (a) If you have an unusual air noise, then do these steps:
 - 1) Do a check for a blockage in the flush valve.
 - a) To open the flush valve and try to remove a blockage, push the maintenance switch on the flush control assembly.
 - b) If there is a blockage in the toilet, do this task: Toilet Blockage Removal, AMM TASK 38-32-00-160-801.
 - c) Push the flush switch for the toilet.
 - d) Make sure the air noise starts after approximately 2 seconds and then stops after approximately 4 seconds.
 - e) If you do not have air noise after approximately 4 seconds, then you corrected the fault.
 - 2) If there is not a blockage in the flush valve, then continue.
 - (b) Do a check to see if the flush valve is open.
 - 1) If the flush valve is open, replace the flush valve.

These are the tasks:
Flush Valve Removal, AMM TASK 38-32-01-000-805-001,
Flush Valve Installation, AMM TASK 38-32-01-400-806-001.

 - a) Push the flush switch for the toilet.
 - b) Make sure the air noise starts after approximately 2 seconds and stops after approximately 4 seconds.
 - c) If you do not have air noise after approximately 4 seconds, then you corrected the fault.
 - 2) If you continue to have air noise after approximately 4 seconds, then do these steps:
 - a) Replace the flush control assembly.

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These are the tasks:

Flush Control Assembly Removal, AMM TASK 38-32-01-010-803-001,
Flush Control Assembly Installation, AMM TASK 38-32-01-400-804-001.

- b) Push the flush switch for the toilet.
- c) Make sure the air noise starts after approximately 2 seconds and stops after approximately 4 seconds.
- d) If you do not have air noise after approximately 4 seconds, then you corrected the fault.

————— **END OF TASK** —————

806. Toilet Bowl - Overflows - Fault Isolation

A. Initial Evaluation

- (1) Push the flush switch for the toilet that has a problem.
 - (a) If the toilet operation is not satisfactory, push the flush switch on a toilet that attaches to the same waste tank.
 - (b) If the other toilet operation is satisfactory, do the following step for the first toilet (WDM 38-32-14, WDM 38-32-11, WDM 38-32-15, WDM 38-32-16, WDM 38-32-17):

Open and close these circuit breakers:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	9	C38604	FL CTRL LAV SYS 1 GND
D	10	C38605	FL CTRL LAV SYS 2 GND
D	11	C38606	FL CTRL LAV SYS 3 GND

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	17	C38608	FL CTRL LAV SYS 1 FLT

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	6	C38610	FL CTRL LAV SYS 2 FLT
N	7	C38612	FL CTRL LAV SYS 3 FLT

- (c) If the other toilet operation is not satisfactory, make sure the waste tank is not full.
 - 1) If the waste tank is full, do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
- (d) Push the flush switch on the first toilet.
- (e) If the toilet does not overflow, then there was an intermittent fault.
- (f) If the system operation is satisfactory but does not include the first toilet, then continue.

B. Fault Isolation Procedure

- (1) Do this check for a blockage of the toilet.
 - (a) Remove the toilet shroud to get access to the toilet as follows:
 - 1) Turn the latch handle away from the toilet to open the toilet shroud.

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- 2) Pull the bottom edge of the toilet shroud out.
- 3) Move the toilet shroud down until the top edge disengages from the trim strip on the lavatory wall.
- (b) Push the flush switch for the toilet.
- (c) Make sure the flush valve opens for approximately 4 seconds and then closes.
 - 1) To open the flush valve and try to remove a blockage, do this task: Toilet Flush Valve - Open for Maintenance, AMM TASK 38-32-00-980-802.
 - 2) If the toilet has a blockage, do this task: Toilet Blockage Removal, AMM TASK 38-32-00-160-801.
 - 3) Push the flush switch for the toilet.
 - 4) If the operation of the toilet is satisfactory, then you corrected the fault.
 - 5) If the operation of the toilet is still not satisfactory, then continue.
- (2) Do this check for a blockage of the vacuum waste line.
 - (a) Do this task: Vacuum Line Blockage Inspection, AMM TASK 38-32-00-280-801
 - 1) If you find a waste system blockage, do this task: Waste Drain Line Blockage Removal, AMM TASK 38-32-00-160-804
 - 2) Push the flush switch on the toilet.
 - 3) If the operation of the toilet is satisfactory, then you corrected the fault.
 - 4) If the operation of the toilet is still not satisfactory, then continue.
- (3) Do this check for a flow of rinse water.
 - (a) If there is a continuous flow of rinse water, do the following step for the lavatory:
Open and close these circuit breakers:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	9	C38604	FL CTRL LAV SYS 1 GND
D	10	C38605	FL CTRL LAV SYS 2 GND
D	11	C38606	FL CTRL LAV SYS 3 GND

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	17	C38608	FL CTRL LAV SYS 1 FLT

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	6	C38610	FL CTRL LAV SYS 2 FLT
N	7	C38612	FL CTRL LAV SYS 3 FLT

- 1) If the flow of rinse water stops, then do these steps:
 - a) Push the flush switch for the toilet.
 - b) Make sure the flow of rinse water stops after approximately 1.2 seconds.
 - c) If the flow of rinse water fully stops after approximately 1.2 seconds, then there was an intermittent fault.
- 2) If the flow of rinse water does not stop, then continue.

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- (4) Do a check of the flush control assembly.
 - (a) Disconnect the rinse valve connector from the flush control assembly.
 - (b) Do a check for 28 volts dc between pin B and pin C of the flush control assembly.
 - 1) If there is 28 volts dc between pin B and pin C of the flush control assembly, replace the flush control assembly.

These are the tasks:
Flush Control Assembly Removal, AMM TASK 38-32-01-010-803-001,
Flush Control Assembly Installation, AMM TASK 38-32-01-400-804-001.

 - a) Push the flush switch for the toilet.
 - b) If the flow of rinse water stops after approximately 1.2 seconds, then you corrected the fault.
 - (c) If there is not 28 volts dc between pin B and pin C of the flush control assembly, then continue.
- (5) Do a check of the rinse valve.
 - (a) Disconnect the rinse valve connector from the flush control assembly.
 - 1) If there is flow of water, replace the rinse valve.

These are the tasks:
Rinse Valve Removal, AMM TASK 38-32-01-000-802-001,
Rinse Valve Installation, AMM TASK 38-32-01-400-803-001.
 - 2) Push the flush switch for the toilet.
 - 3) If the flow of rinse water stops after approximately 1.2 seconds, then you corrected the fault.

————— END OF TASK —————

807. Waste Tank does not Precharge - Fault Isolation

A. Fault Isolation Procedure

- (1) Do this check of the rinse line for the waste tank to make sure it is not frozen:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door
 - (b) To get access to the rinse fitting heater, do this task: Bulk Cargo Floor Removal, AMM TASK 25-52-11-000-801.
 - (c) Feel the rinse fitting heater.
 - (d) If the rinse line for the waste tank is frozen, replace the rinse fitting heater.

These are the tasks:
Waste Tank Rinse Fitting Heater Removal, AMM TASK 30-71-04-000-801,
Waste Tank Rinse Fitting Heater Installation, AMM TASK 30-71-04-400-801.

 - 1) Make sure the water flows freely to the waste tank.
 - (e) If the water flows freely, do these steps to complete the task:
 - 1) Do this task: Bulk Cargo Floor Installation, AMM TASK 25-52-11-400-801.

