



Flying Operations

C-130 MASS OPERATIONS LOADMASTERS CHECKLIST

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This checklist establishes procedures for employing the Modular Aerial Spray System (MASS) on C-130 aircraft employed by Mobility Air Forces (MAF) to accomplish their worldwide mission. This checklist complements AFMAN 11-2C-130V3, *Modular Aerial Spray System (MASS) Procedures*, and is printed on standard 8 1/2" x 11" bond paper, and trimmed to fit the standard plastic aircrew checklist binders. This checklist is intended to provide MASS certified crewmembers quick reference to procedures required for the safe execution of MASS ground and flight operations. All MASS certified C-130 loadmasters will carry this annex. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF IMT 847, Recommendation for Change of Publication; route AF IMT 847s from the field through the appropriate chain of command.

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PART ONE – NORMAL PROCEDURES

MASS PREFLIGHT CHECKLIST

2 MODULE ULV CONFIGURATION

- * 1. Spray System AFTO Form 781 - Checked
- * 2. Spray Booms-Fuselage/Wing [C] - Checked
- * 3. Eye Wash Station - Secure, Serviceable
- * 4. Fuselage Boom Tiedowns - Attached
- 5. Spray System Pallets - Secure
- 6. Tiedown Chains - Attached (As Required)
- 7. Module 2 & 3 Connections [W] - Safetied
- * 8. ULV Download Drybreak - Capped, Safetied
- 9. Fuselage/Wing Boom Spray Line [W] - Connected
- 10. ULV Air Purge Valve - Airline, Cannon Plug Connected
- 11. ULV Manual Purge Valve [C] - Closed
- 12. ULV Flow Control Valve - Checked Serviceable
- 13. ULV Boom Pressure Transducer - Checked, Connected
- * 14. ULV Filter Valves - Opened
- 15. Pneumatic/Purge Lines LV/HV - Capped
- * 16. LV/HV Wing Purge Valve - Cannon Plug Disconnected
- * 18. Suction Valves [W] - Checked, Operational
- 19. Tank Contents [C] - Checked
- * 20. Aft Filler Caps [W] - On, Locked
- 21. Vent Line Hose [C] - Connected
- * 22. ULV Recirc Valves - Checked, Closed, Cannon Plugs Connected
- 23. LV/HV Mix Valves - Closed
- 24. Flush Valves - Cannon Plug Connected
- * 25. FWD Filler/Gauge Caps - On, Locked, Tightened
- 26. Quantity Measuring System [C] - Checked
- * 27. ULV #2 Tank Valve - Closed
- 28. LV/HV #2 Tank Valve [C] - Closed, Cannon Plug Disconnected
- 29. ULV Relief Valve - Set, Locked (As Required)

- * 30. Drybreak Loading Valve - Closed, Capped, Safetied
- * 31. ULV #1 Tank Valve - Closed
 - 32. LV/HV#1 Tank Valve [C] - Closed, Cannon Plug disconnected
- * 33. ULV Pump/Motor [W] - Checked, Connected
 - 34. Module 1 & 2 Connections [W] - Connected, Safetied
 - 35. Module 1 & 2 Pneumatic/Purge Lines - Connected
 - 36. Module 1 & 2 Electrical Connections - Checked
- * 37. Flush Tank Filter Valves - Open (One Set)
- * 38. Flush Tank Suction Valve [W] - Checked
- * 39. Flush Tank Contents [C] - Checked
- * 40. Flush Tank Filler/Gauge Caps - On, Locked, Tightened
 - 41. Flush Tank Vent Line - Connected To Main Vent Line
- * 42. Pneumatic Bleed Valve - Closed
- * 43. Pneumatic/Purge Quantity [C] - Checked, Set (80-100 PSI ULV)
- * 44. Fire Extinguisher - Secured, Serviceable
- * 45. Flush Tank Valve - Closed
 - 46. Flush System Relief Valve [C] - Set
 - 47. Flush Pump/Motor [W] - Checked
- * 48. Electrical Connections - Checked
- * 49. Discrepancies - Entered, System AFTO form 781
- * 50. Personal Protective Equipment [C] - Checked
 - 51. Main Landing Gear Safety Tiedowns - Checked
- * 52. Mass 2 Module ULV Preflight Checklist – Complete

