

**BY ORDER OF THE COMMANDER
ELLSWORTH AIR FORCE BASE**

**ELLSWORTH AIR FORCE BASE
INSTRUCTION 21-102**



22 JULY 2022

Maintenance

**CRASHED DAMAGED AND DISABLED
AIRCRAFT RECOVERY (CDDAR)
PROGRAM**

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 is used in conjunction with Department of the Air Force Instruction (DAFI) 21-101, *Aircraft and Equipment Maintenance Management*; Air Force Instruction (AFI) 21-103, *Equipment Inventory, Status and Utilization Reporting*; Technical Order (TO) 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information*; AFI 48-137, *Respiratory Protection Program*; DAFMAN 91-203, *Air Force Consolidated Occupational Safety Instruction*; AFI 32-2001, *Fire Emergency Services Program*; TO 4B-1-1, *Use of Landing Wheel Brakes and Wheels During Ground Operations*, applicable aircraft specific Dash 2 and Dash 3 series T.O.s, and TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. It establishes responsibilities and procedures for recovery of crashed and disabled aircraft. This instruction applies to maintenance activities within the 28th Bomb Wing (28 BW). 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. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFI 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

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1. CDDAR Responsibilities. The organizations listed below are assigned the following responsibilities during a CDDAR response, as required. (**WARNING:** Prior to any crash recovery operation, ensure that it is safe to approach the aircraft. Ensure all explosives, ejection seats, cartridges and flares are de-armed, expended, or proclaimed safe by the fire department and (or) Explosive Ordnance Disposal (EOD). Also, ensure all hazardous material situations are secured prior to starting any crash recovery operation.)

1.1. 28 BW Responsibilities.

1.1.1. 28 Bomb Wing Command Post (28 BW/CP).

1.1.1.1. Notify the 28th Bomb Wing Vice Commander and all acting group commanders. The 28 BW/CP will activate the Crisis Action Team (CAT) and/or Emergency Operations Center (EOC) recall, as directed by the 28th Bomb Wing Commander. Prepare and submit accurate and timely OPREP-3 reporting IAW AFMAN 10-206, *Operational Reporting*.

1.1.1.2. Maintain command and control of 28 BW responding assets through coordination with the Incident Commander (IC) and the EOC.

1.1.1.2.1. The IC is designated IAW with the qualifications listed in AFI 10-2501, *Air Force Emergency Management Program*.

1.1.2. The 28th Bomb Wing Public Affairs (28 BW/PA) will stand up and effectively operate a Media Operations Center.

1.1.2.1. If situation warrants, ensure MAJCOM/PA involvement and stand up a Joint Information Center.

1.1.3. 28th Bomb Wing Safety Office (28 BW/SE) will initiate safety and aircraft investigation requirements IAW DAFI 91-204, *Safety Investigations and Reports* and will coordinate with the IC and CDDAR Team Chief during the recovery operation.

1.2. 28th Operations Group (28 OG).

1.2.1. 28th Operations Support Squadron (28 OG/OSS):

1.2.1.1. 28th Operations Support Squadron Airfield Operations Flight (28 OSS/OSA) shall:

1.2.1.1.1. Airfield Management (AM Ops) will notify the 28th BW/CP, 28th Maintenance Group Maintenance Operations Center (28 MXG/MOC), 28th Security Forces Squadron (28 SFS), Emergency Management, EOD, and 28 BW/SE via the Secondary Crash Net (SCN) that an incident has occurred that requires a CDDAR response. AM Ops will also publish an applicable "Notice to Airmen" (NOTAM.)

1.2.1.1.2. Air Traffic Control Tower: Will notify all aircraft within the airfield vicinity of applicable restrictions to flight operations. Tower will also update Automatic Terminal Information Service (ATIS)

1.3. 28th Maintenance Group (28 MXG).

1.3.1. The 28th Maintenance Group Commander (28 MXG/CC) is responsible for the Base Crash Recovery Program and ensures a support plan is developed which establishes unit crash recovery capabilities. Provides personnel required for CDDAR operations.

