

**BY ORDER OF THE COMMANDER  
19TH AIRLIFT WING (AMC)**

**LITTLE ROCK AIR FORCE BASE  
INSTRUCTION**



**21-104**

**5 MARCH 2024**

**Maintenance**

**CRASHED, DAMAGED, OR DISABLED  
AIRCRAFT RECOVERY (CDDAR)  
PROCEDURES**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements Air Force Policy Directive (AFPD) 21-1, Maintenance of Military Materiel and applies to all 19th Airlift Wing (19 AW), 314th Airlift Wing (314 AW), 913th Airlift group (913 AW). This instruction outlines policies and assigns responsibilities for implementing an effective Crashed, Damaged, or Disabled Aircraft Recovery Program (CDDAR). It is used in conjunction with Little Rock AFB Plan 10-2, Installation Emergency Management Plan (IEMP), Little Rock AFB Mishap Response Plan, DAFI 21-101 AMC SUP Aircraft And Equipment Maintenance Management, applicable 48- Series AFOSH Standards, and DAFMAN 91-203 Air Force Occupational Safety, Fire, And Health Standards, TO 00-80C-1 Crashed, Damaged, Disabled Aircraft Recovery Manual, AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*, and aircraft specific Dash 2 and Dash 3 series TOs. Course Control Document/Training Standard ACFT-100 will be utilized for CDDAR member training. The CDDAR program is established for the recovery of crashed, damaged, or disabled aircraft in a minimum time period without inflicting secondary damage. This instruction also prescribes specific instructions, procedures, responsibilities, and requirements for removing effected aircraft from the Little Rock AFB runway and response to off-base mishap aircraft. Commanders, Senior Enlisted Leaders (SEL), and supervisors are responsible for effective compliance with this instruction. The 19 LRS/CC and 19 MXS/CC are responsible for immediate equipment and operator support when tasked. The 19 CES/CC, 19 AMXS/CC, 314 MXG/CC, 189 MXG/CC, when appropriate, will ensure the availability of support equipment and operators as required. Ensure that all records

created as a result of processes prescribed in this publication are maintained IAW Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). 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 Forms 847 from the field through the appropriate functional chain of command.

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

This document has been substantially revised and must be completely reviewed. Major changes include: Rewritten as specified in T.O. 00-80C-1 and to meet guidance in the Wing CDDAR operations.

**1. General.** This instruction provides the basic procedures to be followed for aircraft recovery/removal in the event of a crash/disabled aircraft after the initial emergency response events have been accomplished. Physical aircraft removal procedures will not be implemented until approved by the On Scene Commander (OSC), the Incident Commander (IC), Interim Safety Board (ISB)/Safety Investigation Board (SIB) President or Fire Chief. The CDDAR program is designed to recover crashed, damaged or disabled aircraft in a minimum time period consistent with applicable technical orders.

**2. Objective.** The primary objective of the CDDAR program is to return the mishap runway(s) to operational status as soon as practical after a mishap. The Wing Commander will determine the degree of emergency and make a decision regarding the urgency with which the runway is cleared. This decision is dictated by evaluation of alert status, number of airborne or returning aircraft, available weather alternates, and other operational criteria.

#### **2.1. The Wing Commander or designated representative determines and notifies the Emergency Operations Center (EOC) Director of removal conditions designated as:**

2.1.1. Emergency. This condition requires immediate runway clearance at the risk of losing personnel, equipment, and evidence.

2.1.2. Urgent. This condition requires runway clearance as soon as possible after completion of rescue, firefighting, and explosive ordnance disposal (EOD) operations.

2.1.3. Routine. This condition allows sufficient time to use recovery techniques to minimize further damage to aircraft, preserve evidence, and precludes exposing personnel or equipment to danger.

2.1.4. Due to time constraints of "Emergency" or "Urgent" conditions, it may not be possible to use normal CDDAR procedures. In this case, the IC will decide, in collaboration with the EOC and the CDDAR Team Chief, which removal methods are best and which first responder actions may or may not proceed.

### **3. Typical Sequence of Events.**

**3.1. Immediately after the incident, first responders operations proceed in accordance with IEMP 10-2 or local civilian response plans.** This initiates the Response Phase of the plan.

**3.2. The IC ensures initial rescue, firefighting, security and safe-ing of the aircraft is performed.** No one other than first responders may enter the mishap area during the initial response. The mishap scene must be determined safe by the IC prior to any investigation or CDDAR actions.

**3.3. The incident aircraft and its equipment must not be disturbed or removed unless directed or released by the IC, ISB/SIB President or Impoundment Official/MXG Representative.** Control of the mishap scene remains with the IC until access control is granted to the Board President, Vice President or Impound Official/MXG Representative appointed by the Investigating Authority.

**3.4. Under Emergency or Urgent removal conditions, the recovery/investigation phase may be postponed or waived by the Wing Commander.**

**3.5. While the initial response is in progress the CDDAR Team Chief along with team members as required, should plan, and posture the equipment and materials required to recover the aircraft.** If possible, the CDDAR Team Chief should observe the mishap site from a safe distance approved by the IC.

**3.6. When first-responder actions are complete, the Response Phase will end and the Recovery Phase, which includes investigation actions, will begin.** The IC will then transfer access control of the mishap site over to the appointed Recovery Operations Chief (ROC). The ROC is normally an aircraft MX Officer or SNCO appointed by the EOC Director in consultation with the MXG/CC. The ROC will coordinate both the efforts of the Investigating Authority officials and the CDDAR Team Chief.

**3.7. Emergency or Urgent removal conditions may bypass the deliberate recovery/investigation phase and dictate expedient ad-hoc planning and execution of CDDAR duties.**

**3.8. Under routine removal conditions, the Investigation Authority advises the ROC that control of the aircraft can be given to the CDDAR Team Chief or salvage teams to restore, reclaim or dispose of the aircraft when the investigation is complete.**

**3.9. During the beginning of the Recovery Phase and/or investigation, the EOC may continue to provide support to the ROC as needed, directed by the EOC Director.** The EOC director and MXG/CC will collaborate and determine when the recovery efforts become routine support actions. At this point, the EOC and ROC will stand down and mishap support will be transferred to the designated MXG function.