MASS POWER ON PREFLIGHT
2 MODULE ULV CONFIGURATIONS

- * 1. Spray Control - Recirc
 - 2. Iron Lung Switch - On
- * 3. Panel Arming Switch - On
- * 4. Mass Kill Switch - Checked
 - 5. Panel/Indicator Lights - On, Adjusted
 - 6. Tank Valve Annunciators - Closed
 - 7. Recirc Valve Annunciators - Closed
 - 8. Flush Valve Annunciators - Closed

- 9. Purge Valve Annunciators - Closed
- 10. Computer Keyboard - Checked, Set
 - A. K-Factor 1" Turbine – * / F3
 - * (See MASS 781 for current “K Factor”)
 - B. Flow Rate - Set
 - C. Low Level Indicator / F2
 - D. F5 & Lamp Test - Checked
- 11. Quantity Select - Checked, Set
- 12. Pumps [C] - Checked, On, Off
 - A. ULV
 - B. Flush
- 13. Flow Range - Set (Wings 0-60)
- 14. Flow Control - Set, Manual
- * 15. Clock - Reset, Zero
- * 16. Mechanical Counter - Reset, Zero
- * 17. Pulse Counter - Reset, Zero
- * 18. Pneumatic Bleed Valve - Open
- 19. ULV Tank Valves - Closed
- 20. ULV Recirc Valves - Checked, Open, Closed
- * 21. Mode Switch - Set, Spray
- 22. Flow Control - Checked, Full Increase, Decrease
- * 23. Spray Control Switch [W] - Checked, Booms, Recirc
- 24. Diverter Valve - Checked, Operational
- * 25. Clock - Checked, Operational
- 26. Mode Switch - Set, Load/Spray (As Required)
- 27. Flush Valves - Checked, Open, Closed
- 28. Purge Valve Wings - Checked, Open, Closed
- 29. Pneumatic Bleed Valve - Open/Closed (As Required)
- * 30. MASS POWER ON ULV 2 MODULE PREFLIGHT - COMPLETE

MASS ULV LOADING CHECKLIST**NOTE**

This Is One Method For Uploading The Mass. Other Methods Are Available And Can Be Used. Use Applicable Items Of This Checklist When Using Alternate Methods.

1. Pesticide Briefing - Complete
2. Safety Equipment [W] - Positioned
3. Personnel & Loading Vehicle [W] [C] - Positioned, Chocked
4. Loading Requirements [C] - Checked
5. Power Fill Hose - Connected
6. ULV Tank Valves - Closed
7. Tank Filler Caps - On, Locked
8. Float Gauge Caps - Off
9. Panel Arming Switch - On
10. ULV Recirc Valves - Open (Tank Being Filled)
11. Mode Switch - Set, Load
12. Quantity Select [C] - Tank Being Filled
13. Flow Range - Set (Wings 0-60)
14. Spray Control - Recirc
15. Mechanical Counter - Reset, Zero
16. ULV Pump [W] [C] - On/Off (As Required)
17. Power Fill Hose [W] - Flushed
18. Power Fill Hose - Disconnected, Drained
19. ULV Recirc Valves - Closed
20. Float Gauge Caps [W] - On, Tightened
21. Panel Arming Switch - Off
22. ULV Loading Checklist - Complete

MASS ULV BEFORE SPRAY CHECKLIST

1. ULV Before Spray Checklist - **“ACKNOWLEDGED”** (LM)
2. Spray Control - Recirc
3. Panel Arming Switch - On
4. K-Factor - Checked, Set F-3,
(See MASS 781 for current “R Factor”)
5. Flow Rate - Checked, Set
6. Low Level Indicator - Checked, Set F-2
7. Lamp Test - Checked, Set F-5
8. Flow Range - Checked, Set (Wings 0-60)
9. Clock - Reset, Zero
10. Mechanical Counter - Reset, Zero
11. Pulse Counter - Reset, Zero
12. Mode - Set, Spray
13. Quantity Select - Set (Tank Being Used)
14. Pneumatic Bleed Valve - Open, Checked, Set
15. ULV Filter Valves - Opened, One Set (As Required)
16. ULV Tank Valves - Open (Tank Being Used)
17. ULV Recirc Valves [W] - Open (Tank Being Used)
18. ULV Pump - On (Monitor Loadmeter, Amps & Recirc Rates)
19. Flow Control - Checked, Set Manual, Adjusted
20. ULV Relief Valve - Set, Locked, Adjusted (As Required)
21. NVGs (As Required) – “ON, Ready” (P,CP,E,N,LM)
22. Before Spray Checklist - **“Complete”** (LM)