1.3.1.1. The number of personnel required for a crash recovery operation depends upon a multitude of variables (i.e. aircraft type/design, degree of impact, etc.). Each recovery operation has its own unique requirements.

1.3.1.2. Key positions within the crash recovery team are the IC, the CDDAR Team Chief and the CDDAR Team Members.

1.3.2. The 28 MXG/MOC shall:

1.3.2.1. Initiate a recall per applicable Emergency Action Checklist.

1.3.2.2. Provide the CDDAR team with all available information such as: aircraft type, location, fuel load, and munitions configuration.

1.3.2.3. The CDDAR Team Chief will notify 28th Logistic Readiness Squadron Vehicle Dispatch Section (28 LRS/LGRDDO) and inform them of any vehicle/support requirements.

1.3.3. Equipment and materials listed in this regulation should be on hand or requisitioned from outside sources to expedite aircraft recovery operations.

1.3.4. Recovery operations will not proceed while an aircraft is being investigated by a safety/aircraft investigating board unless released by the board president in accordance with DAFI 91-204. Personnel not engaged in the investigation will remain outside of the area. The CDDAR team may be called upon to perform tasks as required by the investigation board.

1.3.5. All units should accomplish requirements of AFMAN 10-2502, *Air Force Incident Management System Standards and Procedures* and keep procedures in place until no longer required as determined by IC and CDDAR Team Chief. Requirements may need to be in place from a few hours to several weeks depending on the situation.

1.3.6. 28th Maintenance Squadron (28 MXS):

1.3.6.1. 28th Maintenance Squadron Maintenance Flight (28 MXS/MXMM). The 28 MXS/MXMM is responsible for the recovery of crashed, damaged, or disabled aircraft on or off base within the Ellsworth Air Force Base (EAFB) area of responsibility.

1.3.6.2. 28th Maintenance Squadron Repair and Reclamation (28MXS/MXMMR) Section will ensure compliance with CDDAR program responsibilities. The Noncommissioned Officer in Charge of 28th Maintenance Squadron Repair and Reclamation (28 MXS/MXMMR) Section or appointed designee will serve as the CDDAR Team Chief. See [Attachment 2](#) for the necessary team chief training requirements.

1.3.6.2.1. Personnel required for CDDAR team: one team chief and seven team members from 28 MXS/MXMMR. Various other members as determined to be necessary by the IC. See **Attachment 3** for the necessary team member training requirements.

1.3.6.3. 28th Maintenance Squadron Aerospace Ground Equipment Flight will provide the Aerospace Ground Equipment (AGE) listed in **Paragraph 2.5**, as required.

1.3.6.3.1. Provide a 28th Maintenance Aerospace Ground Equipment (28 MXS/MXMG) technician to maintain and operate powered AGE during recovery operations.

1.3.6.4. 28th Maintenance Squadron Egress Section (28 MXS/MXMCG) will provide fully-qualified 28 MXS/MXMCG technicians to safe aircraft egress components when requested by CDDAR Team Chief.

1.3.7. 28th Aircraft Maintenance Squadron shall:

1.3.7.1. The owning Aircraft Maintenance Unit (AMU) of the mishap aircraft shall be responsible for supplying maintenance personnel to assist in recovery operations. If there is a question of applicability, the owning AMU's Production Superintendent shall work closely with the CDDAR Team Chief to resolve any issues. The CDDAR Team Chief shall make the final decision.

1.3.7.2. Provide towing equipment and operators for removing assigned and transient disabled/crashed aircraft from the runway as directed by the IC and CDDAR Team Chief.

1.3.7.3. 28th Aircraft Maintenance Squadron Specialist Element will provide specialists for removal/recovery of aircraft engines as directed by the IC and CDDAR Team Chief.

1.3.7.4. 28th Aircraft Maintenance Squadron Weapons Element will safe and/or download munitions from the mishap aircraft as directed by the IC and CDDAR Team Chief. If required, 28 MXG/MOC will request EOD support from EAFB.