**4. Responsibilities.** The following section is divided in two parts. The first part describes actions and duties to posture the program before an aircraft incident (pre-execution), the second describes actions and duties that take place during and after an aircraft incident (execution).

**4.1. Program Management and Administration Responsibilities (PRE-EXECUTION).**

**4.1.1. 19 AW/XP will:**

**4.1.1.1.** Solicit inputs from the Maintenance Group Commander, subordinate maintenance unit leadership, and unit CDDAR team chiefs to include CDDAR program evaluation in the planning of aircraft-related exercise scenarios.

**4.1.2. 19 MXG/MXO will:**

- 4.1.2.1. Ensure 19 MXG/MXOC (MOC) prepares and maintains checklists to execute the guidance in this instruction. Ensure this checklist is reviewed and updated on a biennial basis.
- 4.1.3. 19 MXS/CC will:
  - 4.1.3.1. Ensure both primary and alternate CDDAR Team Chiefs are appointed and trained.
- 4.1.4. 19 AW Civil Engineering will:
  - 4.1.4.1. At a minimum, keep the following equipment items plus operator on hand for CDDAR use should incident occur: all terrain forklift (owned/located at Vehicle Ops), bulldozer, and serviceable runway matting.
  - 4.1.4.2. Be responsible for the evaluation of any contamination to the environment, assessing the necessary cleanup, disposal of contaminated components, and coordination with the appropriate Federal and State Regulatory agencies.
- 4.1.5. 19 AMXS will:
  - 4.1.5.1. Designate a minimum of two 5 level (or higher) technicians qualified to download chaff and flare and the flight data recorder from C-130 aircraft.
- 4.1.6. 19 AW Vehicle Operations will:
  - 4.1.6.1. Maintain a dedicated vehicle and driver at all times, which upon request, is capable of transporting the CDDAR trailer (18,000 pounds load capacity). Designate and make provisions for distribution of base vehicle assets to be utilized by the CDDAR team dependent upon area and terrain. At a minimum, maintain the following items plus operator and provide, if required for CDDAR, use a radio- equipped general purpose 4X4 truck, all terrain forklift and 40 foot flatbed semi-tractor trailer driver and tractor.
- 4.1.7. 19 MXS Maintenance Flight will:
  - 4.1.7.1. Designate a minimum of two 5 level (or higher) Crew Chiefs that are certified as part of the CDDAR team for the C-130J.
  - 4.1.7.2. Maintain respirator protection program which includes all members of CDDAR Team for advance composite mishap response procedures outlined in T.O. 00- 80C-01.
- 4.1.8. 19 MXS Fabrication Flight will:
  - 4.1.8.1. Designate a minimum of two 5 level (or higher) personnel as augmentees to the CDDAR team, at the request of the CDDAR Team Chief
- 4.1.9. 19 MXS Aerospace Ground Equipment Flight will:
  - 4.1.9.1. At a minimum, maintain the following items and provide, if required, for CDDAR use: light carts, tow bars, aircraft jacks, and 4ea MC-7 or MC-5 air compressors.
- 4.1.10. 19 MDG Bioenvironmental Engineering (BEE) will:

4.1.10.1. The Bioenvironmental office will be consulted in determining personnel health hazards, training required and appropriate levels of PPE for anticipated responses. Not every scenario can be accounted for, but BEE will help determine common PPE which will most likely suit the needs of CDDAR responders.

4.1.10.2. Approve specific type(s) of respirator used, maintained, and stored for the composite recovery team members and provide respirator training and fit tests to all recovery personnel as required.

4.1.11. 19 MXS CDDAR Team Chief Will:

4.1.11.1. Train all personnel assigned to the crash recovery team in accordance with MXG CDDAR Lesson Plan (to include initial training comprised of both academic and hands on.) Training will be documented in GO81 under Course Code ACFT 100 and in MyTraining as required. (Also when available, Team members should attend the Basic CDDAR Training course at Sheppard AFB, Texas.)

4.1.11.2. Maintain a CDDAR Trailer, for weatherproof storage and mobility, with at least the minimum required equipment authorized by appropriate Table of Allowance.

4.1.11.3. Maintain all required PPE for CDDAR operations and Composite Recovery as determined by the Technical Data and Base BEE.

4.1.11.4. Maintain a CDDAR Team with the minimum amount of personal to support a CDDAR recovery operation.

4.1.11.5. Maintain a current Recall Roster for after normal duty hours and make available to the Maintenance Operations Center (MOC). The Roster will have current assigned personal and telephone numbers. This list will be updated yearly or whenever a change occurs.

4.1.11.6. Review all support agreements, response plans and CDDAR lesson plan annually.

4.1.11.6.1. Coordinate with 189th Team Chief for annual training, exercises, inventories, and real world incidents.

4.1.11.7. Ensure all procedures and plans are coordinated with all base agencies.

4.1.11.8. Annually inform the MXG Commander, in writing, of any equipment shortages/serviceability issues that impact recovery operations.

4.1.11.9. Conduct/participate in annual training exercises in conjunction with the CDDAR team, and base agencies, coordinated with the Readiness office.

4.1.11.10. Ensure that adequate Tools and Special Equipment is serviceable and available for emergency recovery operations. Also, maintain a list of all CDDAR Tools and Equipment.

4.1.11.11. The Team chief will coordinate with Quality Assurance (QA) Weight and Balance Manager when aircraft weight and Center of Gravity (CG) conditions are unknown.