Mass ULV Spray Checklist

1. Spray Booms - **“Clear To Charge”** (LM)
2. Charge Booms - **“Charge Complete”** (LM)
3. Clock, Mechanical, Pulse Counters - Reset, Zero
4. Spray Control - **“Spray On / Off”** (As Directed) (LM)
5. Monitor [W] [C] - Tank Quantity, Flow, PSI and AC Loadmeters
6. ULV Relief Valve - Set (As Required)
7. Scan - System for leaks, spills

MASS ULV TANK TO TANK TRANSFER

1. Spray Control Switch - Recirc
2. Quantity Select [C] - Tank Being Filled
3. Mode Switch - Load
4. ULV Tank Valve - Open (Tank Being Emptied)
5. ULV Recirc Valve [W] - Open (Tank Being Filled)
6. ULV Pump [W] [C] - On/Off (As Required)
7. ULV Recirc Valve - Closed (Tank Being Filled)
8. ULV Tank Valve - Closed (Tank Being Emptied)
9. Pulse/Mechanical Counter - Reset (As Required)
10. ULV Tank To Tank Transfer Checklist - Complete

MASS ULV FLUSH AND PURGE CHECKLIST**Note**

If Flushing Procedures Are Not Required, Omit Steps 1-14.

1. Mode - Spray
2. ULV Tank Valve - Open (Tanks Being Flushed)
3. ULV Recirc Valve [W] - Open (Tanks Being Flushed)
4. ULV Filter Valves - All Open
5. ULV Pump [W] [C] - On/Off (As Required)
6. Flush Tank Valve - Open
7. Flush Filter Valves - Checked, Open (1 Set)
8. Flush Valve - Open (Tanks Being Flushed)
9. Flush Pump [W] [C] - On/Off (As Required)
10. Quantity Select - Flush
11. Spray Control [W] - **“Spray On/Off”** (As Directed) (LM)
12. Flush Procedures - Repeated (As Required)
13. ULV Pump - Off
14. ULV Filter Valves - Closed
15. Flush Valve - Closed
16. Recirc Valves - Closed
17. Flush Tank Valve - Closed

18. Purge Manual Shutoff Valve - Open
19. Air Purge Valve Wings [W] - **“On/Off”** (As Directed) (LM)
20. Purge Manual Shutoff Valve - Closed
21. ULV Tank Valve - Closed
22. ULV Flush and Purge Checklist - Complete

MASS ULV AFTER SPRAY CHECKLIST

1. ULV After Spray Checklist - **“Acknowledged”** (LM)
2. Spray Control - Recirc
3. ULV Pump - Off
4. Mode Switch - Load
5. ULV Tank Valve - Closed
6. ULV Recirc Valve - Closed
7. ULV Filters Valves - Closed
8. Pneumatic, Purge Bottle - Closed, Off
9. Pneumatic Bleed Valve - Closed, Off
10. Panel Arming Switch - Off
11. ULV After Spray Checklist - **“Complete”** (LM)

MASS ULV POWER DOWNLOAD

1. Safety Equipment [W] - Positioned
2. Personnel & Downloading Vehicles [W] [C] - Positioned,
Chocked
3. Downloading Requirements - Checked
4. Power Fill Hose - Connected
5. Spray Control – Recirc`
6. Panel Arming Switch - On
7. Quantity Select - Set (Tank Being Emptied)
8. Flow Range - Set (Wings 0-60)
9. Mode Switch - Load
10. Pneumatic Bleed Valve [C] - On, Pressure Set
11. ULV Tank Valve - Open (Tank Being Emptied)
12. ULV Recirc Valve [W] - Open (Tank Being Emptied)
13. Flow Control - Set Manual
14. ULV Pump [W] [C] - On / Off (As Required)
15. Flush System - As Required
16. ULV Tank Valve - Closed
17. ULV Recirc Valve - Closed
18. Panel Arming Switch - Off
19. Power Fill Hose - Disconnected, Drained
20. Pneumatic Bleed Valve & Bottle - Off, Closed
21. ULV Power Download Checklist - Complete

