

**BY ORDER OF THE COMMANDER  
19TH AIRLIFT WING**

**LITTLE ROCK AIR FORCE BASE  
INSTRUCTION 91-200**



**15 APRIL 2021**

**Maintenance**

**C-130 COUNTERMEASURES  
DISPENSING SYSTEMS/FIRE  
EXTINGUISHER SQUIB HANDLING**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements AFPD 91-2, Safety Programs. This instruction establishes specific guidelines for all 19th Airlift Wing (19 AW), 314 Airlift Wing (314 AW) as required, 913th Air Group (913 AG), 189th Air Wing (189 AW), 29th Weapons Squadron (29 WPS), 34th Combat Training Squadron (34 CTS), and 19 Maintenance Group (19 MXG) C-130 aircraft configured with chaff/flare munitions for Airlift Defensive Systems (ADS). Along with procedures for the storage, handling, use and dispositions of all squibs authorized for use in C-130 aircraft fixed fire extinguisher systems. These systems use Hazard Class/Division 1.3 and 1.4 explosives, which require special handling and coordination. The following procedures must be accomplished to ensure explosives are handled safely and expeditiously while on LRAFB or at a deployed location. All personnel working around explosives-loaded aircraft must be trained and familiar with the hazards involved. They will also ensure explosives operations expose the minimum number of people to the minimum amount of explosives for a minimum amount of time. References: T.O. 00-25-172, T.O. 11A-1-33, T.O. 11A18-14-7, T.O. 1C-130A-33-1-2CL-9, T.O. 1C-130A-33-1-2, T.O. 1C-130H-2-26JG-20-1, T.O. 1C-130J-33-1-2, T.O. 1C-130J-33-1-2CL-1, AFI 21-101, AMC SUP 21-101, AFMAN 21-201, AFI 31-101, AFI 24-301, LRAFBI 24-301, AFI 31-101, AMC SUP 31-101, LRAFBI 31-101, AFI 91-202, AMC SUP 91-202, LRAFBI 91-202, AFI 91-204, AMC SUP 91-204, AFMAN 91-201, AMC SUP 91-201, AFI 91-208, AFMAN 91-221. Ensure that all records created as a result of processes prescribed in this publication are maintained In Accordance With (IAW) Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of IAW the Air Force Records Information Management System (AFRIMS) located at

<https://www.my.af.mil/afirms/afirms/afirms/rims.cfm/>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication; route AF Form 847s from the field through the appropriate functional managers chain of command.

### ***SUMMARY OF CHANGES***

This is a complete revision due to 91-200 merging C-130 Countermeasure Dispensing Systems and the Handling and Disposition of Fire Extinguisher Squibs and to identify additional units authorized to use these instructions for their operations.

#### **1. Roles and Responsibilities.**

1.1. Commanders and supervisors shall:

1.1.1. Ensure compliance with this and all relevant publications are followed.

1.1.2. Ensure all safety and training requirements are met.

#### **2. Mishap Notification and Emergency Actions.**

2.1. When a mishap occurs, involving explosives, immediately notify Maintenance Operations Center (MOC), which in turn will notify the Fire Department, Explosive Ordnance Disposal (EOD), Base Operations, Security Forces, Quality Assurance (QA), and Wing Weapons Safety. Aircraft involved in a mishap will be impounded IAW Weapons Safety Investigations and Reports, AFI 91-204, Safety Investigations and Reports, and local unit Maintenance Operating Instructions. A designated 19 AW representative will respond to the aircraft mishap scene and refer to the LRAFB Mishap Response Plan 91-204 to consider implementing the plan for all ground mishaps involving on base aircraft containing explosives.

2.2. If fire is involved:

2.2.1. All nonessential personnel will be withdrawn to the minimum distance required for the greatest munitions hazard present.

2.2.2. On scene supervisor will notify MOC of the aircraft tail number, location, amount of explosives involved, the fire symbol, and the number of injured personnel. MOC will notify Base Operations and the Fire Department Emergency Communications Center.