**4.2. Aircraft Incident Notification and Response Responsibilities (EXECUTION).**

4.2.1. 19 AW/CC or Delegated Representative will:

4.2.1.1. Implement 19 AW IEMP 10-2 when event occurs that is beyond the control of on-duty responders or serious enough to warrant installation response, such as major aircraft incident within installation's defined area of responsibility or as directed by higher authority.

4.2.1.2. Determine removal condition/urgency as emergency, urgent, or routine.

4.2.1.3. Consider on-base support capability when authorizing movement of CDDAR equipment off-base.

4.2.2. 19 MXG/CC, 314 MXG/CC (314 AW tenant aircraft), 189 MXG/CC (189 ANG tenant aircraft), and 913 MXG/CC or Delegated Representative will:

4.2.2.1. Upon notification, coordinate with applicable Wing Safety to determine classification and required level of incident investigation.

4.2.2.2. Consider impounding the incident aircraft IAW DAFI 21-101\_AMCSUP, DAFI 21-101\_AETCSUP (314 AW tenant aircraft) and 189MXGOI 21-14 (189AW tenant aircraft).

4.2.2.3. Appoint an Impoundment Official(s), if the incident aircraft is impounded.

4.2.2.4. Identify and assign MXG representative(s) to EOC duty to coordinate support to the CDDAR Team.

4.2.3. The Emergency Operation Center (EOC) will:

4.2.3.1. Stand up when directed by the ICC and establish lines of communication with the IC.

4.2.3.2. Through the MXG representative, direct MOC coordinators and/or base agencies to obtain the support requested by the IC.

4.2.3.3. Through the appropriate group representative, task squadrons/agencies identified as sources to provide identified equipment and services as requested by the CDDAR Team through the IC.

4.2.3.4. Ensure responding agencies, personnel and deliveries report to the IC at the designated staging area to positively control access to the site. The intent of this requirement is to preserve the evidence at the incident site for investigation purposes.

4.2.3.5. When necessary, the EOC staff will identify and secure a facility or area large enough to house the incident aircraft. Details will be assigned to secure the facility and allow only essential, authorized personnel access.

4.2.4. 19 AW Maintenance Operations Center (MOC) will:

4.2.4.1. While the EOC is activated, the primary chain of support requests flows from on-site CDDAR Team Chief, to the IC/ROC, to the EOC, to the routine Command Post and/or MOC networks.

4.2.4.2. Broadcast information on appropriate maintenance radios when an aircraft has an in-flight emergency or ground incident. Advise all network channels of the nature

- of the mishap, provide type of aircraft, souls on board, location, amount of fuel on board, explosives on board, and known extent of aircraft damage.
- 4.2.4.3. Notify applicable MXG/CC or delegated impound authority to obtain an impound decision, appointment of an Impoundment Official and/or designated MXG representative for potential base EOC duty.
- 4.2.4.4. Notify 19 LRS, Fuels Management to impound any fuel trucks used during ground refueling operations if the mishap aircraft is assigned or was serviced at Little Rock AFB.
- 4.2.4.5. Notify 19 LRS, Transportation Management, that vehicle and driver support indicated in this instruction may be required to transport personnel and/or equipment to the incident site.
- 4.2.4.6. Notify 19th Maintenance Squadron (MXS), Aerospace Ground Equipment that air compressors, manifolds, light carts and other support equipment indicated in this instruction may need to be transported to the incident site.
- 4.2.4.7. Coordinate with Command Post to notify emergency response services to include fire department, wing safety, security forces, medical response team, explosive ordinance disposal (EOD), and transient alert (TA) upon request of the IC.
- 4.2.4.8. Ensure radio traffic is held to essential transmissions during emergencies and enforce radio discipline during the recovery operation.
- 4.2.4.9. Notify 19 MXS Production to alert Repair & Reclamation section supervisors to identify personnel, review applicable tech data, and prepare any necessary equipment.
- 4.2.4.10. If required, coordinate staging of responders, including contract logistics support personnel, at the designated assembly point/staging area to await instructions from the CDDAR Team Chief, IC, or Investigating Authority.
- 4.2.5. The Impoundment Official/MXG Representative will:
- 4.2.5.1. Assume control of the incident aircraft when the aircraft/site is released by the IC or ROC.
- 4.2.5.2. With the assistance of the CDDAR Team Chief and CDDAR team members, evaluate the aircrafts condition.
- 4.2.5.3. Take special care to ensure flight data recorder information is secured and proper handling procedures are complied with IAW AFMAN 91-223, *Aviation Safety Investigations and Reports*.
- 4.2.5.4. Coordinate between the ISB/SIB President or representative and the lead appointed agency to gain access to the aircraft for CDDAR operations.
- 4.2.6. 19 MDG Bioenvironmental Engineering (BEE) will:
- 4.2.6.1. Evaluate the scene for potential health hazards and will provide assessments to the On-Scene-Commander (OSC).