1.3.7.5. 28th Aircraft Maintenance Squadron Avionics Element will remove and secure all classified components from the mishap aircraft as directed by the IC and CDDAR Team Chief.

1.4. 28th Mission Support Group:

1.4.1. 28 SFS Shall:

1.4.1.1. The 28 SFS Base Defense Operation Center shall ensure the timely dissemination of pertinent information to the appropriate agencies and post/patrols, as well as provide command and control over the responding posts/patrols IAW DAFI 31-101, *Integrated Defense (ID)*.

1.4.1.2. Ensure the expedient set-up and maintenance of security at the scene by initial responding patrols and Traffic Control Points (TCP).

1.4.1.3. If the aircraft lands off base, establish TCP with local law enforcement.

- 1.4.1.4. The IC shall direct the establishment of the National Defense Area (NDA). The senior Security Forces on-site shall begin erecting the physical boundary for the NDA.
- 1.4.1.5. Effectively control crowds during a major accident response and controlling access to the recovery site via the personnel access list obtained from the IC and CDDAR Team Chief.
- 1.4.1.6. Immediately challenge, restrain, and escort out of the area any person that steps into the NDA.
- 1.4.1.7. If civilian, hand over to the local law enforcement agency. If military, transport to EAFB for processing.
- 1.4.2. 28th Civil Engineer Squadron (28 CES) shall:**
- 1.4.2.1. 28 CES/CEF performs IC duties until relieved by ROC (Recovery Operations Chief) per Standard Operating procedures (SOP) and incident Command checklists using Air Force Incident Management System (AFIMS) terminology.
- 1.4.2.2. IC shall request agencies and response forces from the EOC as necessary to provide for safety, incident stabilization, and property conservation.
- 1.4.2.3. 28 CES/CEF shall provide a standby vehicle for the duration of the removal operation.
- 1.4.2.4. The EOD Team Chief will assess collateral damage and direct the use and performance of EOD incident/tool procedures by EOD team members.
- 1.4.2.5. 28th Civil Engineer Squadron will provide supplies, equipment, and operators to build a stable jacking foundation and/or adequate towing surface for tow vehicles and aircraft (i.e. rapid runway).
- 1.4.2.6. 28th Civil Engineer Squadron Programs Flight will assess soil condition to include firmness, condition, slope of terrain, and supporting strength to determine the most practical method of lifting or towing.
- 1.4.3. 28th Logistics Readiness Squadron (28 LRS) shall:**
- 1.4.3.1. 28th Logistics Readiness Squadron Vehicle Management Flight (28 LRS/LGRV) shall ensure the vehicles listed in **paragraph 2.7** maintain mission essential levels (MELs) and are available to the using organizations.
- 1.4.3.2. If any other vehicles are required by the IC, the IC will request those vehicles through the EOC. If the 28 LRS/LGRV cannot provide the required vehicles and operators, they will be leased from local suppliers. Lease agreements will be established for the two 60 ton cranes and crane operators.
- 1.4.3.3. If required, provide a 28th Logistics Readiness Squadron Fuels Management (28 LRS/LGRF) Laboratory technician to test fuel samples from the mishap aircraft.

1.5. 28th Medical Group:

1.5.1. The 28th Operational Medical Readiness Squadron Bioenvironmental Engineering Flight (28 OMRS/SGXB) Shall:

1.5.1.1. Be consulted and directly involved in determining personnel health hazards, training requirements and appropriate levels of Personnel Protective Equipment (PPE). Examples of required PPE may include (but are not limited to) Tyvek suits, puncture resistant leather gloves, and respirators with filters.