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- 2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door

- (f) If the rinse line is not frozen, then continue.
- (2) Make sure the rinse filter for the waste tank is not clogged.
- (a) If the rinse filter is clogged, do one of these steps:
- 1) To clean the rinse filter, do this task: Waste Tank Rinse Filter Element Cleaning, AMM TASK 38-32-18-100-801.
 - 2) Replace the rinse filter.
- These are the tasks:
- Waste Tank Rinse Filter Removal, AMM TASK 38-32-18-000-801,
Waste Tank Rinse Filter Installation, AMM TASK 38-32-18-400-801.
- (b) Make sure the water flows freely to the waste tank.
- (c) If the water flows freely to the waste tank, then you corrected the fault.
- (d) If the rinse filter is not clogged, then continue.
- (3) Make sure the rinse nozzle for the waste tank is not clogged.
- (a) Do this task: Waste Tank Rinse Nozzle Removal, AMM TASK 38-32-17-000-801.
- (b) Examine the rinse nozzle to see if it is clogged.
- (c) If the rinse nozzle is clogged, do this task: Waste Tank Rinse Nozzle Cleaning, AMM TASK 38-32-17-100-801.
- (d) Do this task: Waste Tank Rinse Nozzle Installation, AMM TASK 38-32-17-400-801.
- 1) Make sure the water flows freely to the waste tank.
 - 2) If the water flows freely to the waste tank, then you corrected the fault.
- (e) If the water does not flow freely to the waste tank, then continue.
- 1) Replace the clogged rinse line.
 - a) Make sure the water flows freely to the waste tank.
 - b) If the water flows freely to the waste tank, then you corrected the fault.

————— **END OF TASK** —————

812. Waste Tank - Does Not Drain - Fault Isolation

A. Fault Isolation Procedure

- (1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
- (a) Read the waste quantity on the cabin system control panel (CSCP) or cabin attendant control panel (CACP).
- 1) If the waste quantity is empty, there was an intermittent fault.
- (b) If the waste quantity is not empty, then continue.
- (2) Examine the waste drain ball valve to make sure it is open.
- (a) If the waste drain ball valve is not open, make sure the control cable is connected to the ball valve.

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- 1) If the control cable for the waste drain ball valve is not connected, then replace the control cable.
These are the tasks:
Control Cable for the Waste Drain Ball Valve Removal, AMM TASK 38-32-03-000-802,
Control Cable for the Waste Drain Ball Valve Installation, AMM TASK 38-32-03-400-802.
 - a) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - b) If the waste tank drains, you corrected the fault.
- 2) If the control cable for the waste drain ball valve is connected and the ball valve is not open, the replace the ball valve.
These are the tasks:
Waste Drain Ball Valve Removal, AMM TASK 38-32-03-000-801,
Waste Drain Ball Valve Installation, AMM TASK 38-32-03-400-801.
 - a) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - b) If the waste tank drains, you corrected the fault.
- (b) If the waste drain ball valve is open, then continue.
- (3) Do this check of the waste drain line for the waste tank to make sure it is not frozen:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
825	Bulk Cargo Door
 - (b) To access the waste drain, do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - (c) Feel the waste drain line heater.
 - (d) If the waste drain line is frozen, replace the waste drain line heater.
These are the tasks:
Waste Drain Line Heater Removal, AMM TASK 30-71-03-000-801,
Waste Drain Line Heater Installation, AMM TASK 30-71-03-400-801.
 - 1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - 2) If the waste tank drains, you corrected the fault.
 - (e) If the waste drain line is not frozen, then continue.
- (4) Do this task: Waste Tank Drain Line Blockage Removal, AMM TASK 38-32-00-160-803 or Waste Drain Line Blockage Removal, AMM TASK 38-32-00-160-804.
 - (a) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - (b) If the waste tank drains, you corrected the fault.
 - (c) If the waste tank does not drain, manually remove the contents of the waste tank.

————— **END OF TASK** —————

813. Waste Tank Sensor - Fouled - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 38-21040.

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B. Initial Evaluation

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - (a) If the waste tank is full, then do these steps:
 - 1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - a) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.
 - c) If the waste tank indicator shows FULL or INVALID DATA, then continue.

C. Fault Isolation Procedure

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - (a) If the waste tank indicator shows FULL or INVALID DATA, do this task: LCM BITE Operational Test, AMM TASK 38-33-00-740-801.
 - 1) If the LCM BITE Operational Test does not show a Sensor J1 or Sensor J2 failure, but fails the test, then replace the logic control module.

These are the tasks:

Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.

 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.
 - 2) If the LCM BITE Operational Test does show a Sensor J1 or Sensor J2 failure, then replace that point level sensor.

These are the tasks:

Waste Tank Point Level Sensor Removal, AMM TASK 38-33-01-000-801,
Waste Tank Point Level Sensor Installation, AMM TASK 38-33-01-400-801.

 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.
 - 3) If the LCM BITE Operation Test shows no failures, then continue.
 - (2) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - (a) If the waste tank indicator shows FULL or INVALID DATA, do this task: Waste Tank Point Level Sensor Cleaning, AMM TASK 38-33-01-100-801.
 - 1) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - 2) If the waste tank indicator shows empty, then you corrected the fault.
 - 3) If the waste tank indicator continues to show FULL or INVALID DATA, do this task: Waste Tank Cleaning, AMM TASK 38-32-11-100-801.
 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.

————— END OF TASK —————

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814. Toilet Flush System - Does Not Flush - Fault Isolation

A. Initial Evaluation

- (1) Push the flush switch for the toilet that has a problem.
 - (a) If the toilet operation is not satisfactory, push the flush switch on a toilet that attaches to the same waste tank.
 - (b) If the other toilet operation is satisfactory, do the following step for the first toilet (WDM 38-32-14), (WDM 38-32-15), (WDM 38-32-16), or (WDM 38-32-17):

Open and close these circuit breakers:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	9	C38604	FL CTRL LAV SYS 1 GND
D	10	C38605	FL CTRL LAV SYS 2 GND
D	11	C38606	FL CTRL LAV SYS 3 GND

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	17	C38608	FL CTRL LAV SYS 1 FLT

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	6	C38610	FL CTRL LAV SYS 2 FLT
N	7	C38612	FL CTRL LAV SYS 3 FLT

- (c) If the other toilet operation is not satisfactory, make sure the waste tank is not full.
 - 1) If the waste tank is full, do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - 2) If the waste tank is not full, make sure the waste system does not have a blockage.
 - a) Do this task: Vacuum Line Blockage Inspection, AMM TASK 38-32-00-280-801.
 - b) If you find a waste system blockage, do this task: Vacuum Waste Line Blockage Removal, AMM TASK 38-32-00-160-802.
 - c) Push the flush switch on the first toilet.
 - d) If the operation of the first toilet is satisfactory, then you corrected the fault.
- (d) Push the flush switch on the first toilet.
 - 1) If the toilet operation is satisfactory, then there was an intermittent fault.
- (e) If the operation of the first toilet is not satisfactory, then continue.

B. Fault Isolation Procedure

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - (a) If the waste tank is full, then do these steps:
 - 1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - 2) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - a) If the waste tank indicator shows empty, then push the flush switch for the toilet.