- 4.2.6.2. Provide constant updated site conditions to OSC and CDDAR Team chief. BEE will also work with the IC, CDDAR Team Chief, and Security Forces in determining the peripheral area.
- 4.2.6.3. Brief recovery personnel on all potential hazards and specify proper PPE as required based on assessment.
- 4.2.6.4. Continue to monitor environmental conditions at site during recovery and advise CDDAR team chief of any recommended changes to PPE.
- 4.2.7. The CDDAR Team Chief will:
  - 4.2.7.1. After cleared by the EOC and the IC, deploy to the mishap site for initial evaluation and report to the IC upon arrival at designated staging area. No initial evaluation can take place until the IC declares the site fire safe. If mishap is off base, coordinate deployments with the EOC.
  - 4.2.7.2. Assist in securing the area, if required. Except to rescue injured personnel, ensure nothing is to be moved or removed from the incident site without the expressed permission of the IC.
  - 4.2.7.3. Coordinate with the On-Scene-Commander (OSC), ISB/SIB President or representative, as applicable, to determine what needs to be accomplished and when the CDDAR team will be needed to enter the area.
  - 4.2.7.4. Evaluate the site with the OSC and BEE to determine what PPE and recovery equipment will be required for entry into the area.
  - 4.2.7.5. Assemble the CDDAR team in the Repair and Reclamation shop. Brief all personnel on the site condition, review individual responsibilities of team members and set up work schedule for personnel.
  - 4.2.7.6. Ensure that flight deck voice and flight data recorders are de-energized as soon as practical. Shutdown systems and remove power to the aircraft IAW applicable tech data to preclude systems from overwriting critical mishap evidence. Consider obtaining approval to remove these recorders to prevent further damage.
  - 4.2.7.7. Coordinate a site survey with the IC and applicable advisors prior to dispatching the entire CDDAR team.
  - 4.2.7.8. Serve as the primary advisor to the IC on all CDDAR matters.
  - 4.2.7.9. Advise the IC of the most prudent method of aircraft removal.
  - 4.2.7.10. In coordination with the IC, identify equipment and material requirements (e.g., bulldozers, flatbed trucks, front-end loaders, cranes, fork lifts, dunnage, etc.)
  - 4.2.7.11. Coordinate with the IC to establish a staging/assembly point where all essential follow-on personnel will meet and await instructions.
  - 4.2.7.12. Relay assembly point information above to the MOC, CDDAR Team, and responding aircraft contractor and/or maintenance vehicles.



- 4.2.7.13. Complete an initial assessment to capture and report the exact location of aircraft, location of damage, extent of damage, and other key data elements. Submit the assessment to the EOC, Command Post and/or MOC.
- 4.2.7.14. Direct CDDAR team, responding aircraft contractor, and/or maintenance vehicles to the site when cleared to do so by the IC or Investigating Authority. Ensure all actions taken by these team members are coordinated through the IC or Investigating Authority.
- 4.2.7.15. Once directed by the OSC to conduct recovery procedures, make aircraft safe for recovery operations, configure aircraft, and begin recovery/removal actions. The recovery operation shall take place in accordance with all applicable Technical Data and in accordance with DAFI 91-204 to ensure preservation of evidence.
- 4.2.7.16. Assist in the development of a mishap site clean-up plan.
- 4.2.7.17. Ensure all CDDAR Team Members are briefed to defer media and other inquiries to the trained IC or base public affairs officer.
- 4.2.8. 19 MXS Aerospace Ground Equipment Flight will:
- 4.2.8.1. Deploy AGE equipment requested by IC through the EOC to a marshaling area for shipment, if required.
- 4.2.8.2. Coordinate servicing of on-site equipment with the EOC, when required.
- 4.2.9. 19 AMXS/ 19 MXG/MXO/ 19 MXS/ 314 AMXS/ 189 MXG/ 913 MXG will:
- 4.2.9.1. Respond to all IFE's and ground emergencies for assigned aircraft, including but not limited, to hot brakes, blown tires, engine shut down etc. If the recovery is beyond the capabilities of the owning AMU, the production supervisor will request/recall the CDDAR team as required by contacting MOC.
- 4.2.9.2. Provide and coordinate any additional specialist support to recover or secure the incident aircraft. They will work under supervision of the IG/CDDAR Team Chief.
- 4.2.9.3. Provide support equipment and qualified operators as needed/tasked by the Emergency Operations Center or chain of command.
- 4.2.9.4. Provide trained and qualified spill teams to assist the fire department in taking steps to mitigate environmental damage, i.e., contain firefighting agent and liquid runoff.
- 4.2.9.5. Provide tow team and maintenance response team, if incident aircraft is the same MDS as assigned.
- 4.2.10. 19 AW MXG Quality Assurance Office will:
- 4.2.10.1. Provide assistance to CDDAR team chief with the unit QA Weight and Balance program when Weight and Center of Gravity (CG) conditions are unknown.
- 4.2.10.2. Provide assistance in gathering system and structural information for the weapon system involved in the mishap.
- 4.2.11. 19 LRS/LGRV will:

- 4.2.11.1. Recall vehicles IAW established procedures and priorities as requested by the IC through the EOC.
  - 4.2.11.2. Coordinate delivery of support vehicles and operators as determined by the CDDAR Team Chief and OSC.
  - 4.2.11.3. Coordinate the allocation of on-base heavy equipment, i.e.; bulldozers, cranes and dump trucks to support the recovery effort.
  - 4.2.11.4. Provide available tractor trailers and forklifts to transport CDDAR support equipment to the mishap site, as well as transport aircraft to the wreckage assembly point.
  - 4.2.11.5. Provide maintenance support to Air Force heavy equipment participating in the recovery operation, as directed by the EOC or IC.
  - 4.2.11.6. Transportation requirements beyond those provided by on-base assets will be requested by the IC through the EOC to 19 CONS.
- 4.2.12. LRS/Fuels Management will:
- 4.2.12.1. Establish procedures to impound servicing vehicles if the incident aircraft is assigned or serviced at Little Rock AFB.
  - 4.2.12.2. Deploy to the incident site with defueling trucks, operators and equipment as directed by the EOC if defueling is necessary.
  - 4.2.12.3. Service on-site Air Force vehicles as directed by the EOC if refueling is necessary.
- 4.2.13. 19 CES will:
- 4.2.13.1. Provide technical and heavy equipment support to obtain access to and stabilize the terrain at the incident site, when required.
  - 4.2.13.2. Provide coordination and delivery of common construction materials, (i.e.; gravel, steel plates, etc.) to provide stable footing for aircraft jacks or lifting trestles.
  - 4.2.13.3. Submit unavailable material requirements through the EOC to 19 CONS for rapid procurement.
  - 4.2.13.4. Provide manpower and equipment necessary to support the recovery mission as directed by the OSC and CDDAR Team Chief. Assist in providing access to crash site and assist in site setup in accordance with LRAFB IEMP 10-2, making provisions to recall a representative for non-duty hours.
  - 4.2.13.5. Coordinate delivery of heavy machinery and operators as determined by the CDDAR Team Chief and OSC.
  - 4.2.13.6. Ensure capability of contracting to provide, on short notice, a 50 ton crane and operator.
  - 4.2.13.7. When directed by the OSC and ISB/SIB President or representative, CE will complete a grid survey of the area and identify the location of aircraft parts and remains.
- 4.2.14. 19 CONS will:

- 4.2.14.1. Execute and award delivery orders for expeditious delivery of materials and equipment.
- 4.2.14.2. Respond to EOC requests for additional requirements.
- 4.2.15. 19 CPTS Financial Management Office:
  - 4.2.15.1. Establish a fund site to procure needed equipment and supplies necessary in the CDDAR recovery operation.
- 4.2.16. 19 AW Security Forces Squadron (SFS) will:
  - 4.2.16.1. Establish and maintain a cordon area and ECP (entry/exit control point) in conjunction with the Fire Chief, BEE, CDDAR Team Chief and IC.
- 4.2.17. 19 AW Wing Safety Office will:
  - 4.2.17.1. Coordinate procedures with The CDDAR Team Chief as required.
  - 4.2.17.2. Provide Guidance for Preservation of Evidence for the SIB IAW DAFI 91-204.
- 4.2.18. All Squadrons will:
  - 4.2.18.1. Provide detail personnel, vehicles, and equipment as coordinated/tasked by the EOC.

## **5. Host and Tenant Base CDDAR Responsibilities.**

- 5.1. **The host unit (19 AW) will provide and support recovery operations both on-base and off-base for all tenant unit aircraft.**
- 5.2. **The host unit will provide crash, fire, and salvage equipment as required.** The host and tenant units will coordinate together to provide technical expertise, technical data, MDS-unique tools/special equipment, and air- frame/system familiarization on aircraft, to include Transient Aircraft.

## **6. Safety Precautions and Considerations Prior To Aircraft Movement.**

- 6.1. **Warning.** Ensure that it is safe to approach the aircraft, all explosives, ejection seat cartridges, tires, fluids, flares, airborne composites, and munitions are de-armed, expended, or otherwise proclaimed safe by the fire department, BEE, and Explosive Ordnance Disposal (EOD). EOD must be notified for further evaluation before an aircraft can be moved.
- 6.2. **Warning.** Make sure the aircraft remains stable at all times and that personnel use extreme caution when working in and around a disabled aircraft. Before any ground handling activities take place on or around the aircraft, CDDAR personnel will ensure that it is properly stabilized to prevent movement or shifting. It may be necessary to moor the aircraft or stabilize it using air bags.
- 6.3. **Warning.** Due to the many unknown factors of airframe condition immediately following a crash landing, do not attempt to use special equipment or procedures not included in the specific aircraft technical orders or without approval of the specific airframe system manager/engineer.
- 6.4. **The owning agency of any transient aircraft will be contacted for technical advice pertaining to the specific aircraft.**

**6.5. Damaged incident aircraft, or any parts, will not be moved until authorized and directed by the ISB/SIB President or the wing Chief of Safety or representative.** Any movement of the aircraft from the site will be under the direct supervision of the aircraft mishap investigation board member.

**6.6. Safe and lighten the aircraft to the maximum extent possible by:**

6.6.1. Grounding the aircraft.

6.6.2. Removing the aircraft batteries.

6.6.3. Completely defueling and purging the tank areas, as required, and taking into consideration balance of the aircraft.

6.6.4. Contain and clean up any clean fuel or hydraulic oil leakage.

6.6.5. Removing all oxygen containers from the aircraft and bleed any oxygen from associated lines.

6.6.6. Downloading unnecessary equipment and cargo, as required.

**7. Off-base Crash Recovery Considerations.**

**7.1. In coordination with the civilian IC, the CDDAR Team Chief and contractors, initial response team will visit the site to review the situation to determine equipment requirements prior to dispatching the entire team.**

**7.2. Under no circumstances will personnel or equipment be dispatched off-base if it jeopardizes the mission of on-base recovery operations, unless directed by the 19 AW/CC or designated representative.**

**8. Tenant Aircraft.**

**8.1. The 19 AW CDDAR Team will be responsible for the recovery of the assigned aircraft.** In accordance with Host and Tenant Joint Agreement, the Host, 19 AW CDDAR Team will support recovery operations for tenant aircraft.

DENNY R. DAVIES  
Colonel, USAF Commander, 19th Airlift Wing

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

*AFPD 21-1*, Maintenance of Military Materiel, 1 August 2018

*DAFI 21-101*, Aircraft and Equipment Maintenance Management, 15 January 2020

*DAFI 21-101 AMCSUP*, Aircraft and Equipment Maintenance Management, 02 February 2022

*AFI 33-322*, Records Management and Information Governance Program, 27 July 2021 LRAFB Plan 10-2, Installation Emergency Management Plan (IEMP), 20 Feb 2022

*LRAFB Mishap Response Plan 204-18*, LRAFB Mishap Response Plan.

*ACFT-100*, Course Control Document/Training Standard, 22 July 2006

*DAFMAN 91-203*, Air Force Occupational Safety, Fire, and Health Standards, 24 March 2022

*TO 00-80C-1*, Crashed, Damaged, Disabled Aircraft Recovery Manual, 17 November 2020 *AFI 21-103*, Equipment Inventory, Status, and Utilization Reporting, 29 April 2020

*AFMAN 91-223\_AMCSUP*, Aviation Safety Investigations and Reports, 11 June 2020

***Prescribed Forms***

None

***Adopted Forms***

*AF Form 2519*, Mishap Recovery Team Checklist

*AF Form 847*, Recommendation for Change of Publication

***Abbreviations and Acronyms***

**AMU**—Aircraft Maintenance Unit

**AGE**—Aerospace Ground Equipment

**BEE**—Bioenvironmental Engineer

**CDDAR**—Crashed, Damaged or Disabled Aircraft Recovery

**ECM**—Electronic Countermeasure

**EOC**—Emergency Operations Center

**ISB**—Interim Safety Board

**MOC**—Maintenance Operations Center

**RDS**—Records Disposition Schedule

**Recovery 1**—Repair & Reclamation Team Chief

**Recovery 2**—Recovery Team Supervisor

**SIB**—Safety Investigation Board

Attachment 2

MISHAP RECOVERY TEAM CHECKLIST

Table A2.1. Mishap Recovery Team Checklist.