Section II MASS PREFLIGHT CHECKLIST**2 MODULE LV/HV CONFIGURATION**

- * 1. Spray System AFTO 781 - Checked
- * 2. Spray Booms Wings / Fuselage - Checked
 - 3. Eye Wash Station - Checked, Secure, Serviceable
 - 4. Fuselage Booms Tiedowns - Attached
- * 5. Fuselage Boom Valve - Checked (Closed As Required)
 - 6. Fuselage Boom Pressure Transducer - Checked, Cannon Plug Connected
 - 7. Manual Purge Valve - Closed
 - 8. Air Purge Line Fuselage Boom - Checked Attached / Capped (As Required)
 - 9. Fuselage Boom Lines - Checked, Safetied
 - 10. Spray System Pallets - Checked, Secure
- * 11. Tiedown Chains - Attached (As Required)
 - 12. Module 2 & 3 Connections [W] - Checked, Safetied
 - 13. ULV/LV Air Purge Valve - Cannon Plug Disconnected, Checked, Capped (As Required)
- * 14. LV Wing Spray Valve - Checked, Closed
 - 15. Wing Boom Spray Line [W] - Connected (As Required)
 - 16. Wing Boom Pressure Transducer - Checked, Cannon Plug connected (As Required)
 - 17. Pneumatic, Purge Lines LV/HV - Checked, Connected / Capped
- * 18. LV Filter Valves - Checked, Open (As Required)
- * 19. Suction Valves Tanks 1 & 2 [W] [C] - Checked
 - 20. Tank Contents Tanks 1 & 2 [C] - Checked
- * 21. Aft Filler Caps Tanks 1 & 2 - On, Locked
 - 22. Vent Line Hose [C] - Checked, Connected
- * 23. ULV Recirc Valves Tanks 1 & 2 - Check, Closed, Cannon Plug Disconnected
- * 24. Master Recirc Valve - Checked, Open, Cannon Plug Connected
- * 25. LV/HV Mix Valves Tanks 1 & 2 - Checked, Closed, Cannon Plug Connected

- 26. Flush Lines - Checked, Cannon Plug Connected
- * 27. Master Mix Valve - Check, Closed, Cannon Plug Connected
- * 28. Fwd Filler, Gauge Caps Tanks 1 & 2 - Checked, On, Locked, Tightened
- 29. Quantity Measuring System - Checked
- * 30. Wing Fuselage Valves - Checked, Closed, Cannon Plug Connected
- * 31. LV/HV #2 Tank Valve - Check, Closed, Cannon Plug Connected
- * 32. ULV #2 Tank Valves - Check, Closed
- * 33. LV/HV #1 Tank Valve - Check, Closed, Cannon Plug Connected
- * 34. ULV #1 Tank Valve - Checked, Closed
- 35. Module 1 & 2 Connections [W] - Checked, Safetied
- 36. Module 1 & 2 Pneumatic, Purge Lines - Connected
- 37. Sump, Manifold Drain Valves - Checked, Closed
- 38. Sump Bleed Valve - Checked, Closed
- 39. Module 1 & 2 Electrical Connections - Checked
- * 40. Flush Tank Filter Valves - Checked
- * 41. Flush Tank Suction Valve [W] [C] - Checked
- 42. Flush Tank Contents [C] - Checked
- * 43. Flush Tank Filler, Gauge Caps - On, Locked, Tightened
- 44. Flush Tank Quantity Sensor [C] - Checked
- 45. Flush Tank Vent Line - Connected to Main Vent Line
- * 46. Pneumatic Bleed Valve - Checked, Closed
- * 47. Pneumatic, Purge Quantity [C] - Checked, Set
- * 48. Fire Extinguisher - Checked, Secure
- * 49. Flush Tank Valve - Closed
- 50. Flush System Relief Valve - Set
- 51. Flush Pump, Motor - Checked
- 52. Electrical Connections - Connected (To Aircraft)
- * 53. Discrepancies - Spray System AFTO 781
- * 54. Personal Protective Equipment [C] - Checked
- * 55. Main Landing Gear Safety Tiedowns - Checked
- * 56. Mass 2 Module LV/HV Preflight Checklist Complete