1.6. Transient Aircraft.

1.6.1. Because the 28 BW is used as a transit by aircraft from various branches of the DoD and Strategic Arms Reduction Treaty inspection teams it may be tasked for CDDAR response (in whole or in part) following an incident/accident involving a host of different aircraft types. In such cases, the responsibilities of the IC and base emergency response agencies are unchanged, but the situation may require outside agency expertise to ensure overall safety of personnel and equipment. All base agencies will perform only those duties that they are trained and equipped for. Any assistance provided outside the scope of the normal response requires that the owning base/organization be contacted to gain appropriate work force, information, training, equipment, and /or clearance before actions can take place. CDDAR support for transient aircraft will be evaluated by aircraft Mission Design Series (MDS), considering technical expertise, technical data, MDS-unique tools/special equipment, and airframe/system familiarization; support will be provided if possible. Support is not authorized for Geographically Separated Units.

1.7. Host and Tenant Base CDDAR responsibilities.

1.7.1. Host/Tenant Base CDDAR responsibilities will be referenced through EAFB Installation Emergency Management Plan (IEMP) 10-2.

1.7.2. A comprehensive list of available assets will be maintained and made available to the host base for utilization at all times.

1.7.3. Technical expertise, technical data, MDS-unique tools/special equipment, airframe/system familiarization will be made available to the host base.

1.7.4. The CDDAR Team Chief will conduct periodic CDDAR response exercises to maintain current training and knowledge for all team members.

2. Equipment, Tools, Vehicles And Other/Supplies.

2.1. **CDDAR equipment, vehicles, tools, and other supplies.** Additional equipment, vehicles, tools, and other supplies/consumables requested by the CDDAR Team Chief, or appointed designee, will be assembled in the area immediately in front of Dock 72 or designated assembly area.

2.2. Equipment Inspections. Inspect all recovery equipment for serviceability before and after each exercise and real world use. Periodic equipment inspections must be accomplished IAW intervals established in TOs or as a minimum annually. Document inspections and maintenance on Air Force Technical Order (AFTO) Forms 244, Industrial/Support Equipment Record and in Tool Accountability System (TAS) as required. Proper Integrated Maintenance Data System (IMDS) Job Control Number shall be utilized for each equipment inspection. Ensure sling/cable inspections are documented on each AFTO Form 95, Significant Historical Data, and proof load test documentation remains on hand. Ensure that all pieces of equipment are tagged with a DD Form 1574, Serviceable Tag-Material (yellow serviceable tag) indicating pre-use and post use inspections.

2.3. Storage. The CDDAR Team Chief will ensure weather proof storage for equipment, tools, composite containment equipment and other supplies is provided to ensure equipment serviceability and accessibility.

2.4. PPE. A current list of PPE required to perform recovery of an aircraft containing composite/ hazardous material as established by technical data will be maintained by the CDDAR Team Chief and are specified in [Paragraph 5.6.3](#).

2.5. 28 MXS/MXMG will provide the following equipment for 24 hour operations:.

- 2.5.1. Flood light trailer mounted, FL-1D (4 ea).
- 2.5.2. Compressor, rotary, air diesel engine driven, MC-2A.
- 2.5.3. Compressor, air, diesel engine driven, MC-7 (4 ea).
- 2.5.4. Dolly, disable wheel, 32,000 lbs.
- 2.5.5. Aircraft Tow Bar.
- 2.5.6. Aircraft jacks

2.6. 28 MXS/MXMM will provide the following equipment for 24 hour operations:.

- 2.6.1. Suitable CDDAR trailer, (storage and transportation of recovery equipment).
- 2.6.2. Pneumatic air bags to include pneumatic hoses and operation console.
- 2.6.3. Recovery slings, snatch cables, debog slings, chains, shackles, PPE, miscellaneous tools, safety cones, felt padding, rope, barrel dolly, shovels, pry bars, block and tackle, etc.
- 2.6.4. Duct Tape, (Consumable).
- 2.6.5. Fixant Material, (Consumable).
- 2.6.6. 0.006 inch thick plastic, (Consumable).
- 2.6.7. Fixant Spray Bottle, (Consumable).
- 2.6.8. Any other equipment required by the 28 MXS/MXMMR Industrial Hygiene Survey.