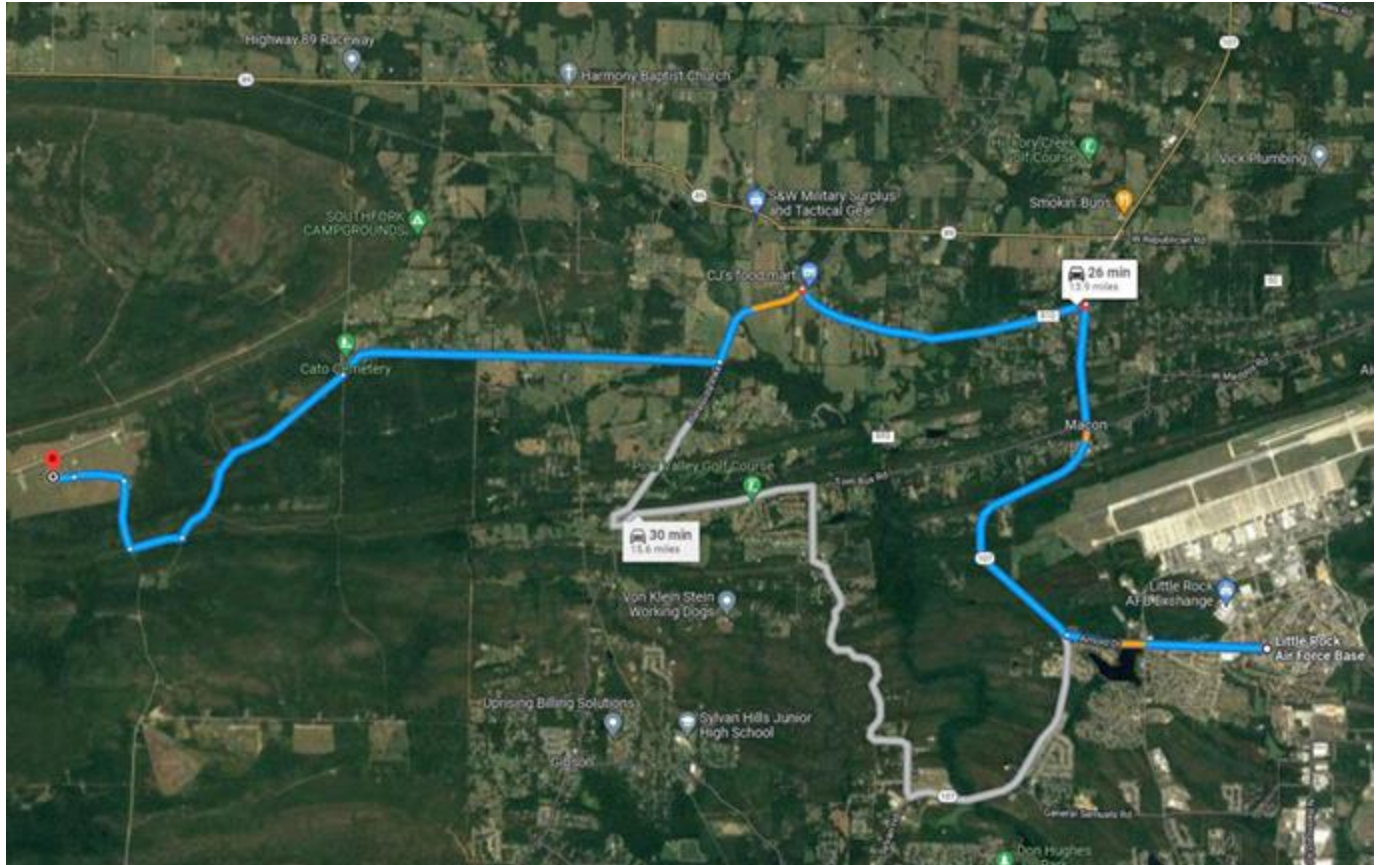
ALL PURPOSE CHECKLIST		PAGE 1	OF	1
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA LRAFBI 21-104, Attachment 2, Nov 12 MISHAP RECOVERY TEAM CHECKLIST		OPR MXMTR	DATE	
NO.	ITEM <i>(Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)</i>			
1	Receive notification of on/off base CDDAR aircraft mishap recovery or BROKEN ARROW, Plot location on grid map in shift office (as required). Location _____			
2	Request 19 MXG/MXOC Maintenance Operations Center (MOC) for recovery equipment and personnel as required. For Example: <ul style="list-style-type: none"> <li>* 15-Ton Crane with operator (19 CES/987-7712, 987-2656)</li> <li>* MC-7 air compressor unit(s) (19 EMS/MXMG Dispatch 987-7917)</li> <li>* 5 or 10 Ton semi-tractor with driver (19 LRS 987-6087)</li> </ul> <b>NOTE:</b> Semi-tractor/driver will report to northeast side of hangar 250 and standby. <ul style="list-style-type: none"> <li>* 40 ft. flatbed trailer with driver (19 LRS/987-6087)</li> <li>* MB-2 tow vehicle/tow bar with driver (Owning Aircraft Maintenance Unit)</li> <li>* Bulldozer (19 CES/987-7712/987-2656)</li> <li>* All terrain Forklift (19 CES 987-7712/987-2656)</li> </ul>			
3	Recall CDDAR Team Members as required. <b>NOTE:</b> if aircraft is within 2000 ft radius of hangar 250 during BROKEN ARROW, ALL personnel and equipment will report to bldg 452 near base supply or alternate location as directed.			
4	Request Qualified 2A7X3 (Structural Maintenance) technician for consultation.			
5	Recovery Team Chief (Recovery 1 call sign) assemble and brief mishap recovery team on: (see attachment 8) <ul style="list-style-type: none"> <li>* Mishap</li> <li>* Safety</li> <li>* Plan of action</li> <li>* Hazards</li> <li>* Roles/Responsibilities</li> </ul>			
6	Recovery Team Chief designates Recovery Team Supervisor (Recovery 2 call sign).			
7	Document recovery team members by name, rank, unit, and duty phone. Provide copy of team members to 19 MXG/MXOC (MOC) FAX 987-6524 and SIB president/Wing Safety at site.			
8	Assemble team/equipment as necessary and proceed to location as required.			
9	Recovery Team Chief check with owning AMU Production Supervisor/aircrew and verify HOT BRAKES <b>NOTE:</b> Clear all nonessential personnel from area within 300 ft radius of aircraft with HOT BRAKES			
10	Coordinate with Fire Department and BEE to safe the area (I.E. depleted uranium, hydrazine, composite materials, spills).			
11	FOR AIRCRAFT WITH MUNITIONS LOADED/TRANSPORTED, upon the direction of the IC Electronic Countermeasure Specialists, ensure munitions systems are in a safe configuration/munitions removal prior to crash recovery operations (if required). 19 EMS/MXMV/987-8150 and 19 AMXS.			
12	Ensure aircraft is grounded prior to ANY maintenance being performed.			
13	Coordinate with ISB/SIB and the owning AMU production Superintendent to collect the CVR and FDR as necessary.			
14	Defuel/purge aircraft fuel tanks as required.			
15	Bleed oxygen containers/lines as required.			
16	Remove all cargo/equipment on aircraft as required.			
17	Remove aircraft batteries as required.			