MASS PREFLIGHT CHECKLIST**3 MODULE LV/HV CONFIGURATION**

- * 1. MASS AFTO 781 - Checked
- 2. Spray Booms Wings/Fuselage - Checked
- 3. Eye Wash Station - Secure, Serviceable
- * 4. Fuselage Boom Tiedowns - Installed
- * 5. Fuselage Boom Valve - Checked, Connected, Closed
- 6. Fuselage Boom Pressure Transducer - Checked, Cannon Plug
Connected
- 7. Manual Purge Valve - Closed
- 8. Air Purge Line Fuselage Boom - Checked, Connected
- * 9. Fuselage Boom Lines - Checked, Safetied
- 10. Vent Line Drain Hose - Connected, Capped
- 11. Spray System Pallets - Checked, Secure
- 12. Pallet Restraint - Installed (As Required)
- 13. Suction Valves, Tanks 3 & 4 [W] - Checked
- 14. Tank Contents [C] - Checked
- * 15. Aft Filler Caps Tanks 3 & 4 - On, Locked
- 16. Vent Line Hose - Connected
- * 17. LV/HV Mix Valves, Tanks 3 & 4 - Checked, Closed
- 18. Flush Lines, Tanks 3 & 4 - Checked, Cannon Plug Connected
- * 19. Fwd Filler Gauge Caps, Tanks 3 & 4 - Checked
- 20. Quantity Measuring System, Tanks 3 & 4 - Checked
- * 21. LV/HV Tank Valves, Tanks 3 & 4 - Checked, Closed,
Cannon Plug Connected
- 22. LV Wing Spray Valve - Checked, Closed,
Cannon Plug Connected
- * 23. LV Wing Air Purge Valve - Checked, Cannon Plug
(As Required)
- 24. Wing Boom Spray Line [W] - Connected (As Required)
- 25. Wing Boom Pressure Transducer - Checked
- * 26. LV Filter Valves - Open (As Required)

- 27. Module 2 & 3 Connections [W] - Checked, Safetied
- 28. Module 2 & 3 Pneumatic, Purge Lines - Checked, Connected,
Capped
- 29. Module 2 & 3 Electrical Connections - Checked, Connected
- * 30. Suction Valves, Tanks 1 & 2 [W] - Checked
- 31. Tank Contents [C] - Checked
- * 32. Aft Filler Caps, Tanks 1 & 2 - On, Locked
- 33. Vent Line Hose [C] - Attached
- * 34. ULV Recirc Valves - Checked, Closed, Cannon Plugs
Disconnected
- * 35. Master Recirc Valve - Checked, Open, Cannon Plug Connected
- * 36. LV/HV Mix Valves, Tanks 1 & 2 - Checked, Closed, Cannon
Plugs Connected
- * 37. Master Mix Valve - Checked, Closed, Cannon Plug Connected
- 38. Flush Lines Tanks 1 & 2 - Checked, Cannon Plug Connected
- * 39. Wing/Fuselage Valves - Checked, Closed
- * 40. Fwd Filler, Gauge Caps, Tanks 1 & 2 - Checked, On, Locked,
Tightened
- 41. Quantity Measuring System Tanks 1 & 2 [C] - Checked,
Connected
- * 42. LV/HV Tank Valves Tanks 1 & 2 - Checked, Closed,
Cannon Plug Connected
- * 43. ULV Tank Valves, Tanks 1 & 2 - Closed (Ensure ULV Manual
Tank Valves are Closed)
- 44. Modules 1 & 2 Connections [W] - Checked, Safetied
- 45. Modules 1& 2 Pneumatic, Purge Lines - Connected
- * 46. Sump, Manifold Drain Valves - Checked, Closed
- * 47. Sump Bleed Valve - Checked, Closed
- 48. Module 1 & 2 Electrical Connections - Checked
- * 49. Flush Tank Filter Valves - Checked (As Required)
- 50. Flush Tank Suction Valve [W] - Checked
- 51. Flush Tank Contents [C] - Checked
- * 52. Flush Tank Filler, Gauge Caps - Checked, On, Locked

- 53. Quantity Measuring System - Checked
- 54. Flush Tank Vent Line - Attached
- * 55. Pneumatic Bleed Valve - Checked, Closed
- * 56. Pneumatic, Purge Quantity [C] - Checked, Set 80-100 (min/max)
- * 57. Fire Extinguisher - Checked, Secured
- * 58. Flush Tank Valve - Checked, Closed
- 59. Flush System Relief Valve - Set
- 60. Flush Pump, Motor - Checked
- 61. Electrical Connections - Checked, Connected to aircraft
- * 62. Discrepancies - Entered into Spray AFTO 781
- * 63. Personal Protective Equipment [C] - Checked
- 64. Main Landing Gear Safety Tiedowns - Checked
(2 Kits Required)
- * 65. Mass 3 Module Preflight Checklist - Complete