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- b) If the toilet operation is satisfactory, then you corrected the fault.
- 3) If the waste tank indicator continues to show full, do this task: Waste Tank Cleaning, AMM TASK 38-32-11-100-801.
 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
- 4) If the waste tank indicator continues to show full, do this task: LCM BITE Operational Test, AMM TASK 38-33-00-740-801.
 - a) If the LCM BITE Test fails, then replace the logic control module.

These are the tasks:
Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.
 - b) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - c) If the waste tank indicator shows empty, then push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (b) If the waste tank is not full, then continue.
- (2) Push the flush switch of the toilet, then do these checks at the same time.
 - (a) Make sure there is water flow into the toilet.
 - 1) If there is water flow into the toilet, there is no fault in the rinse valve.
 - 2) If water does not flow into the toilet, then continue.
 - (b) Make sure the flush valve opens and then closes.
 - 1) If the flush valve opens then closes, there is no fault with the flush valve.
 - 2) If the flush valve does not open, then continue.
 - (c) Make sure the vacuum blower operates for approximately 15 seconds.
 - 1) If the vacuum blower operates, there is no fault in the vacuum blower.
 - 2) If the vacuum blower does not operate, then continue.
 - (d) If there is no water flow into the toilet, the flush valve does not open, and no operation of the vacuum blower, then continue.
- (3) If the toilet operation is not satisfactory, then do this test of the flush switch.
 - (a) Open the shroud dispenser above the toilet.
 - (b) Disconnect the electrical connectors for the flush switch.
 - (c) Install a jumper across the electrical connectors for the flush switch.
 - 1) If the toilet operation is satisfactory, then replace the flush switch.

These are the tasks:
Flush Switch Removal, AMM TASK 38-32-04-000-801,
Flush Switch Installation, AMM TASK 38-32-04-400-801.
 - 2) Push the flush switch for the toilet.

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- 3) If the toilet operation is satisfactory, then you corrected the fault.
- 4) Close the shroud dispenser above the toilet.
- (d) If the toilet operation is not satisfactory, close the shroud dispenser above the toilet and then continue.
- (4) To get access to the toilet, remove the toilet shroud as follows:
 - (a) Turn the latch handle away from the toilet to open the toilet shroud.
 - (b) Pull the bottom edge of the toilet shroud out.
 - (c) Move the toilet shroud down until the top edge disengages from the trim strip on the lavatory wall.
- (5) For the applicable lavatory, disconnect the connector DM007 from the flush control module (WDM 38-32-14), (WDM 38-32-15), (WDM 38-32-16), or (WDM 38-32-17):
 - (a) Do a check for 28 VDC between these pins 4 and 2 of connector, DM007.
 - (b) If there is 28 VDC at the pins of connector DM007 specified above, connect DM007, then do these steps:
 - 1) Disconnect the connector J1 for the rinse valve from the flush control module.
 - 2) Push and hold the flush switch for the toilet.
 - 3) Do a check for 28 VDC at the pins B and C of connector J1 on the flush control module, M007.
 - a) If there is 28 VDC at the pins of connector J1 specified above, replace the rinse valve.

These are the tasks:
Rinse Valve Removal, AMM TASK 38-32-01-000-802-001,
Rinse Valve Installation, AMM TASK 38-32-01-400-803-001.
 - b) Push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
 - 4) If there is 28 VDC at connector DM007 and not 28 VDC at connector J1 specified above, then do these steps.
 - a) Replace the flush control module.

These are the tasks:
Flush Control Assembly Removal, AMM TASK 38-32-01-010-803-001,
Flush Control Assembly Installation, AMM TASK 38-32-01-400-804-001.
 - b) Connect the connectors DM007 and J2.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (c) If there is 28 VDC at connector DM007 at the flush control module and connector J1 on the flush control module, then do these steps:
 - 1) Disconnect the connector J2 for the flush motor power from the flush control module.
 - 2) Push and hold the flush switch for the toilet.
 - 3) Do a check for 28 VDC at the pins B and C of connector J2 on the flush control module, M007.

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- a) If there is 28 VDC at the pins of connector J2 specified above, replace the flush valve.
These are the tasks:
Flush Valve Removal, AMM TASK 38-32-01-000-805-001,
Flush Valve Installation, AMM TASK 38-32-01-400-806-001.
- b) Push the flush switch for the toilet.
- c) If the toilet operation is satisfactory, then you corrected the fault.
- 4) If there is 28 VDC at connector DM007 and not 28 VDC at connector J2 specified above, then do these steps.
 - a) Replace the flush control module.
These are the tasks:
Flush Control Assembly Removal, AMM TASK 38-32-01-010-803-001,
Flush Control Assembly Installation, AMM TASK 38-32-01-400-804-001.
 - b) Connect the connectors DM007 and J2.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (d) If there is 28 VDC at connector DM007 at the flush control module and connector J2 on the flush control module, then do this test of the vacuum blower:
 - 1) Push the flush switch for the toilet.
 - 2) Make sure the vacuum blower starts and then stops after approximately 15 seconds.
 - 3) If the vacuum blower does not operate, disconnect the connector DM38007 (DM38008) from the vacuum blower (WDM 38-32-11) or (WDM 38-32-12)
 - 4) Do a continuity check between pin 5 and pin 6 of connector DM38007 (DM38008) on the vacuum blower.
 - 5) If you find a problem with the vacuum blower, do these steps:
 - a) Replace the vacuum blower.
These are the tasks:
Vacuum Blower Removal, AMM TASK 38-32-06-000-801,
Vacuum Blower Installation, AMM TASK 38-32-06-400-801.
 - b) Connect the connector DM38007 (DM38008).
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - 6) If you do not find a problem with the vacuum blower, do these steps:
 - a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
311BL	Service Access Door

for the forward stabilizer compartment.
 - b) Disconnect the connector DS38005 (DS38006) from the altitude switch, S38005 (S38006) (WDM 38-32-11) or (WDM 38-32-12).

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- c) Do a continuity check between pin 2 and pin 3 of altitude switch S38005 (S38006) on the altitude switch.
- d) If you find a problem with the altitude switch, do these steps:
 - <1> Replace the altitude switch.
These are the tasks:
Vacuum Blower Barometric Switch Removal, AMM
TASK 38-32-51-000-801,
Vacuum Blower Barometric Switch Installation, AMM
TASK 38-32-51-400-801.
 - <2> Connect the connector DS38005 (DS38006).
 - <3> Close this access panel:

Number	Name/Location
311BL	Service Access Door
 - <4> Push the flush switch for the toilet.
 - <5> If the toilet operation is satisfactory, then you corrected the fault.
- e) If you do not find a problem with the altitude switch, do these steps:
 - <1> Disconnect the connector DS38008 (DS38009, DS38010) from the limit switch S38008 (S38009, S38010) of the waste drain ball valve (WDM 38-32-11) or (WDM 38-32-12).
 - <2> Do a continuity check between pin 1 and pin 2 of limit switch S38008 (S38009, S38010).
 - <3> If you find a problem with the limit switch, do these steps:
 - <a> Make sure the waste drain ball valve is closed.
 - If the waste drain ball valve is closed, replace the limit switch on the waste drain ball valve.
These are the tasks:
Waste Drain Ball Valve Limit Switch Removal, AMM
TASK 38-32-03-000-803,
Waste Drain Ball Valve Limit Switch Installation, AMM
TASK 38-32-03-400-803.
 - <c> If the waste drain ball valve is not closed, do this task: Waste Drain Ball Valve and Control Cable - Adjustment, AMM
TASK 38-32-03-820-801.
 - <d> Connect the connector DS38008 (DS38009, DS38010).
 - <e> Push the flush switch for the toilet.
 - <f> If the toilet operation is satisfactory, then you corrected the fault.
- (e) If there is not 28 VDC at the pins of connector DM007 specified above, then continue.
- (6) If the toilet with the problem is connected to the forward waste tank, disconnect connector D11037P and then do these steps:
 - (a) Do a check for 28 VDC between pin 1 and structure of connector D11037P, at the P110 panel (WDM 38-32-11):