## Attachment 3

## MAP OF ALL AMERICAN DROP ZONE

Figure A3.1. Map of All American Drop Zone.

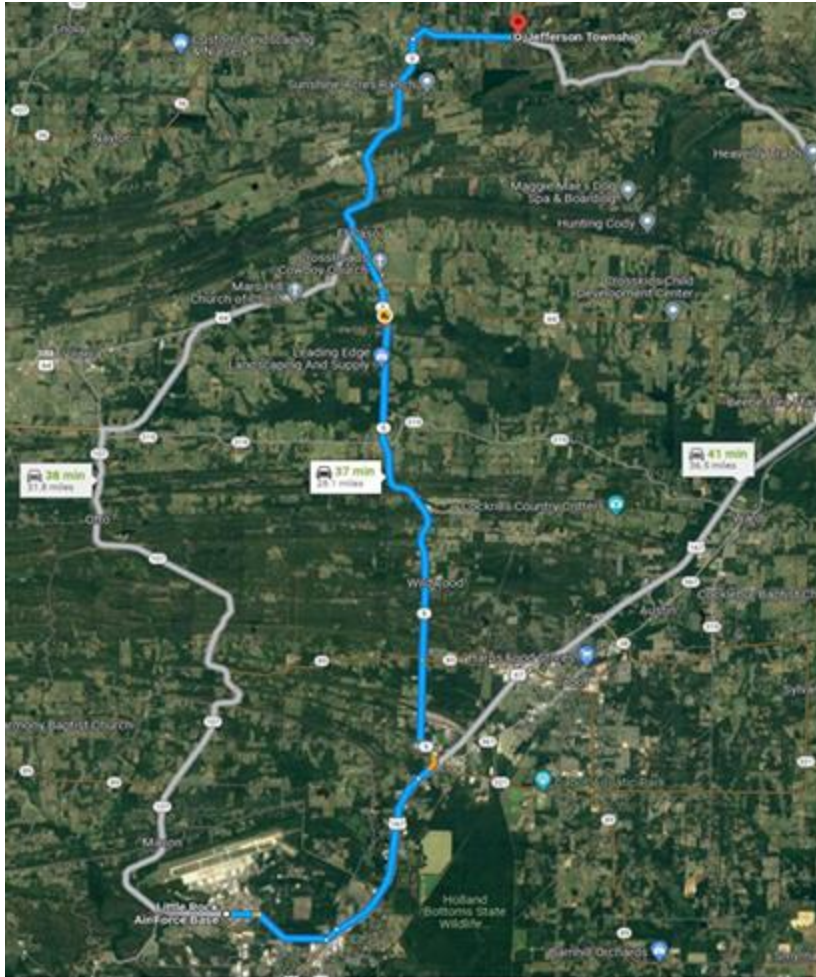
**A3.1. Route to All-American Drop Zone.**

**A3.2. From Little Rock Air Force Base, take Arnold Drive to the back gate and make a right on AR-107 North. Continue driving on AR-107N for 3.2 miles until Jacksonville Conway Rd. There is a CITGO gas station on your left. Make a left onto Jacksonville Conway Rd and drive for 2.2 miles. Make a left onto Batesville Pike Rd and drive for 0.9 miles. Make a right onto Frenchman Mountain Rd and drive for 2.9 miles, where you will be at the gate of Camp Robinson. (This gate is not the main gate for Camp Robinson). With escort, drive 2.2 miles from the gate on Cato Rd. Turn right onto Camp Joseph Robinson for 0.4 miles and then turn right on the 1st cross street to stay on Camp Joseph Robinson. Drive for 0.5 miles. Make a slight left to stay on Camp Joseph Robinson and continue driving for 0.6 miles to reach the All-American Drop Zone area.**

## Attachment 4

## MAP OF BLACKJACK DROP ZONE

Figure A4.1. Map of Blackjack Drop Zone.