MASS POWER ON PREFLIGHT CHECKLIST

2 & 3 MODULE LV/HV CONFIGURATION

- * 1. Spray Control - Recirc
- 2. Iron Lung Switch - On
- * 3. Panel Arming Switch - On
- * 4. Mass Kill Switch - Checked
- 5. Panel Indicator Lights - On, Adjusted
- 6. Tank Valves Annunciators - Checked, Closed
- 7. Mix Valves Annunciators - Checked, Closed
- 8. Flush Valves Annunciators - Checked, Closed
- 9. Purge Valves Annunciators - Checked, Closed
- 10. Computer Keyboard - Checked, Installed
 - A. K-Factor - 3" Turbine - 20.585 F-3
4" Turbine - 29.664 F-4
 - B. Flow Rate - Set
 - C. Low Level Indicator - F-2
 - D. F-5 & Lamp Test - Checked
 - E. F-6 HV Readout Only

11. Quantity Select - Checked, Set
12. Pumps [C] - Checked
 - A. Main 1, 2, & 3
 - B. Flush
13. Flow Range - Set (As Required)
14. Flow Control - Set Manual
- * 15. Clock - Reset, Zero
- * 16. Mechanical Counter - Reset, Zero
- * 17. Pulse Counter - Reset, Zero
18. Pneumatic Bleed Valve - Open
19. LV/HV Tank Valves - Sequence (Open, Closed)
20. LV/HV Mix Valves - Sequence (Open, Closed)
- * 21. Mode Switch - Sequence (Open, Closed)
 - A. Load
 - B. Mix
 - C. Spray
22. Flow Control - Checked
- * 23. Spray Control Switch [W] - Recirc, Booms
- * 24. Clock - Checked, Operational
25. Flush Valves - Sequence (Open, Closed)
26. Purge Valves - Sequence (Open, Closed)
27. Pneumatic Bleed Valve - Open (As Required)
28. Power On 2 & 3 Module Preflight - Complete

MASS LV/HV LOADING CHECKLIST

Note

This Is One Method For Uploading The Mass. Other Methods Are Available And Can Be Used. Use Applicable Items Of This Checklist When Using Alternate Methods.

1. Pesticide Briefing - Complete
2. Safety Equipment [W] - Positioned
3. Ground Loading Station Preflight - Complete
4. Ground Loading Station Connections - Checked, Connected
5. Personnel, Loading Vehicles [W] [C] - Positioned, Checked

6. Loading Requirements [C] - Checked
7. Tank Filler Caps [C] - Removed (As Required)
8. Float Gauge Caps [C] - Off (Tanks Being Filled)
9. Panel Arming Switch - On
10. LV/ HV Tank Valves - Open (As Required)
11. Mode Switch - Load
12. Quantity Select - Tank Being Filled
13. Mechanical Counter - Reset, Zero
14. Ground Loading Station Probe - Connected (As Required)
15. Ground Loading Station Pump [C] - On/Off (As Required)
16. Ground Loading Station Probe [W] - Removed & Flushed
17. LV / HV Tank Valves - Closed
18. Tank Filler Caps [W] - Closed, Locked
19. Float Gauge Caps [W] - On, Tightened
20. Ground Loading Station Connections - Disconnected, Removed
21. Panel Arming Switch - Off
22. LV/HV Loading Checklist - Complete

(ERO) RAPID UPLOAD (OIL SPILL)

1. Mode Switch - Load
2. Tank Valves - Open (Tanks Being Filled)
3. Recirc/Mix Valves [W] - Open (Tanks Being Filled)
4. Tank Filler Caps - Removed
(Monitor Tanks Being Filled Visually)
5. Aft Interphone Chord - Positioned
6. Ground Loading Pump [C] - On/Off
7. Mode Switch [C] - Mix
8. Tank Valves - Closed
9. Recirc/Mix Valves [W] - Open
10. Main Pump - On/Off
11. Upload – Complete