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- 1) If there is 28 VDC at the pins of connector D11037P specified above, do a check of the wiring between the P110 panel and the flush control unit.
 - a) Repair the wiring.
 - b) Re-connect D11037P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (b) If there is not 28 VDC at connector D11037P, connect connector D11037P and then disconnect connector D11031P.
- (c) Do a check for 28 VDC between pin 37 and structure of connector D11031P, at the P110 panel (WDM 38-32-11):
 - 1) If there is 28 VDC at connector D11031P, do a check of the wiring between the P110 panel and the relay K38101.
 - a) Replace the relay K38101, or repair the wiring.
 - b) Re-connect D11031P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (d) If there is not 28 VDC at pin 37 of the connector D11031P, do a check for 28 VDC between pin 9 and structure at connector D11031P, for the P110 panel (WDM 38-32-11):
 - 1) If there is 28 VDC at the pins of connector D11031P, do these steps:
 - a) To get access to the logic control module, do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - b) Disconnect connector DM38104D from the logic control manual, M38104 (WDM 38-32-11).
 - c) Do a check for 28VDC between pin 1 and pin 10 of connector DM38104D.
 - d) If there is 28VDC at connector DM38104D, then replace the logic control module.

These are the tasks:

Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.
 - e) If there is not 28VDC at connector DM38104D, repair the wiring between the logic control module and the P110 panel.
 - f) Re-connect DM38104D.
 - g) To close the access to the logic control module, do this task: Waste Tank Enclosure Panels Installation, AMM TASK 25-52-20-400-801.
 - h) Push the flush switch for the toilet.
 - i) If the toilet operation is satisfactory, then you corrected the fault.
 - 2) If there is not 28 VDC at the pin 9 of connector D11031P, connect connector D11031P and then disconnect connector DK38006 (WDM 38-32-11).
 - a) Do a check for 28VDC between pin X1 and pin X2 of connector DK38006.
 - b) If there is 28VDC at connector DK38006, then replace the relay K38006.
 - c) Re-connect DK38006.
 - d) Push the flush switch for the toilet.

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- e) If the toilet operation is satisfactory, then you corrected the fault.
- 3) If there is not 28 VDC at connector DK38006, repair the wiring in the P110 panel.
 - a) Re-connect DK38006.
 - b) Push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
- (7) If the toilet with the problem is connected to the center waste tank, disconnect connector D21037P and then do these steps:
 - (a) Do a check for 28 VDC between pin 8 and structure of connector D21037P, at the P210 panel (WDM 38-32-12):
 - 1) If there is 28 VDC at the pins of connector D21037P specified above, do a check of the wiring between the P210 panel and the flush control unit.
 - a) Repair the wiring.
 - b) Re-connect D21037P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (b) If there is not 28 VDC at connector D21037P, connect connector D21037P and then disconnect connector D21025P.
 - (c) Do a check for 28 VDC between pin 12 and structure of connector D21025P, at the P210 panel (WDM 38-32-12):
 - 1) If there is 28 VDC at connector D21025P, do a check of the wiring between the P210 panel and the relay K38201.
 - a) Replace the relay K38201, or repair the wiring.
 - b) Re-connect D21025P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (d) If there is not 28 VDC at pin 12 of the connector D21025P, do a check for 28 VDC between pin 3 and structure at connector D21025P, for the P210 panel (WDM 38-32-12):
 - 1) If there is 28 VDC at the pins of connector D21025P, do these steps:
 - a) To get access to the logic control module, do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - b) Disconnect connector DM38204D from the logic control manual, M38204.
 - c) Do a check for 28VDC between pin 1 and pin 10 of connector DM38204D.
 - d) If there is 28VDC at connector DM38204D, then replace the logic control module.

These are the tasks:

Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.
 - e) If there is not 28VDC at connector DM38204D, repair the wiring between the logic control module and the P210 panel.
 - f) Re-connect DM38204D.
 - g) To close the access to the logic control module, do this task: Waste Tank Enclosure Panels Installation, AMM TASK 25-52-20-400-801.

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- h) Push the flush switch for the toilet.
 - i) If the toilet operation is satisfactory, then you corrected the fault.
 - 2) If there is not 28 VDC at the pin 3 of connector D21025P, connect connector D21025P and then disconnect connector DK38007 (WDM 38-32-12).
 - a) Do a check for 28VDC between pin X1 and pin X2 of connector DK38007.
 - b) If there is 28VDC at connector DK38007, then replace the relay K38007.
 - c) Re-connect DK38007.
 - d) Push the flush switch for the toilet.
 - e) If the toilet operation is satisfactory, then you corrected the fault.
 - 3) If there is not 28 VDC at connector DK38007, repair the wiring in the P210 panel.
 - a) Re-connect DK38007.
 - b) Push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
- (8) If the toilet with the problem is connected to the aft waste tank, disconnect connector D21037P and then do these steps:
 - (a) Do a check for 28 VDC between pin 10 and structure of connector D21037P, at the P210 panel (WDM 38-32-13):
 - 1) If there is 28 VDC at the pins of connector D21037P specified above, do a check of the wiring between the P210 panel and the flush control unit.
 - a) Repair the wiring.
 - b) Re-connect D21037P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (b) If there is not 28 VDC at connector D21037P, connect connector D21037P and then disconnect connector D21025P.
 - (c) Do a check for 28 VDC between pin 17 and structure of connector D21025P, at the P210 panel (WDM 38-32-13):
 - 1) If there is 28 VDC at connector D21025P, do a check of the wiring between the P210 panel and the relay K38301.
 - a) Replace the relay K38301, or repair the wiring.
 - b) Re-connect D21025P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (d) If there is not 28 VDC at pin 17 of the connector D21025P, do a check for 28 VDC between pin 5 and structure at connector D21025P, for the P210 panel (WDM 38-32-13):
 - 1) If there is 28 VDC at the pins of connector D21025P, do these steps:
 - a) To get access to the logic control module, do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - b) Disconnect connector DM38304D from the logic control manual, M38304.
 - c) Do a check for 28VDC between pin 1 and pin 10 of connector DM38304D.
 - d) If there is 28VDC at connector DM38304D, then replace the logic control module.

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These are the tasks:

Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.