2.6.9. The Team Chief shall ensure adequate tools and support equipment for recovery are serviceable and available. The team chief shall also maintain a list of all CDDAR tools and equipment. Reference Master Consolidated Tool Kit (CTK) Inventory folder for most current Master Inventory List (MIL).

2.6.10. Team chief shall inform the 28 MXG/CC in writing of equipment shortages/serviceability that precludes CDDAR support. The MXG/CC shall also be informed in writing of equipment storage shortfalls

2.7. 28 LRS Vehicle/Equipment Support. The following equipment will be provided/contracted for and operate by 28 LRS/LGRV and operated by designated unit. Equipment will be available 24 hours a day during CDDAR recovery operations. If they cannot provide the items or vehicle operator, leasing will be recommended option.

2.7.1. Crane, 2ea 60K and 1ea 15K (Special Vehicle).

2.7.2. 8-Passenger van.

2.7.3. 29-Passenger bus (Special Vehicle).

2.7.4. 1 ton 4x4 6 pack able to pull CDDAR equipment trailer.

2.7.5. 10K All-terrain forklift.

2.7.6. Bulldozer, 3ea 60K or 2ea 90K draw bar pull rating (Special vehicle and operator required).

2.7.7. Defuel truck

2.7.8. 40-Foot flatbed trailer with tractor and driver (Special Vehicle).

2.8. 28th Aircraft Maintenance Squadron (28 AMXS). The following equipment will be provided 28AMXS shall provide:

2.8.1. MB2 Aircraft Tow Vehicle.

2.9. 28th Civil Engineering Squadron (28 CES). The following equipment will be provided/contracted for by 28 CES.

2.9.1. 100 sandbags; sufficient sand must be available to fill sandbags (Consumable).

2.9.2. 75 A/N 2 portable runway matting sheets (Consumable).

2.9.3. 300 timbers, railroad ties 6" x 8" x 8" (Consumable).

2.9.4. Two water pumps, or sumps, capable of 50 to 100 gallons per minute to drain ditches/evacuation area where aircraft jacks/air bags are placed.

2.9.5. Front-end Loader, 2 each

3. CDDAR Support For Deployed Operations.

3.1. CDDAR support for deployed operations will vary. Requirement for each operation will be evaluated by the 28 MXG/CC and CDDAR Team Chief. Assets available at the deployed location will be taken into consideration and utilized when feasible.

3.2. 28 MXG/CC is responsible for ensuring sufficient equipment is available for mobility/deployed operations, as authorized in the applicable allowance standards.

4. Support For CDDAR Core Hours/After Hours.

4.1. CDDAR support during flying hours will require immediate response by all CDDAR team members. 28 MXG/MOC will initiate the recall roster by notifying the on-duty 28 MXS Super. This process will begin the recall by notifying the appropriate 28 MXG personnel and CDDAR Team Chief.

4.2. When an afterhours CDDAR recovery crew is required, 28 BW/CP will contact personnel through the Emergency Notification List. They will then notify the stand-by 28 MXS Super. The 28 MXS Super will continue with the recall roster.

4.2.1. An emergency recall roster will be kept by the CDDAR Team. If required, the 28 BW/CP will provide emergency contact information to the CDDAR Team Chief.

4.2.2. Team members will notify the CDDAR Team Chief when their contact information changes to ensure continuity of the recall roster.

5. CDDAR Team Chief Responsibilities.

5.1. 28 MXG/CC will utilize the 28 MXS/MXMMR Section CDDAR Team Chief to establish a CDDAR program and will be the Point Of Contact for the wing CDDAR instruction.

5.2. Team chief will work closely with the 28th MXG Training section to establish course control documents for crash recovery training.

5.3. Team chief along with the 28 MXS/MXMM supervision will review support agreements and base disaster response plans annually.

5.4. Team chief will ensure that CDDAR procedures are coordinated with the 28 CES/CEF, 28 BW/SE, 28 CES, EOD, 28 SFS, 28 MDOS/SGPB, 28th Operation Support Squadron Airfield Manager (28 OSS/OSAA), and on/off base agencies. Reference AFMAN 10-2502 and EAFB IEMP 10-2.