MASS LV/HV MIXING CHECKLIST

1. Mode - Spray
2. Spray Control Switch - Recirc
3. LV/HV Tank Valve - Opened (Tank Being Mixed)
4. LV/HV Mix Valve [W] - Opened (Tank Being Mixed)
5. Mode Switch [C] - Mix
6. Main Pump - On / Off (As Required)
7. LV/HV Mix Valve - Closed
8. LV/HV Tank Valve - Closed
9. Mode Switch - Spray
10. LV/HV Mixing Checklist - Complete

MASS LV/HV BEFORE SPRAY CHECKLIST

1. Before Spray Checks - “Acknowledged” (LM)
2. Spray Control - Recirc
3. Panel Arming Switch - On
4. K-Factor - Checked, Set
LV, F-3 (20.585)
HV, F-4 (29.664)
5. Flow Rate - Checked, Set
6. Low Level Indicator - Checked, Set, F2
7. Lamp Test - Checked, Set
8. Flow Range - Set (As Required)
9. Flow Control - Checked, Set, Manual
10. Clock - Reset, Zero
11. Mechanical Counter - Reset, Zero
12. Pulse Counter - Reset, Zero
13. Mode - Spray
14. Quantity Select - Set (Tank Being Used)
15. Pneumatic Bleed Valve - Open, Checked, Set
16. LV/ HV Filter Valves - Checked, Open
17. LV/ HV Tank Valves [C] - Open (Tanks Being Used)

18. LV/HV Mix Valves [W] - Open (Tanks Being Used)
19. Main Pumps - On (Monitor Loadmeter Amps & Recirc Rates)
20. LV/HV Flow Control Valve - Set (As Required)
21. NVGs (As Required) – “ON, Ready” (P,CP,E,N,LM)
22. Before Spray Checklist - **“Complete”** (LM)

MASS LV/HV SPRAY CHECKLIST

1. Spray Booms - **“Clear To Charge”** (LM)
2. Charging Booms - **“Charging Complete”** (LM)
3. Clock, Mechanical Counter, Pulse Counter - Reset, Zero
4. Spray Control [W] - **"Spray On/Off"** (As Directed) (LM)
5. Monitor & Log [W] [C] - Tank Quantity, Flow,
Psi and AC Loadmeters
6. Periodically Scan System, Booms for Leaks, Spills

MASS LV/HV TANK TO TANK TRANSFER

1. Main Pump(s) [W] - Off
2. Mode - Spray
3. Spray Control Switch - Recirc
4. LV/HV Tank Valve - Open (Tank Being Emptied)
5. LV/HV Mix Valve [W] - Open (Tank Being Filled)
6. LV/HV Tank Valve - Closed (Tank Being Filled)
7. Quantity Select [C] - Tank Being Filled
8. Mode Switch - Mix
9. Main Pump [C] - On/Off (As Required)
10. Mode Switch [C] - Spray
11. LV/HV Tank Valve - Closed (Tank Being Emptied)
12. LV/ HV Tank Valve - Opened (Tank Being Used)
13. LV/HV Mix Valve – Closed (As Required)
14. LV/HV Tank To Tank Transfer Checklist – Complete

MASS LV/HV FLUSH & PURGE CHECKLIST

1. Mode - Spray
2. LV/HV Tank Valves - Open (Tanks Being Flushed)
3. LV/HV Mix Valves - Open (Tanks Being Flushed)
4. LV/HV Filter Valves - All Open
5. Main Pump [W] [C] - On
6. Flush Tank Valve - Open
7. Flush Tank Filter Valves - Open
8. Flush Valves - Open (Tank Being Flushed)
9. Flush Pump [W] [C] - On/Off (As Required)
10. Quantity Select - Flush Tank
11. Mode [C] - Mix

Note

Mix For Approximately One Minute So That Lines Are Properly Flushed.

12. Mode - Spray
13. Spray Control [W] - **“Spray On / Off”** (As Directed) (LM)
14. Flush Procedures Repeated - (As Required)
15. Flush Valves - Closed
16. Flush Tank Valve – Closed
17. Main Pump - Off
18. LV/HV Tank Valves - Closed
19. LV/HV Mix Valves - Closed
20. Purge Bottle - Open, Set 100 Psi
21. Air Purge Valves - Wings/Fuselage **“Purge On/Off”** (As Directed) (LM)
22. Purge Bottle - Closed, Pressure Relieve
23. LV/HV Flush & Purge Checklist - Complete