- e) If there is not 28VDC at connector DM38304D, repair the wiring between the logic control module and the P210 panel.
 - f) Re-connect DM38304D.
 - g) To close the access to the logic control module, do this task: Waste Tank Enclosure Panels Installation, AMM TASK 25-52-20-400-801.
 - h) Push the flush switch for the toilet.
 - i) If the toilet operation is satisfactory, then you corrected the fault.
- 2) If there is not 28 VDC at the pin 5 of connector D21025P, connect connector D21025P and then disconnect connector DK38008 (WDM 38-32-13).
- a) Do a check for 28VDC between pin X1 and pin X2 of connector DK38008.
 - b) If there is 28VDC at connector DK38008, then replace the relay K38008.
 - c) Re-connect DK38008.
 - d) Push the flush switch for the toilet.
 - e) If the toilet operation is satisfactory, then you corrected the fault.
- 3) If there is not 28 VDC at connector DK38008, repair the wiring in the P210 panel.
- a) Re-connect DK38008.
 - b) Push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
- (9) To close the access to the toilet, install the toilet shroud as follows:
- (a) Move the toilet shroud up until the top edge engages in the trim strip on the lavatory wall.
 - (b) Push on the bottom edge of the toilet shroud until the bottom edge engages.
 - (c) Turn the latch handle to the toilet to close the toilet shroud.

————— **END OF TASK** —————

815. Waste Tank Sensor - Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 38-21031.

B. Initial Evaluation

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
- (a) If the waste tank is full, then do these steps:
 - 1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - a) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.
 - 2) If the waste tank indicator shows FULL or INVALID DATA, then continue.

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C. Fault Isolation Procedure

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - (a) If the waste tank indicator shows FULL or INVALID DATA, do this task: LCM BITE Operational Test, AMM TASK 38-33-00-740-801.
 - 1) If the LCM BITE Operational Test does not show a Sensor J1, Sensor J2 or Sensor J3 failure, but fails the test, then replace the logic control module.

These are the tasks:
Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.

 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.
 - 2) If the LCM BITE Operational Test shows a Sensor J1 or Sensor J2 failure, then replace that point level sensor.

These are the tasks:
Waste Tank Point Level Sensor Removal, AMM TASK 38-33-01-000-801,
Waste Tank Point Level Sensor Installation, AMM TASK 38-33-01-400-801.

 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.
 - 3) If the LCM BITE Operational Test shows a Sensor J3 failure, then replace the continuous level sensor.

These are the tasks:
Waste Tank Continuous Level Sensor Removal, AMM TASK 38-33-02-000-801,
Waste Tank Continuous Level Sensor Installation, AMM TASK 38-33-02-400-801.

 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.

————— END OF TASK —————

816. Waste Tank - Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 38-21020.

B. Initial Evaluation

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - (a) If the waste tank is FULL or INVALID DATA, then do these steps:
 - 1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - a) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - b) If the waste tank indicator shows empty, then you corrected the fault.
 - 2) If the waste tank indicator shows FULL or INVALID DATA, then continue.

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C. Fault Isolation Procedure

- (1) Do this task: LCM BITE Operational Test, AMM TASK 38-33-00-740-801.
 - (a) If the LCM BITE Operational Test does not show a Sensor J3 failure, but fails the test, then replace the logic control module.

These are the tasks:

Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.

 - 1) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - 2) If the waste tank indicator shows empty, then you corrected the fault.
 - (b) If the LCM BITE Operational Test shows a Sensor J3 failure, then replace the continuous level sensor.

These are the tasks:

Waste Tank Continuous Level Sensor Removal, AMM TASK 38-33-02-000-801,
Waste Tank Continuous Level Sensor Installation, AMM TASK 38-33-02-400-801.

 - 1) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - 2) If the waste tank indicator shows empty, then you corrected the fault.

————— **END OF TASK** —————

817. Relay (VACUUM BLOWER SYS 1 RLY) Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 38-11000.

B. Initial Evaluation

- (1) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure below.
- (2) If the MAT shows LATCHED for the maintenance message, then do these steps:
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows ACTIVE or LATCHED for the maintenance message while the vacuum blower operates, then do the Fault Isolation Procedure below.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message while the vacuum blower operates, then there was an intermittent fault.

C. Fault Isolation Procedure

- (1) Replace the vacuum blower system 1 relay, K38003, in the P110 panel (WDM 38-32-11).
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

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- (2) Do a check of the internal wiring in the P110 panel vacuum blower system 1 relay circuit (WDM 38-32-11).
 - (a) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Push the flush switch for a toilet attached to the vacuum blower.
 - a) Make sure the vacuum blower starts.
 - b) Make sure the vacuum blower stops after approximately 15 seconds.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message or does not show on the ground test display, you corrected the fault.

————— **END OF TASK** —————

818. Relay (VACUUM BLOWER SYS 2 and 3 RLY) Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 38-12000.

B. Initial Evaluation

- (1) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure below.
- (2) If the MAT shows LATCHED for the maintenance message, then do these steps:
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows ACTIVE or LATCHED for the maintenance message while the vacuum blower operates, then do the Fault Isolation Procedure below.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message while the vacuum blower operates, then there was an intermittent fault.

C. Fault Isolation Procedure

- (1) Replace the vacuum blower system 2&3 relay, K38004, in the P210 panel (WDM 38-32-12).
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (2) Do a check of the internal wiring in the P210 panel vacuum blower system 2&3 relay circuit (WDM 38-32-12).
 - (a) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Push the flush switch for a toilet attached to the vacuum blower.
 - a) Make sure the vacuum blower starts.
 - b) Make sure the vacuum blower stops after approximately 15 seconds.

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- 3) If the MAT shows NOT ACTIVE for the maintenance message or does not show on the ground test display, you corrected the fault.

————— END OF TASK —————

819. Toilet Bowl - Plugged - Fault Isolation

A. Initial Evaluation

- (1) Push the flush switch for the toilet that has a problem.
 - (a) If the toilet operation is not satisfactory, push the flush switch on a toilet that attaches to the same waste tank.
 - (b) If the other toilet operation is satisfactory, do the following step for the first toilet (WDM 38-32-14), (WDM 38-32-15), (WDM 38-32-16), or (WDM 38-32-17):

Open and close these circuit breakers:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	9	C38604	FL CTRL LAV SYS 1 GND
D	10	C38605	FL CTRL LAV SYS 2 GND
D	11	C38606	FL CTRL LAV SYS 3 GND

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	17	C38608	FL CTRL LAV SYS 1 FLT

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
N	6	C38610	FL CTRL LAV SYS 2 FLT
N	7	C38612	FL CTRL LAV SYS 3 FLT

- (c) Push the flush switch for the first toilet.
- (d) If the toilet operation is satisfactory, then there was an intermittent fault.
- (e) If the other toilet operation is not satisfactory, make sure the waste tank is not full.
 - 1) If the waste tank is full, do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - a) Push the flush switch for first the toilet.
 - b) If the operation of the toilet is satisfactory, then you corrected the fault.
 - c) If the toilet operation is not satisfactory, then continue.

B. Fault Isolation Procedure

- (1) Do this check for a blockage of the toilet.
 - (a) Remove the toilet shroud to get access to the toilet as follows:
 - 1) Turn the latch handle away from the toilet to open the toilet shroud.
 - 2) Pull the bottom edge of the toilet shroud out.
 - 3) Move the toilet shroud down until the top edge disengages from the trim strip on the lavatory wall.
 - (b) Push the flush switch for the toilet.
 - (c) Make sure the flush valve opens for approximately 4 seconds and then closes.