5.4.1. Team chief will maintain control of the crash site under the supervision of the IC once the Safety/Accident Investigation Board President releases the aircraft.

5.4.1.1. Place CDDAR team personnel on the recovery site personnel access list. Personnel requiring access to the recovery site will coordinate their need to access the area with the IC and provide the required information for the access list.

5.4.2. Team chief will meet with the IC to develop a recovery plan. The team chief will carry out the recovery plan under the direction of IC.

5.4.3. Team chief will request assistance for transient aircraft beyond our capabilities from the aircraft owning unit through the IC.

5.5. Team chief will inform the 28 MXG/CC in writing of equipment shortages/serviceability that precludes CDDAR support. The MXG/CC will also be informed in writing of equipment storage shortfalls.

5.6. Team Chief will ensure sufficient personnel/teams are trained to support CDDAR operations. This includes:

5.6.1. Team chief will be certified IAW DAFI 21-101 and placed on the Special Certification Roster (SCR) as CDDAR Team Chief.

5.6.2. Familiarization with/training on any unique characteristics/hazards/material for assigned aircraft (i.e., B-1 aircraft composite material, hot brakes, hot gun, munitions, etc.) and document training in the Training Business Area (TBA).

5.6.3. Proper use of PPE as determined by technical data. Reference TO 00-105E-9, Aerospace Emergency Rescue and Mishap Response Information (Emergency Services).

5.6.3.1. Long Cuffed Leather Gloves, (Consumable).

5.6.3.2. Hard Sole Steel Toe Boots.

5.6.3.3. Eye Protection.

5.6.3.4. Hard Hat with Ear Muffs.

5.6.3.5. Other equipment as required/requested by the CDDAR Team Chief.

5.6.4. Trained/qualified/certified on all support equipment. Ensure qualifications for personnel are identified and documented. Core Tasks for CDDAR team members are identified in [paragraph 6.1.1. through paragraph 6.1.5.13.](#)

5.6.5. The team chief will ensure the CDDAR team participates in an annual Major Accident Response Exercise (MARE) as outlined in AFI 10-2501. CDDAR procedures will be coordinated annually as a minimum with host base units. Participating in and organizing a MARE will ensure communication between 28 CES/CEF, 28 BW/SE, 28 CES, EOD, 28 SFS, 28 MDOS/SGPB, 28 OSS/OSAA, and on/ off base agencies.

5.6.6. The Team Chief will ensure adequate tools and support equipment for recovery are serviceable and available. The team chief will also maintain a list of all CDDAR tools and equipment. Reference Master CTK Inventory folder for most current CDDAR MIL.

5.6.7. The Team Chief will coordinate with 28th Bomb Wing Quality Assurance weight and balance manager when aircraft weight and center of gravity (CG) conditions are unknown.

6. CDDAR Team Member Qualifications.

6.1. All team members will be trained in recovery procedures according to the course control documents and unit-developed-training guide (28 BW CDDAR Program, CDDAR Lesson Plan), with special emphasis placed on equipment operation and Core Tasks. These documents and training guide will be established by the team chief and Maintenance Training Flight. Reference 28 BW CDDAR course control document and 28 CDDAR training guide located in the 28 MXS/MXMMR Section master training plan, TBA.

6.1.1. All team members will be a minimum 5-level in their primary Air Force Specialty Code (AFSC).

6.1.2. Team members will receive initial training (academic and hands-on) and ensure that all training is documented in the TBA and IMDS.

6.1.3. Team members should lift an aircraft (when possible) to complete initial training requirements.

6.1.4. All team members should participate in an aircraft lift exercise once every three years and ensure all training is documented.

6.1.5. All team members will receive annual training following initial training consisting of academic and hands-on. All training will be documented in TBA and IMDS.