2.2.3. ADS Explosive Payload Limits per Aircraft

**Table 1. ADS Explosive Payload Limits per Aircraft.**

Nomenclature	Hazard Class/Division	Fire Symbol	Weight	Quantity	Withdrawal Distance
M-206 Flare	1.3/G	3	0.2874	240	600 ft.
MJU-50 Flare	4.2/G	4	0.0008	300	300 ft.
M-211 Flare	4.2/G	4	0.0008	300	300 ft.
MJU-64 Flare	4.2/G	4	0.0008	300	300 ft.
RR-170 Chaff	1.4/S	4	0.0008	300	300 ft.
MJU-71 Flare	1.3G	4	0.1777	240	600 ft.

MJU-66 Flare	4.2/G	4	0.0008	120	300 ft.
RR-188 Chaff	1.4/S	4	0.0008	300	300 ft.
Extinguisher Squibs	1.4/S	4	0.000280	2	300 ft.
<b>WARNING</b> Do not use Halon, carbon dioxide, or water fire extinguishers on or near flares. Breathing apparatus is required for firefighting personnel. These extinguishers may be used on surrounding areas. Attempt to fight fire only if explosives are not directly involved.					

### 3. Procedures for Chaff/Flare Pre-load Checks.

3.1. Chaff & flare mission requirements will be identified in the weekly flying schedule using the appropriate configuration code. Changes to the weekly flying schedule requiring additional chaff & flare support will require coordination using the AF Form 2407. Daily blue line products adding/removing chaff & flare requirements constitute a change to the weekly flying schedule and require AF Form 2407 coordination.

3.2. Production Superintendent will:

3.2.1. Contact 19 MXS Production Superintendents no later than 1600 on the day prior to the mission to confirm the aircraft tail number, aircraft location, required chaff/flare payload requirements, and the required delivery time of loaded magazines to the aircraft.

3.2.2. Coordinate with the load team to start the chaff/flare pre-load checks prior to magazine delivery time.

3.3. The load team will notify the Production Superintendent when the pre-load checks are completed and the aircraft is ready to be loaded.

### 4. Procedures for Requesting, Transporting, and Uploading/Downloading Chaff/Flare Modules / Fire Extinguisher Squibs.

4.1. The LRAFB flight line and all designated aircraft parking locations to include stubs 3-8 on Taxiway G Aircraft Parking Apron (Christmas tree) are authorized for uploading/downloading chaff & flare munitions. Delivery times for chaff & flare will be coordinated between the affected CCNS shop, and 19MXS Production Superintendents. Assess the risks and hazards associated with seasonal weather patterns when determining chaff & flare delivery times.

4.1.1. **(Squibs)** The LRAFB flight line and all designated parking locations to include stubs 3-8 on Taxiway G Aircraft Parking Apron (Christmas tree), including all hangars without open fuel tank maintenance are authorized for fire extinguisher squib maintenance. NOTE: Chaff/flare countermeasure loaded aircraft must be downloaded prior to placing in any hanger/facility IAW USAF T.O. 11A-1-33.

4.2. Aircraft should normally be refueled before uploading/downloading magazines containing chaff/flare munitions. Aircraft refueling is authorized after loaded magazines are installed in aircraft but the SAFE status of each mechanical/electrical chaff/flare dispensing

system must be validated. Hot refueling (refueling with one or more engines running) on explosives-loaded aircraft, requires MAJCOM authorization.

4.3. Explosives will be transported and protected in accordance with AFMAN 91-201, AFI 24-301, AMC Sup, and LRAFB Sup, and LRAFBI 31-101.

4.3.1. **(Squibs)** Vehicles with plastic bed liners may be used to transport squibs that are in their original sealed outer package, box, or container, or metal ammo-style containers if the containers provide the protection required by AFMAN 91-201 and are bonded to the metal body of the vehicle.

4.3.2. **(Squibs)** Squib transport containers must be designed to meet requirements in AFMAN 91-201 and be approved by Munitions personnel. Containers will be used exclusively to transport squibs.

4.3.3. Refuel vehicle before loading/transporting explosive squibs and/or countermeasure explosives.

4.3.4. **(Squibs)** Placards are required when transporting Hazard Division (HD) 1.4 squibs off-base. Placards may be omitted when transporting HD 1.4 squibs on-base.