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- 1) To open the flush valve and try to remove a blockage, do this task: Toilet Flush Valve - Open for Maintenance, AMM TASK 38-32-00-980-802.
- 2) If the toilet has a blockage, do this task: Toilet Blockage Removal, AMM TASK 38-32-00-160-801.
- 3) Push the flush switch for the toilet.
- 4) If the operation of the toilet is satisfactory, then you corrected the fault.
- (d) If the flush valve does not open, then continue.
- (2) Go to the Observed Faults List at the front of the FIM.
 - (a) Find the fault description for the problems with the toilet flush system that does not flush.
 - (b) Do the specified task for the fault description.

————— **END OF TASK** —————

820. Toilet Flush System - Plugged/Blocked - Fault Isolation

A. Initial Evaluation

- (1) Push the flush switch for the nearest toilet to the waste tank in the system that has a problem.
 - (a) If the toilet operation is not satisfactory, push the flush switch on a toilet that attaches to the same waste tank.
 - (b) If the other toilet operation is not satisfactory, make sure the waste tank is not full.
 - 1) If the waste tank is full, do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - 2) Push the flush switch on the first toilet.
 - 3) If the toilet operation is satisfactory, then there was an intermittent fault.
 - (c) If the waste tank is not full, then continue.

B. Fault Isolation Procedure

- (1) Do this check for a blockage or saturation of the liquid separator.
 - (a) Do this task: Liquid Separator and Liquid Separator Filter Cleaning, AMM TASK 38-32-02-100-801.
 - (b) Push the flush switch on the first toilet.
 - (c) If the operation of the first toilet is satisfactory, then you corrected the fault.
 - (d) If the problem continues, then continue.
- (2) Do this check for a blockage of the toilet waste system:
 - (a) Do this task: Vacuum Line Blockage Inspection, AMM TASK 38-32-00-280-801.
 - (b) If you find a waste system blockage, do this task: Vacuum Waste Line Blockage Removal, AMM TASK 38-32-00-160-802.
 - (c) Push the flush switch on the first toilet.
 - (d) If the operation of the first toilet is satisfactory, then you corrected the fault.
 - (e) If the operation of the toilet is not satisfactory, then continue.
- (3) Go to the Observed Faults List at the front of the FIM.
 - (a) Find the fault description for the problems with the toilet flush system that does not flush.
 - (b) Do the specified task for the fault description.

————— **END OF TASK** —————

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821. Continuous Level Sensor - Fault Isolation

A. Initial Evaluation

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - (a) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - (b) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - 1) If the waste tank indicator shows EMPTY, then you corrected the fault.
 - 2) If the waste tank indicator shows other than EMPTY, then continue.

B. Fault Isolation Procedure

- (1) Do this task: CMS Waste Tank Quantity Indication - Operational Test, AMM TASK 38-33-00-710-802.
 - (a) If the CMS Operational Test does not show a Waste Tank System failure, do this task: LCM BITE Operational Test, AMM TASK 38-33-00-740-801.
 - 1) If the LCM BITE Operational Test shows a Sensor J3 failure, then replace the continuous level sensor.

These are the tasks:

Waste Tank Continuous Level Sensor Removal, AMM TASK 38-33-02-000-801,
Waste Tank Continuous Level Sensor Installation, AMM TASK 38-33-02-400-801.
 - 2) If the LCM BITE Operational Test shows a Sensor J1 or Sensor J2 failure, then replace the appropriate point level sensor.

These are the tasks:

Waste Tank Point Level Sensor Removal, AMM TASK 38-33-01-000-801,
Waste Tank Point Level Sensor Installation, AMM TASK 38-33-01-400-801.
 - (b) If the LCM BITE Operational Test does not show a Sensor failure, but fails the test, then replace the logic control module.

These are the tasks:

Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.
 - 1) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - 2) If the waste tank indicator shows empty, then you corrected the fault.
- (c) If the LCM BITE Operational Test does not show a LCM failure, then do the AUTO ZERO adjustment, do this task: Auto Zero - Adjustment, AMM TASK 38-33-00-710-801.
 - 1) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - 2) If the waste tank indicator shows empty, then you corrected the fault.
- (d) If the tank indication can not be controlled, do this task: Loss of Control of the Cabin Service System - Fault Isolation, 23-39 TASK A20

————— **END OF TASK** —————

822. Toilets - All Toilets for a Waste Tank Do Not Flush - Fault Isolation

A. Initial Evaluation

- (1) Push the flush switch for the toilet that has a problem.

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- (a) If the toilet operation is not satisfactory, push the flush switch on a toilet that attaches to the same waste tank.
- (b) If the other toilet operation is not satisfactory, make sure the waste tank is not full.
 - 1) If the waste tank is full, do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - 2) If the waste tank is not full, make sure the waste system does not have a blockage.
 - a) Do this task: Vacuum Line Blockage Inspection, AMM TASK 38-32-00-280-801.
 - b) If you find a waste system blockage, do this task: Vacuum Waste Line Blockage Removal, AMM TASK 38-32-00-160-802.
 - c) Push the flush switch on the first toilet.
 - d) If the operation of the first toilet is satisfactory, then you corrected the fault.
 - 3) If the waste system does not have a blockage, make sure the waste vent outflow does not have a blockage.
 - a) Check the waste vent outflow for ice blockage.
 - b) Push the flush switch on the first toilet.
 - c) If the operation of the first toilet is satisfactory, then you corrected the fault.
- (c) Push the flush switch on the first toilet.
 - 1) If the toilet operation is satisfactory, then there was an intermittent fault.
- (d) If the operation of the first toilet is not satisfactory, then continue.

B. Fault Isolation Procedure

- (1) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - (a) If the waste tank is full, then do these steps:
 - 1) Do this task: Waste Tank Servicing, AMM TASK 12-17-01-610-801.
 - 2) Do a check of the cabin system control panel (CSCP) for the waste tank status.
 - a) If the waste tank indicator shows empty, then push the flush switch for the toilet.
 - b) If the toilet operation is satisfactory, then you corrected the fault.
 - 3) If the waste tank indicator continues to show full, do this task: Waste Tank Cleaning, AMM TASK 38-32-11-100-801.
 - a) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - b) If the waste tank indicator shows empty, then push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
 - 4) If the waste tank indicator continues to show full, do this task: LCM BITE Operational Test, AMM TASK 38-33-00-740-801.
 - a) If the LCM BITE Test fails, then replace the logic control module.
These are the tasks:
Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.