6.1.5.1. Shackles, block and tackle, chains etc.

6.1.5.2. Pneumatic console and lifting bag hoses.

6.1.5.3. Proper use of felt pad.

6.1.5.4. Proper alignment of bags under aircraft.

6.1.5.5. Proper use of bag dunnage.

6.1.5.6. Various techniques.

6.1.5.7. MLG strut emergency towing with towlines.

6.1.5.8. Emergency towing with disabled wheel dolly, (installation, usage, and removal).

6.1.5.9. Tug drivers documented on SCR.

6.1.5.10. Training must be tracked on SCR.

6.1.5.11. Flood light, FL-1D.

6.1.5.12. Compressor, rotary, MC-2A.

6.1.5.13. Compressor, air, MC-7.

7. Duties of the CDDAR Team.

7.1. Once alerted, the CDDAR team will assemble at Dock 72 or designated assembly area. The CDDAR team chief will, at that time, ensure radio communications are established with the 28 MXG/MOC.

7.2. Once assembled and ready the CDDAR Team Chief will notify the 28 MXG/MOC, and determine the number of personnel and what specialties are needed.

7.3. When clearance is needed to operate on, or to cross, an active runway the 28 MXG/MOC will query the Supervisor of Flying for appropriate clearances. The CDDAR team and associated equipment operators will remain clear of all runways until appropriate clearances have been given.

7.4. The IC or ROC will release the aircraft for maintenance, when aircraft is safe for the recovery team to approach. Once all fires have been extinguished only the minimum safe-ing switches (ejection seats, weapons panels) should be safed. All actions need to be documented to preserve evidence. The Safety Board President or Accident Board President will release the aircraft to the IC who will then allow the CDDAR team to render any further any aircraft safing procedures if required.

7.5. When the aircraft has departed the runway area, if possible, tow the aircraft back onto the runway/taxiway, exercising caution with regard to power setting of the tow vehicle.

JOSEPH L. SHEFFIELD, Colonel, USAF
Commander

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

AFI 10-2501, *Air Force Emergency Management Program*, 10 Mar 2020
AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, 29 Apr 2020
AFI 32-2001, *Fire and Emergency Services (F&ES) Program*, 27 Sep 2018
AFI 33-322, *Records Management and Information Governance Program*, 27 Jul 2021
AFI 48-137, *Respiratory Protection Program*, 11 Sep 2018
AFMAN 10-206, *Operational Reporting*, 31 Aug 2020
AFMAN 10-2502, *Air Force Incident Management System (AFIMS) Standards and Procedures*, 13 Sep 2018
AFPD 21-1, *Maintenance of Military Material*, 31 Jul 2018
DAFI 21-101, *Aircraft and Equipment Maintenance Management*, 15 Jan 2020
DAFI 31-101, *Integrated Defense (ID)*, 24 Mar 2020
DAFI 91-204, *Safety Investigations and Reports*, 9 Mar 2021
DAFMAN 91-203, *Aircraft Flight Line-Ground Operations and Activities*, 10 Dec 2018

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*
AFTO Forms 244, *Industrial/Support Equipment Record*
AFTO IMT 95, *Significant Historical Data*
DD Form 1574, *Serviceable Tag-Material*

Abbreviations and Acronyms

28 AMXS—Aircraft Maintenance Squadron
28 BW—28th Bomb Wing
28 BW/CP—28th Bomb Wing Command Post
28 BW/PA—28th Bomb Wing Public Affairs
28 BW/SE—28th Bomb Wing Safety Office
28 CES—28th Civil Engineer Squadron
28 CES/CEF—28th Civil Engineer Squadron Fire and Emergency Services