4.3.5. Provide each explosives-laden vehicle used for transport with at least two portable 2A:10BC rated extinguishers.

4.4. Only those people trained and certified by their unit Weapons Safety Representative or VCO may drive vehicles transporting explosives.

4.4.1. **(Squibs)** Squadron commander appointed weapons safety representative will train, certify, and issue an AF Form 483, Certificate of Competency, with Explosives Loaded Vehicle Operator qualifications, to all personnel operating vehicles to transport squibs. NOTE: Personnel will have in their possession an approved AF Form 483 while transporting squibs.

4.4.2. **(Squibs)** Custody account training will be conducted by the munitions flight before personnel are authorized to be listed on the AF Form 68, Munitions Authorization Record, to transport and handle squibs.

4.4.3. **(Squibs)** Only authorized personnel (qualified load crews and personnel listed on AF Form 68) will be allowed access to squibs.

4.4.4. Munitions Flight personnel do not require an AF Form 483 for transport of munitions as this training is documented in the Training Business Area (TBA) per AFI 21-201.

4.5. At the Production Superintendent's request, MOC will contact 19MXS Production Superintendent and request delivery/pickup of chaff/flare magazines to/from the aircraft.

4.6. Explosive/Squib transport drivers will contact MOC when explosives transportation is started and completed and give the amount and type of munitions being loaded.

4.7. MOC will notify Base Operations, Fire Department, and Security Forces when explosives transport is started/completed. MOC must also ensure Emergency Communications Center is made aware of the location of explosives awaiting upload/pickup, upload/download operations and explosives-loaded aircraft on the flight line.

4.8. The loading team, which will consist of a minimum of two qualified technicians, will secure the immediate area and remain vigilant throughout the upload/download operation to ensure nonessential personnel do not come within 50 feet of explosive upload/download operations.

4.8.1. Annual training will be documented via G081 using the following course codes

4.8.1.1. Chaff/Flare Loading: C130000110

4.8.1.2. Explosive Safety (Chaff/Flare): Safe000538

4.8.1.3. Squib Handling: Acft000015

4.8.1.4. Explosive Safety (Squib): Safe000538

4.8.2. MAXIMUM PERSONNEL LIMITS:

4.8.2.1. (CMDS) 1 supervisor, 3 workers, and 2 casuals

4.8.2.2. (Squibs) Personnel performing squib maintenance are limited to supervisor, workers, and casuals as defined in AFMAN 91-201. Maximum number of personnel will not normally exceed 5.

4.9. The Flight Line Expeditor and the load team supervisor will ensure personnel on aircraft located within 100 feet of aircraft explosives-loading operations will not conduct refueling, liquid oxygen servicing, operate radios, or run engines while explosives operations are conducted. The loading team supervisor will provide a safety briefing before starting the loading operation. As a minimum, it will contain:

4.9.1. Firefighting procedures.

4.9.2. Evacuation procedures.

4.9.3. Steps to take for dropped or damaged explosives.

4.9.4. Withdrawal distances.

4.9.5. Any specific safety requirements for the explosives being handled.

4.9.6. Brief removal of watches, rings and all other jewelry.

4.9.7. Explosives limits, including HD and CG of the explosives involved (Only the explosives needed to ensure a safe and efficient work flow will be present in an operating location)

4.9.8. Personnel limits, minimum exposure of personnel to explosives, as outlined in AFMAN 91-101.

4.10. The following safety precautions will be strictly adhered to:

4.10.1. Personnel must ground themselves before handling electrically primed explosives. Frequently re-accomplish this procedure during the uploading/downloading operation.

4.10.2. The wear of static-producing clothing such as 100% nylon, rayon, wool, or polyester is prohibited as an outer garment. Personnel will not put on or remove garments while engaged in explosive operations.