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- b) Do a check of the cabin system control panel (CSCP) again for the waste tank status.
 - c) If the waste tank indicator shows empty, then push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (b) If the waste tank is not full, then continue.
- (2) If the toilet with the problem is connected to the forward waste tank, do these steps:
 - (a) Do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - (b) Make sure the ball valve is fully closed.
 - 1) If the ball valve is not fully closed, make sure the cable lock bolt is vertically aligned to give clearance for the bell crank assembly.
 - a) To get clearance for the bell crank assembly, turn the clevis to correctly align the end of the control cable to the bell crank assembly.
 - b) To install the three counterclockwise wraps of lockwire, do this task: Lockwire, Cotter Pins, and Lockrings - Installation, AMM TASK 20-10-23-400-801.
 - c) Push the flush switch on the first toilet.
 - d) If the operation of the first toilet is satisfactory, then you corrected the fault.
 - 2) If the ball valve is not fully closed and there is clearance for the bell crank assembly, do this task: Waste Drain Ball Valve and Control Cable - Adjustment, AMM TASK 38-32-03-820-801.
 - a) Push the flush switch on the first toilet.
 - b) If the operation of the first toilet is satisfactory, then you corrected the fault.
 - (c) If the waste drain ball valve is fully closed, then continue.
- (3) If the toilet with the problem is connected to the center or aft waste tank, do these steps:
 - (a) Do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - (b) Make sure the ball valve is fully closed.
 - 1) If the ball valve is not fully closed, do this task: Waste Drain Ball Valve and Control Cable - Adjustment, AMM TASK 38-32-03-820-801.
 - a) Push the flush switch on the first toilet.
 - b) If the operation of the first toilet is satisfactory, then you corrected the fault.
 - (c) If the waste drain ball valve is fully closed, then continue.
- (4) Push the flush switch of the first toilet to make sure the vacuum blower operates correctly.
 - (a) If the vacuum blower operates for approximately 15 seconds and then stops, there is no fault in the vacuum blower.
 - (b) If the vacuum blower does not operate, then continue.
- (5) If the toilets are connected to the forward waste tank, disconnect connectors DS38008 and DM38007 and then do these steps:
 - (a) Do a check for continuity between pin 2 of connector DS38008 at the ball valve and pin 5 of connector DM38007 at the vacuum blower, (WDM 38-32-11).
 - 1) If there is continuity at the pins of connector DS38008 and DM38007 specified above, do a check of the wiring between the ball valve and the vacuum blower.
 - a) Repair the wiring.

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- b) Re-connect DS38008 and DM38007.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (b) If there is continuity as specified above, re-connect DS38008 and DM38007, and then disconnect connector D11037P.
- 1) Do a check for 28 VDC between pin 1 and structure of connector D11037P, at the P110 panel (WDM 38-32-11):
 - 2) If there is 28 VDC at the pins of connector D11037P specified above, do a check of the wiring between the P110 panel and the flush control unit.
 - a) Repair the wiring.
 - b) Re-connect D11037P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (c) If there is not 28 VDC at connector D11037P, connect connector D11037P and then disconnect connector D11031P.
- (d) Do a check for 28 VDC between pin 37 and structure of connector D11031P, at the P110 panel (WDM 38-32-11):
- 1) If there is 28 VDC at connector D11031P, do a check of the wiring between the P110 panel and the relay K38101.
 - a) Replace the relay K38101, or repair the wiring.
 - b) Re-connect D11031P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (e) If there is not 28 VDC at pin 37 of the connector D11031P, do a check for 28 VDC between pin 9 and structure at connector D11031P, for the P110 panel (WDM 38-32-11):
- 1) If there is 28 VDC at the pins of connector D11031P, do these steps:
 - a) To get access to the logic control module, do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - b) Disconnect connector DM38104D from the logic control module, M38104 (WDM 38-32-11).
 - c) Do a check for 28VDC between pin 1 and pin 10 of connector DM38104D.
 - d) If there is 28VDC at connector DM38104D, then replace the logic control module.

These are the tasks:
Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.
 - e) If there is not 28VDC at connector DM38104D, repair the wiring between the logic control module and the P110 panel.
 - f) Re-connect DM38104D.
 - g) To close the access to the logic control module, do this task: Waste Tank Enclosure Panels Installation, AMM TASK 25-52-20-400-801.
 - h) Push the flush switch for the toilet.

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- i) If the toilet operation is satisfactory, then you corrected the fault.
- 2) If there is not 28 VDC at the pin 9 of connector D11031P, connect connector D11031P and then disconnect connector DK38006 (WDM 38-32-11).
 - a) Do a check for 28VDC between pin X1 and pin X2 of connector DK38006.
 - b) If there is 28VDC at connector DK38006, then replace the relay K38006.
 - c) Re-connect DK38006.
 - d) Push the flush switch for the toilet.
 - e) If the toilet operation is satisfactory, then you corrected the fault.
- 3) If there is not 28 VDC at connector DK38006, repair the wiring in the P110 panel.
 - a) Re-connect DK38006.
 - b) Push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
- (6) If the toilets are connected to the center waste tank, disconnect connectors DS38009 and DM38008 and then do these steps:
 - (a) Do a check for continuity between pin 2 of connector DS38009 at the ball valve and pin 5 of connector DM38008 at the vacuum blower, (WDM 38-32-12).
 - 1) If there is continuity at the pins of connector DS38009 and DM38008 specified above, do a check of the wiring between the ball valve and the vacuum blower.
 - a) Repair the wiring.
 - b) Re-connect DS38009 and DM38008.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (b) If there is continuity as specified above, re-connect DS38009 and DM38008, and then disconnect connector D21037P.
 - (c) Do a check for 28 VDC between pin 8 and structure of connector D21037P, at the P210 panel (WDM 38-32-12):
 - 1) If there is 28 VDC at the pins of connector D21037P specified above, do a check of the wiring between the P210 panel and the flush control unit.
 - a) Repair the wiring.
 - b) Re-connect D21037P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (d) If there is not 28 VDC at connector D21037P, connect connector D21037P and then disconnect connector D21025P.
 - (e) Do a check for 28 VDC between pin 12 and structure of connector D21025P, at the P210 panel (WDM 38-32-12):
 - 1) If there is 28 VDC at connector D21025P, do a check of the wiring between the P210 panel and the relay K38201.
 - a) Replace the relay K38201, or repair the wiring.
 - b) Re-connect D21025P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.

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- (f) If there is not 28 VDC at pin 12 of the connector D21025P, do a check for 28 VDC between pin 3 and structure at connector D21025P, for the P210 panel (WDM 38-32-12):
- 1) If there is 28 VDC at the pins of connector D21025P, do these steps:
 - a) To get access to the logic control module, do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - b) Disconnect connector DM38204D from the logic control manual, M38204.
 - c) Do a check for 28VDC between pin 1 and pin 10 of connector DM38204D.
 - d) If there is 28VDC at connector DM38204D, then replace the logic control module.
These are the tasks:
Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.
 - e) If there is not 28VDC at connector DM38204D, repair the wiring between the logic control module and the P210 panel.
 - f) Re-connect DM38204D.
 - g) To close the access to the logic control module, do this task: Waste Tank Enclosure Panels Installation, AMM TASK 25-52-20-400-801.
 - h) Push the flush switch for the toilet.
 - i) If the toilet operation is satisfactory, then you corrected the fault.
 - 2) If there is not 28 VDC at the pin 3 of connector D21025P, connect connector D21025P and then disconnect connector DK38007 (WDM 38-32-12).
 - a) Do a check for 28VDC between pin X1 and pin X2 of connector DK38007.
 - b) If there is 28VDC at connector DK38007, then replace the relay K38007.
 - c) Re-connect DK38007.
 - d) Push the flush switch for the toilet.
 - e) If the toilet operation is satisfactory, then you corrected the fault.
 - 3) If there is not 28 VDC at connector DK38007, repair the wiring in the P210 panel.
 - a) Re-connect DK38007.
 - b) Push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.
- (7) If the toilets are connected to the aft waste tank, disconnect connectors DS38010 and DM38008 and then do these steps:
- (a) Do a check for continuity between pin 2 of connector DS38010 at the aft ball valve and pin 5 of connector DM38008 at the vacuum blower, (WDM 38-32-12).
 - 1) If there is continuity at the pins of connector DS38010 and DM38008 specified above, do a check of the wiring between the ball valve and the vacuum blower.
 - a) Repair the wiring.
 - b) Re-connect DS38010 and DM38008.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
 - (b) If there is continuity as specified above, re-connect DS38010 and DM38008, and then disconnect connector D21037P.

