



Flying Operations

C-130 MASS OPERATIONS PILOTS 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, ADDENDA C *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 pilots 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 IMTs 847 from the field through the appropriate chain of command.

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PART ONE – BRIEFING GUIDES

AERIAL SPRAY AIRCRAFT COMMANDER BRIEFING

1. Mission objectives
 - a. Check rides
 - b. Upgrade/training
2. Sequence of events
 - a. Pest
 - b. Pesticide
 - i. Total chemical loaded
 - ii. Application rate
 - iii. Flow rate
 - c. Route to area
 - d. Spray area
 - i. Charts
 - ii. Acreage
 - iii. Sensitive areas
 - iv. No spray areas
 - v. Spray on time
 - e. DGPS settings
 - i. CDI
 - ii. AOI
 - iii. Swath width
 - f. Swath length
 - g. Swath heading
 - h. Altitude
 - i. Groundspeed
 - j. Swath pattern
 - k. Terrain
 - l. Hazards to flight
 - m. Flush and/or purge
3. Weather
 - a. Winds
 - i. Label limit
 - ii. Offset
 - b. Cloud cover
 - c. Visibility
 - d. Humidity
 - e. Inversion
4. Call sign
5. Times
 - a. Show
 - b. Stations
 - c. Takeoff
 - d. Enroute
 - e. Spray start
 - f. Total spray on time

- g. Mission end time
- 6. Fuel requirements
- 7. MASS
 - a. Mass configuration (SP1, SP2, SP3)
 - b. Boom
 - c. # Nozzles
 - d. Orientation
- 8. Intelligence
 - a. Threat
 - b. Location
 - c. Avoidance criteria
- 9. Interphone and radio
 - a. Critical phases of flight
 - b. Communication plan
- 10. Emergency procedures
 - a. Ground egress
 - b. Exits
 - c. Assembly location (upwind)
 - d. Chocks
 - e. MASS emergency
 - f. Pesticide toxicity
 - g. Aircrew responsibilities
 - i. Kill switch
 - ii. Leak/spill (loadmaster)
 - h. Emergency dumping
 - i. Pax
 - j. LPU's
- 11. Passenger/cargo load
 - a. Form F
 - b. Weight
- 12. Maintenance status
- 13. Personal equipment
 - a. PPE
 - b. Helmets
- 14. Crew coordination
 - a. Time out
 - b. Combat entry/exit
 - c. Flight callouts
 - i. Altitude deviation
 - ii. Airspeed deviation
 - iii. Swath deviation
 - iv. On/off swath
 - v. Towers/obstructions
- 15. Notes
 - a. Special Interest Items
 - b. Low pitch stop check for short field
 - c. Slow brake release
 - d. Bank angles on and off swath
 - e. Chemical transfer and flaps
 - Extended downwind and/or nose down

MISSION COMMANDER BRIEFING GUIDE

1. Pre-mission
 - a. Base
 - b. Target pest
 - c. Spray areas
 - i. Number of blocks
 - ii. Acreage
 - d. Pesticide and diluents
 - i. Amount
 - ii. Supplier
 - iii. Location and delivery plan
 - e. Mission operations plan
 - i. Mission dates
 - ii. Total sorties
 - iii. Sorties per day
 - iv. Time per sortie
 - v. Daily schedule
 1. Sunrise/sunset/civil twilight/civil sunrise
 2. Airfield hours
 3. Report times
 - f. Training
 - i. Initial certification
 - ii. Currency
 - iii. Checkrides
 - iv. Spray Mx
 - g. Spray test requirements
 - h. DGPS requirements
 - i. PPR#
 - j. Weather requirements
 - i. Weather shop hours
 - ii. Winds
 - iii. Air stability
 - iv. Sky conditions
 - v. Humidity
 - k. ATC and range clearance
 - i. Range schedule
 - ii. Conflicts
 - iii. NOTAMs
 - l. Spray parameters
 - i. Groundspeed
 - ii. Altitude
 - iii. Swath width
 - iv. Application rate
 - v. flow rate
 - vi. psi
 - m. Flush and/or purge procedures
2. Mission and personnel coordination items

- a. Aircrew, CPMP, spray mx
 - b. Mission Plans
 - c. Status of orders
 - d. Billeting (non-availabilities)
 - e. Transportation
 3. Deployment equipment
 - a. DGPS
 - b. Trackers
 - c. Laptops
 - d. Radios and phones
 - e. Wx stations
 - f. Maps
 - g. Swath marking gear
 - h. Classified
 4. MASS
 - a. Configuration
 - b. Booms/nozzles
 - c. Calibration equipment
 5. Deployment installation
 - a. In-briefing
 - b. Aircraft parking
 - c. Security
 - d. Loading location
 - e. Spill management
 - f. HAZMAT disposal
 - g. Intelligence
 6. Post-mission
 - a. De-brief (who/when/where)
 - b. Cleanup and cargo assembly
 - c. Vehicle and equipment return
 - d. AFRC daily SITREP
 - i. Acreage
 - ii. Volume Chemical
 - iii. Total flight time
 - iv. Changes to planned schedule
 - v. Aircraft Status
 - e. Post mission forms return to spray office:
 - i. Aerial spray mission report completed
 - ii. Copies of 781's
 - iii. Loadmaster spray data files
- Mission improvement recommendations