**A4.1. Route to Blackjack Drop Zone.**

A4.1.1. Take Vandenberg drive and proceed through the front gate. Drive 0.3 miles and turn left onto John Harden Dr. Make the first right following the light (by fire station) to stay on John Harden Dr. for 4.9 miles. At the light, turn left onto AR-5N and proceed for 18.2 miles. At the light, proceed straight across Highway 64 and continue on AR-5N for 6.5 miles until you see the sign for Red Hill Rd on your right. Make a right onto Red Hill Rd and drive for 2.3 miles. The DZ gate will be on your left. Coordinates are 3.506374, -92.08694.



**Attachment 5****ADDITIONAL SUPPORT REQUIRED (THIS IS NOT AN ALL-INCLUSIVE LIST)**

**A5.1. Additional support required.**

**A5.2. Crane operator qualified on 7.5 ton equipment (as required).**

**A5.3. Aircraft tow vehicle operator (as required).**

**A5.4. One semi-tractor operator to drive CDDAR trailer to mishap site.**

**A5.5. 10K all-terrain forklift operator (as required).**

**A5.6. Complete MDS-specific tow team (as required).**

**A5.7. Complete MDS-specific refuel/defuel team (as required).**

**A5.8. Complete MDS-specific jack team (as required).**

**A5.9. Vehicle, tool and equipment support requirements for CDDAR.**

A5.9.1. General Purpose radio and pintle hook equipped 4x4 six-pack truck. (For use by CDDAR Team)

A5.9.2. Semi-tractor and 40 ft flatbed trailer. (Per Team Chief Request. LRS must ensure constant availability)

A5.9.3. Semi-tractor (Must be constantly available 24 hours)

A5.9.4. Suitable box trailer for storage of CDDAR equipment (Stored at H-250).

A5.9.5. Suitable trailer for storage/transportation of CDDAR equipment not stored in box trailer (On location at Hangar 250).

A5.9.6. Aircraft tow vehicle (as required).

A5.9.7. 10K all terrain forklift (as required).

A5.9.8. 50 ton crane (as required)

A5.9.9. Bulldozer (as required)

A5.9.10. Light carts (3 each)

A5.9.11. Aircraft jacks (complete set of wing/fuselage jacks and 2 axle jacks).

A5.9.12. Tow bars. (As required)

**Attachment 6****KEY PHONE NUMBERS AND WEBSITE REFERENCES****Table A6.1. Key Phone Numbers and Website References.**

Chemical Emergency Preparedness and Prevention Office (214) 665-2243
EPA – Environmental Response Team <a href="http://www.ert.org/">http://www.ert.org/</a>
Environmental Hotline Listings HAZMAT (800) 424-8802
Safety – DOT <a href="http://hazmat.dot.gov/">http://hazmat.dot.gov/</a> (800) 467-4922
HazMat Emergency Preparedness Training and Tools for Responders <a href="https://atsdr.cdc.gov/hazmat-emergency-preparedness.html">https://atsdr.cdc.gov/hazmat-emergency-preparedness.html</a>
HAZMAT Material Information (937) 938-3764
Resource System (HMIRS) <a href="http://www.dlis.dla.mil/hmirs/">http://www.dlis.dla.mil/hmirs/</a> NIOSH Pocket Guide <a href="http://www.cdc.gov/niosh/npg/npg.html">http://www.cdc.gov/niosh/npg/npg.html</a>

## Attachment 7

## CDDAR TEAM CHIEF SAFETY BRIEFING

Figure A7.1. CDDAR Team Chief Safety Briefing.

CDDAR Team Chief Safety Brief

**CDDAR PURPOSE:** To recover crashed/damaged or disabled aircraft in a minimum time period consistent with the following considerations:

1. Requirement to open the runway for operational use.
2. To prevent secondary aircraft damage.
3. Preservation of evidence (to include CVR/FDR data) for mishap or accident investigations
  1. Nothing has higher priority than **SAFETY**
  2. **DO NOT** enter mishap area until authorized by Fire Chief or on scene commander.
  3. Ensure aircraft is grounded.
  4. Have residual fuel and hydraulic fluid leakage washed away as required. (Accomplished by Fire Dept or authorized Haz Mat clean up crew)
  5. Ensure aircraft has been completely defueled and fuel tanks purged IAW applicable Tech Data
  6. Ensure aircraft batteries have been removed
  7. Ensure oxygen containers have been removed; oxygen system bled and purged
  8. Ensure all cargo and equipment are removed from aircraft.
  9. Wear your personal protective equipment
    - A. Ear protection around hazardous noise (heavy equip., power units...etc)
    - B. Hard hat, gloves, eye protection, aprons, coveralls during recovery procedures as required based on conditions. (batteries, fuel, lox, sharp objects overhead hoists and lifting devices, drilling/cutting...etc)
    - C. Steel toed boots
  10. Stay out from underneath the wings and engines unless absolutely necessary.
    - A. Use ropes or other means to move air bags.
    - B. Do not step over the air hose once it's attached to the airbags or pressurized with air unless absolutely necessary.
  11. J-model C-130 aircraft...**be aware** of composite material hazards and certain J-Models may have depleted uranium in the rudder/elevator counter balance. The scene will be made safe by Little Rock Fire Dept, EOD, and Bio Environmental prior to entering the area. Do not handle untreated composite material or suspected parts that are depleted uranium; mark and notify Little Rock Fire Dept and Bio Environmental for proper handling procedures. For **FIGHTER AIRCRAFT**...Hydrazine hazards exist... If these hazards are noticed stop recovery operation and notify recovery chief, Bio, and fire department IMMEDIATELY.
  12. No recovery actions will take place without coordination through Recovery 1 and the on scene commander.
  13. Watch out for each other, drink plenty of water and take a break if you need one.
  14. If any situation should occur that has not been briefed use ORM and bring it to the attention of the team lead.

**NOTE:** Communication and attention to detail is the key to a successful recovery operation