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- (c) Do a check for 28 VDC between pin 10 and structure of connector D21037P, at the P210 panel (WDM 38-32-13):
 - 1) If there is 28 VDC at the pins of connector D21037P specified above, do a check of the wiring between the P210 panel and the flush control unit.
 - a) Repair the wiring.
 - b) Re-connect D21037P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (d) If there is not 28 VDC at connector D21037P, connect connector D21037P and then disconnect connector D21025P.
- (e) Do a check for 28 VDC between pin 17 and structure of connector D21025P, at the P210 panel (WDM 38-32-13):
 - 1) If there is 28 VDC at connector D21025P, do a check of the wiring between the P210 panel and the relay K38301.
 - a) Replace the relay K38301, or repair the wiring.
 - b) Re-connect D21025P.
 - c) Push the flush switch for the toilet.
 - d) If the toilet operation is satisfactory, then you corrected the fault.
- (f) If there is not 28 VDC at pin 17 of the connector D21025P, do a check for 28 VDC between pin 5 and structure at connector D21025P, for the P210 panel (WDM 38-32-13):
 - 1) If there is 28 VDC at the pins of connector D21025P, do these steps:
 - a) To get access to the logic control module, do this task: Waste Tank Enclosure Panels Removal, AMM TASK 25-52-20-000-801.
 - b) Disconnect connector DM38304D from the logic control module, M38304.
 - c) Do a check for 28VDC between pin 1 and pin 10 of connector DM38304D.
 - d) If there is 28VDC at connector DM38304D, then replace the logic control module.

These are the tasks:
Logic Control Module Removal, AMM TASK 38-33-03-000-801,
Logic Control Module Installation, AMM TASK 38-33-03-400-801.
 - e) If there is not 28VDC at connector DM38304D, repair the wiring between the logic control module and the P210 panel.
 - f) Re-connect DM38304D.
 - g) To close the access to the logic control module, do this task: Waste Tank Enclosure Panels Installation, AMM TASK 25-52-20-400-801.
 - h) Push the flush switch for the toilet.
 - i) If the toilet operation is satisfactory, then you corrected the fault.
- 2) If there is not 28 VDC at the pin 5 of connector D21025P, connect connector D21025P and then disconnect connector DK38008 (WDM 38-32-13).
 - a) Do a check for 28VDC between pin X1 and pin X2 of connector DK38008.
 - b) If there is 28VDC at connector DK38008, then replace the relay K38008.
 - c) Re-connect DK38008.

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- d) Push the flush switch for the toilet.
- e) If the toilet operation is satisfactory, then you corrected the fault.
- 3) If there is not 28 VDC at connector DK38008, repair the wiring in the P210 panel.
 - a) Re-connect DK38008.
 - b) Push the flush switch for the toilet.
 - c) If the toilet operation is satisfactory, then you corrected the fault.

————— **END OF TASK** —————

831. **Relay (VACUUM BLOWER SYS 1 RLY) Problems - Fault Isolation**

A. Maintenance Messages

- (1) This task is for maintenance message: 38-11001.

B. Initial Evaluation

- (1) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure below.
- (2) If the MAT shows LATCHED for the maintenance message, then do these steps:
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows ACTIVE or LATCHED for the maintenance message while the vacuum blower operates, then do the Fault Isolation Procedure below.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message while the vacuum blower operates, then there was an intermittent fault.

C. Fault Isolation Procedure

- (1) Replace the vacuum blower system 1 relay, K38003, in the P110 panel (WDM 38-32-11).
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (2) Do this exchange check for the Signal Interface Unit 1, M24504, in the P110 panel:
 - (a) Put a tag that reads "SUSPECT" on the SIU-1, M24504.
 - (b) Put a tag that reads "OK" on the SIU-2, M24509.
 - (c) Exchange the locations of the SIU-1 and SIU-2.

These are the tasks:

Signal Interface Unit - Removal, AMM TASK 24-09-00-000-814-002, Signal Interface Unit - Installation, AMM TASK 24-09-00-400-810-002.

NOTE: Make sure you do the installation test for each SIU.

- (d) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.

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- (e) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 1) Check the SIU tagged "SUSPECT". This is the task:
Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.
 - 2) Remove the tags from the SIUs.
- (f) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
 - 1) Remove the tags from the SIUs.
- (3) Do a check of the internal wiring in the P110 panel vacuum blower system 1 relay circuit (WDM 38-32-11).
 - (a) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Push the flush switch for a toilet attached to the vacuum blower.
 - a) Make sure the vacuum blower starts.
 - b) Make sure the vacuum blower stops after approximately 15 seconds.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message or does not show on the ground test display, you corrected the fault.

———— **END OF TASK** ————

832. Relay (VACUUM BLOWER SYS 2 and 3 RLY) Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 38-12001.

B. Initial Evaluation

- (1) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure below.
- (2) If the MAT shows LATCHED for the maintenance message, then do these steps:
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows ACTIVE or LATCHED for the maintenance message while the vacuum blower operates, then do the Fault Isolation Procedure below.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message while the vacuum blower operates, then there was an intermittent fault.

C. Fault Isolation Procedure

- (1) Replace the vacuum blower system 2&3 relay, K38004, in the P210 panel (WDM 38-32-12).
 - (a) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (2) Do this exchange check for the Signal Interface Unit 2, M24509, in the P210 panel:
 - (a) Put a tag that reads "SUSPECT" on the SIU-2, M24509.

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- (b) Put a tag that reads "OK" on the SIU-1, M24504.
- (c) Exchange the locations of the SIU-1 and SIU-2.

These are the tasks:

Signal Interface Unit - Removal, AMM TASK 24-09-00-000-814-002, Signal Interface Unit - Installation, AMM TASK 24-09-00-400-810-002.

NOTE: Make sure you do the installation test for each SIU.

- (d) Push the flush switch for a toilet attached to the vacuum blower.
 - 1) Make sure the vacuum blower starts.
 - 2) Make sure the vacuum blower stops after approximately 15 seconds.
- (e) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 1) Check the SIU tagged "SUSPECT". This is the task:
Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.
 - 2) Remove the tags from the SIUs.
- (f) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
 - 1) Remove the tags from the SIUs.
- (3) Do a check of the internal wiring in the P210 panel vacuum blower system 2&3 relay circuit (WDM 38-32-12).
 - (a) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Push the flush switch for a toilet attached to the vacuum blower.
 - a) Make sure the vacuum blower starts.
 - b) Make sure the vacuum blower stops after approximately 15 seconds.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message or does not show on the ground test display, you corrected the fault.

————— **END OF TASK** —————

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801. Procedure To Be Determined - Fault Isolation

A. Fault Isolation Procedure

- (1) At this time the FIM does not have a procedure for this fault. The FIM will contain a procedure for this fault in the future.

———— **END OF TASK** ————

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