INSTALLATION BRIEFING GUIDE

1. Attendees (as required)
 - a. Commander/designated representative
 - b. CPMP, MC, AC, and NAV (As required)
 - c. Project POC
 - d. Base operations
 - e. Range
 - f. Weather
 - g. Public Affairs
 - h. Fire and medical
 - i. JAG
2. Mission objectives
 - a. Pest
 - b. Pesticide
 - i. Diluent
 - ii. Application rate
 - iii. Toxicity
 - iv. Environmental concerns
 - c. Operations
 - i. Days
 - ii. Times
 - iii. Number of missions/day
 - d. Spray flight parameters
 - i. Swath width
 - ii. Altitude
 - iii. Ground speed
 - e. Ground and flight coordination
 - i. Communication
 - ii. Swath marking
 - iii. Ground personnel on range
 - f. Chart review
 - i. Spray area
 - ii. Acreage
 - iii. Boundaries
 - iv. Sensitive areas
 - v. Priority areas
 - vi. Validation
 1. Signature
 2. Date
3. Installation Coordination
 - a. Weather
 - i. Winds
 - ii. Temperature
 - iii. Humidity
 - iv. Ceiling and vis
 - v. Air stability
 - vi. Precipitation
 - b. ATC and range coordination
 - i. Restricted areas

- ii. Flight hazards
 - iii. Requested callouts
 - iv. Schedule conflicts
 - 1. Airspace
 - 2. Airfield operations
 - v. Routing and flight paths
 - vi. Priority
 - vii. NOTAM
 - c. Load/download
 - i. Pesticide volume
 - ii. Diluent volume
 - iii. Equipment needed
 - 1. Hoses
 - 2. Barrels
 - 3. Mixing stations
 - 4. Download containers
 - iv. Load team
 - v. Load area
 - vi. Spill management plan
 - vii. HAZMAT disposal
 - d. Public Affairs
 - i. Public notification
 - 1. Newspaper
 - 2. TV
 - 3. Radio
 - 4. Base email
 - ii. Beekeeper notification
 - iii. Media coordination
 - e. Legal
 - i. Hold harmless agreements
 - ii. Environmental assessments, permits, and waivers
 - iii. Label directives
 - f. Medical
 - i. Emergency procedures
 - ii. Load team treatment options
 - iii. Vector monitoring
 - g. Fire department
 - i. Pesticide and diluents MSDS
 - ii. Volatility
 - iii. PPE requirements
 - h. Security
 - i. Flight line access
 - ii. Aircrew and ground lists
 - i. Personnel
 - i. Billeting
 - ii. Transportation
 - iii. Messing
 - j. Intel
- Debrief (who, when, where)

PART TWO – NORMAL PROCEDURES

BEFORE SPRAY CHECKLIST

NOTE

This checklist will be initiated by the pilot and will be completed prior to descending for the swath.

- | | |
|-----------------------------------|-----------|
| 1. “Crew, before spray checklist” | (PF) |
| “Acknowledged” | (LM) |
| 2. Crew briefing - “Complete” | (PF) |
| 3. Spray area - “Reviewed” | (P,CP,N) |
| 4. Stall speeds - “Checked” | (P,CP, E) |

NOTE

Stall speeds for bank angles of 0, 30, 45, and 60 degrees will be posted.

- | | |
|---|---------------|
| 5. Altimeters - “Set, state setting” | (P,CP,N) |
| 6. Radar altimeter - “Set, state setting” | (P,N) |
| 7. GCAS - “Set, state setting” | (PM) |
| 8. Communication radios - “Set” | (CP) |
| 9. DGPS - “Set” | (N) |
| 10. TD control valve switches - Locked | (E) |
| 11. Synchrophaser master switch - Off | (E) |
| 12. Propeller ice control switches - Off | (E) |
| 13. Seat belt/shoulder harness - “Fastened, unlocked” | (P, CP, E) |
| 14. NVGs (As Required) – “ON, Ready” | (P,CP,E,N,LM) |
| 15. Pressurization - As required | (E) |
| 16. Before Spray checks - “Complete” | (LM, E) |

AFTER SPRAY CHECKLIST

- | | |
|---|--------|
| 1. Synchrophase master switch - As required | (E) |
| 2. TD control valve switches - Auto | (E) |
| 3. Propeller ice control switches - On | (E) |
| 4. Pressurization - As required | (E) |
| 5. After spray checks - “Complete” | (LM,E) |

PART THREE – 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)

EMERGENCY CLIMB

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