MASS LV/HV AFTER SPRAYING CHECKLIST

1. After Spray Checklist - **“Acknowledged”** (LM)
2. Spray Control - Recirc
3. Main Pumps - Off
4. Mode Switch - Load
5. LV/HV Tank Valves - Closed
6. LV/HV Mix Valves - Closed
7. LV/HV Filter Valves - Closed
8. Pneumatic Bleed Valve - Off
9. Panel Arming Switch – Off
10. LV/HV After Spray Checklist - **“Complete”** (LM)

MASS LV / HV POWER DOWNLOAD

1. Safety Equipment [W] - Positioned
2. Personnel & Downloading Vehicles [W] - Positioned, Chocked
3. Downloading Requirements - Checked
4. Loading Station Preflight - Complete
5. Loading Station Electrical Connection - Connected
6. LV/HV Download Hose - Connected
7. Spray Control - Recirc
8. Panel Arming Switch - On
9. Quantity Select - Tank Being Emptied
10. Mode Switch - Load
11. Pneumatic Bleed Valve & Bottle - Opened
12. LV/HV Tank Valves - Open (Tanks Being Emptied)
13. Download Drybreak - Opened (at loading station)
14. Loading Station Pump [W] - On / Off (As Required)
15. Flush System - Refer To Flush & Purge Checklist
16. System Flush - Downloaded
17. LV/HV Tank Valves - Closed
18. Download Drybreak - Closed
19. LV/HV Download Hose - Disconnected, Flushed

20. Loading Station - Flushed
21. Loading Station Electrical Connections - Disconnected
22. Spray Control Switch - Recirc
23. Panel Arming Switch - Off
24. Pneumatic Bleed Valve & Bottle - Off, Closed
25. LV/HV Power Download Checklist - Complete

MASS LOADING STATION PREFLIGHT

1. Loading Station Motor & Pump - Checked
2. Loading Station Filter Valves - Open
3. Loading Hoses - Checked, Serviceable
4. Loading Station Electrical Connections - Connected, Serviceable
5. Loading Station Pump - Checked, Operational
6. Discrepancies - Noted in MASS AFTO 781
7. Loading Station Preflight - Complete

PART TWO – EMERGENCY PROCEDURES

CHEMICAL LEAK/SPILL*

**LEAK* is defined as a quantity of chemical which can be contained within the MASS. *SPILL* is defined as a quantity of chemical in excess of the amount which can be contained within the MASS.

1. Notify Pilot – “SPRAY OFF”

- Brief description of malfunction (LM)

2. Initiate Immediate Shallow Climb to MSA (Spill only) - (PF)

3. Pilot – “OXYGEN/ON, 100%” (if needed) - (ALL)

4. CHEMICAL LEAK/SPILL CHECKLIST – “COMPLETE” (ALL)

ULV

1. PUMPS - OFF

2. NOTIFY PILOT - LEAK/SPILL (BRIEF DESCRIPTION)

3. DON HELMET, OXYGEN MASK & SAFETY EQUIPMENT

4. PURGE WING BOOM LINES - AS REQUIRED

5. SMOKE & FUME ELIMINATION PROCEDURES - (AS REQUIRED)

6. RECIRC VALVES - CLOSED

7. ULV FILTER VALVES - CLOSED

8. TANK VALVES - CLOSED

9. CONTAIN SPILL

10. PNEUMATIC BLEED VALVE - CLOSED

11. LAND AS SOON AS PRACTICAL

12. CHECKLIST “COMPLETE” (LM)

LV/HV

1. MAIN/FLUSH PUMP - OFF
2. TANK VALVES - CLOSED, CIRCUIT BREAKERS PULLED
3. NOTIFY PILOT - LEAK / SPILL (BRIEF DESCRIPTION)
4. DON HELMET, OXYGEN MASK & SAFETY EQUIPMENT
5. PURGE WING / FUSELAGE BOOMS - AS REQUIRED
6. SMOKE & FUME ELEMINATION PROCEDURES –
(AS REQUIRED)
7. FILTER VALVES - CLOSED
8. CONTAIN SPILL
9. PUMPS - CIRCUIT BREAKERS PULLED
10. NITROGEN BLEED VALVE - CLOSED
11. LAND AS SOON AS PRACTICAL
12. CHECKLIST - “COMPLETE” (LM)

EMERGENCY CLIMB

1. Announce – “EMERGENCY CLIMB” (ANY)
2. Execute – GCAS Escape Maneuver (PF)
 - As outlined in TO 1C-130H-1