- 4.10.2.1. Gortex garments may be worn during uploading/downloading operations; however, the hazard of static electricity must be weighed against the need to wear Gortex garments.
- 4.10.3. Explosives must never be carried in pockets, CTKs, or tool pouches.
- 4.10.4. Do not point electrically primed explosives toward yourself, others, vehicles, or the aircraft.
- 4.10.5. Do not tumble, drag, throw, or roll explosives or containers.
- 4.10.6. Disassembly of any explosive is prohibited.
- 4.10.7. No radio frequency transmissions of any kind will be made within 25 feet of explosives.
- 4.10.8. Ensure adequate area lighting when loading/downloading explosives during hours of darkness.
- 4.10.9. Discontinue all explosive uploading/downloading operations when lightning is within 5 nautical miles and/or winds exceed 30 knots.
- 4.10.10. Do not remove explosives lot number or date of installation markings on the side of loaded magazines.
- 4.11. Refer to T.O. 1C-130J-33-1-2, T.O. 1C-130J-33-1-2CL-1, & T.O. 1C-130J-2-26JG-20-1 for specific step-by-step uploading/downloading procedures.
- 4.12. Load team will notify the Expediter and Production Superintendent and MOC when the upload/download is started and give greatest fire symbol posted. The MOC will notify Base Operations and the Emergency Communications Center when upload/download is started and give fire symbol posted.
- 4.13. Load team will notify the Expediter and Production Superintendent and MOC when upload/download is complete. MOC will notify Base Operations and Emergency Communications Center when upload/download is complete.
- 4.14. The Expediter will notify MOC when loaded aircraft depart/arrive parking spot. MOC will notify Base Operations and Fire Alarm Communications Center of explosives-loaded aircraft arrival at or departure from parking spot.
- 4.15. Upon replacement of fire extinguisher squib time change, notify Wing Plans and Scheduling with new squib serial number, lot number and inspection date.

## **5. Maintenance Precautions on Explosives-Loaded Aircraft.**

- 5.1. Aircraft are considered explosives-loaded when chaff or flares are loaded in any part of the weapon system and will be handled IAW T.O. 11A-1-33 and AFMAN 91-201.
- 5.2. Vehicles not directly involved with the explosives uploading/downloading operation will remain at least 25 feet from explosives.
- 5.3. Hangaring of explosives-loaded aircraft is prohibited.
- 5.4. Jacking and other maintenance that will affect Weight on Wheels is prohibited (aircraft must be downloaded).

5.5. Functional Check Flights (FCFs) with explosives are performed only if the explosives are vital to the FCF.

5.6. Maintenance that requires electrical power to the AN/ALE-47 CMDS equipment will not be performed until the systems are safed, both electrically and mechanically, by a qualified technician.

5.7. If an unknown/hazardous condition is encountered, cease all maintenance, evacuate personnel to the applicable safe distance, and notify MOC.

## **6. Procedures for Recovering and Downloading Explosives-Loaded Aircraft.**

6.1. As soon as inbound notification is received from an aircraft that previously launched with flares loaded, MOC will notify 19MXS Production Superintendent and the Expediter to announce the aircraft tail number, parking location, and downtime. In addition, MOC will remind the aircraft commander that the aircraft must be inspected for hung flares prior to proceeding to normal parking if live ordnance was expended.

6.2. After landing, the aircraft will proceed to the —hammerhead for end of runway inspections by aircrew for hung flares. A hung flare is a protruding or partially ejected flare cartridge. If no hung flares are found, the aircraft may proceed to parking.

6.3. If a hung flare or unknown condition exists:

6.3.1. Engines will be shut down immediately and aircraft will be chocked.

6.3.2. Aircrew will notify Tower. Tower will notify EOD, Wing Weapons Safety, and Fire Department to respond to the aircraft.

6.3.3. Aircrew will recheck that the Safety Switch Pins are installed and the CMDS is off.

6.3.4. Crew and all nonessential personnel evacuate to a minimum safe distance of 600 ft. If fire is involved or the on-scene commander directs, crew and all nonessential personnel will withdraw to a minimum distance of 600 ft.

6.4. Normal operations require chaff/flare downloading after flight. When the aircraft will fly subsequent missions requiring chaff/flares, the Production Superintendent will determine if downloading is required.

6.5. If downloading is required; the load team will repeat steps in section 3 of this instruction after the aircraft is recovered at normal parking.

6.5.1. CCNS or download team will annotate AF Form 2434 with expenditures and provide a copy to 19 MXS/MXMW.

6.5.2. Munitions personnel will inspect all modules prior to departure from flight line. Discrepancies in reconciliation will be corrected prior to full acceptance of modules by 19 MXS/MXMW. Full counts must match AF Form 2434.

6.6. Information Collections, Records, and Forms:

6.6.1. Adopted Forms: AF Form 2407, Weekly/Daily Flying Schedule Coordination, AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance, AFTO Form 781A, Maintenance Discrepancy and Work Document, AF Form 2434, Munitions Configuration and Expenditure Document, and AF Form 68, Munitions Authorization Record (Squibs).

6.6.2. Accountability of fire bottle squibs are tracked via a signed AF Form 68, Munitions Authorization Record

6.6.2.1. Personnel who are authorized to sign/certify authorization and expenditure documents to include authorized to receive fire bottle squibs are listed in Part II of the AF Form 68.

6.6.2.2. Munitions will control and issue explosive squibs to authorized personnel when required, verifying authorization on the AF Form 68.

John M Schutte, Colonel, USAF  
Commander



**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

- T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 9 Sep 2019
- T.O. 11A-1-33, *Handling and Maintenance of Explosive-Loaded Aircraft*, 25 Feb 2019
- T.O. 11A18-14-7, *Specialized Storage and Maintenance Procedures Fire Extinguisher Cartridges*, 4 Dec 2018
- T.O. 1C-130A-33-1-2, *Countermeasures Dispensing Set*, 1 Sep 2019
- T.O. 1C-130H-2-26JG-20-1, *Fire Protection Fire Extinguishing System*, 1 Aug 2016
- T.O. 1C-130A-33-1-2CL-9, *Checklist Nonnuclear Munitions Loading Procedures Countermeasures Dispensing Set*, 15 Sep 2019
- T.O. 1C-130J-33-1-2, *Nonnuclear Munitions Loading Procedures Countermeasures Dispensing System*, 1 Jul 2016
- T.O. 1C-130J-33-1-2CL-1, *Checklist Nonnuclear Munitions Loading Procedures Countermeasures Dispensing Set*, 15 Jul 2004
- T.O. 1C-130J-2-26JG-20-1, *Fire Protection Fire Extinguishing*, 1 Jul 2018
- AFI 21-101, *Aircraft and Equipment Maintenance Management*, 16 Jan 2020
- AMC SUP 1 21-101, *Aircraft and Equipment Maintenance Management*, 9 Feb 2016
- AFI 31-101, *Integrated Defense*, 24 Mar 2020
- AMC SUP 31-101, *Integrated Defense*, 28 Jan 2020
- AFI 24-301, *Transportation Vehicle Operations*, 22 Oct 2019
- AFMAN 91-201, *Explosives Safety Standards*, 20 Mar 2017
- AFMAN 91-221, *Weapons Safety Investigations and Reports*, 25 Mar 2020
- AFI 91-204, *Safety Investigations and Reports*, 26 Apr 2018
- AMC SUP 91-204, *Safety Investigations and Reports*, 24 Sep 2018
- AFI 21-201, *Munitions Management*, 25 Mar 2019
- AFI 91-202, *US Air Force Mishap Prevention Program*, 11 Mar 2020
- AMC SUP 91-202, *US Air Force Mishap Prevention Program*, 2 Oct 2018
- LRAFBI 91-202, *Transportation of Explosives*, 27 Mar 2019
- AFI 91-208, *Hazards of Electromagnetic Radiation to Ordnance*, 23 Oct 2019

***Abbreviations and Acronyms***

**ADS**—Airlift Defensive System

**AFI**—Air Force Instruction

**CMDS**—Countermeasures Dispensing System

**CTK**—Consolidated Tool Kit

**CCNS**—Communication/Countermeasure/ Navigational Systems

**EOD**—Explosive Ordnance Disposal

**FCF**—Functional Check Flight

**MOC**—Maintenance Operations Center

**T.O**— Technical Order

**VCO**—Vehicle Control Officer