28 LRS—28 Logistic Readiness Squadron
28 LRS/LGRDDO—28th Logistic Readiness Squadron Vehicle Dispatch Section
28 LRS/LGRF—28th Logistics Readiness Squadron Fuels Management
28 LRS/LGRV—28th Logistics Readiness Squadron Vehicle Management Flight
28 MDOS/SGPB—28th Medical Operations Squadron Bioenvironmental Engineering
28 MXG—28th Maintenance Group
28 MXG/CC—28th Maintenance Group Commander
28 MXG/MOC—28th Maintenance Group Maintenance Operations Center
28 MXS—28 Maintenance Squadron
28 MXS/MXMCG—28th Maintenance Squadron Egress Section
28 MXS/MXMG—28th Maintenance Aerospace Ground Equipment
28 MXS/MXMM—28th Maintenance Squadron Maintenance Flight
28 MXS/MXMMR—28th Maintenance Squadron Repair and Reclamation
28 OG—28th Operations Group
28 OG/OSS—28th Operations Support Squadron
28 OSS—28th Operations Support Squadron
28 OSS/OSA—28th Operations Support Airfield Operations Flight
28 OSS/OSAA—28th Operation Support Squadron Airfield Manager
28 SFS—28th Security Forces Squadron
AFI—Air Force Instruction
AFIMS—Air Force Incident Management System
AFPD—Air Force Policy Directive
AFRIMS—Air Force Records Information Management System
AFSC—Air Force Specialty Code
AFTO—Air Force Technical Order
AGE—Aerospace Ground Equipment
AM Ops—Airfield Management
AMU—Aircraft Maintenance Unit
ATIS—Automatic Terminal Information Service
CAT—Crisis Action Team
CDDAR—Crashed Damaged Disabled Air craft Recovery
CG—Center of Gravity

CTK—Consolidated Took Kit
DAFI—Department of the Air Force Instruction
EAFB—Ellsworth Air Force Base
EOC—Emergency Operations Center
EOD—Explosive Ordnance Disposal
IAW—In Accordance With
IC—Incident Commander
IEMP—Installation Emergency Management Plan
IMDS—Intermediate Maintenance Data System
MARE—Major Accident Response Exercise
MDS—Mission Design Series
MELs—Mission Essential Levels
MIL—Master Inventory List
NDA—National Defense Area
NOTAM—Notice to Airmen
OPR—Office of Primary Responsibility
PPE—Personnel Protective Equipment
RDS—Records Disposition Schedule
ROC—Recovery Operations Chief
SCN—Secondary Crash Net
SCR—Special Certification Roster
SOP—Standard Operating Procedures
TAS—Tool Accountability System
TBA—Training Business Area
TCP—Traffic Control Points
TO—Technical Order

Attachment 2

CDDAR TEAM CHIEF TRAINING

Figure A2.1. Team Chief Training.

CFETP - 2A5X1 AND 2A5X4-000 - 011.009	Crash recovery TR: TOs GE07/2AAKP-502, 1B-1B-2-07GS-00-1
WJQS - 54935 - 025.001	Crash Recovery Operation-TEAM MEMBER TR: Crash Recovery Lesson Plan
WJQS - 54935 - 025.002	Crash Recovery Operation-TEAM LEADER TR: Crash Recovery Lesson Plan
WJQS - 54935 - 025.003	Crash Recovery Safety, Warnings, Cautions, and Hazards TR: 07-00-01, 00-105E-9, and AFMAN 10-2502
WJQS - 54935 - 025.004	Crash Recovery Air Bag Pre-use Inspection and Operation TR: 35D-5-3-11
WJQS - 54935 - 025.005	Crash Recovery Air Manifold-Operation TR: Local Checklist Procedures & Factory Manual
WJQS - 54935 - 025.006	Crash Recovery Block, Tackle, and Grip hoist-Operation TR: Local Checklist Procedures & Factory Manual
WJQS - 54935 - 025.008	Crash Recovery MC-7 Compressor-Operation TR: 34Y1-244-4
CFETP - 2A5X1 AND 2A5X4-000 - 011.004	Safe aircraft for maintenance TR: TO 1B-1B-2-05JG-20-1
CFETP - 2A5X4-008 - 001.005.004.001	Jacking team member
CFETP - 2A5X4-008 - 001.005.004.002	Jacking supervisor
CFETP - 2A5X4-008 - 001.005.004.003	Operate jacking manifold

Attachment 3

CDDAR TEAM MEMBER TRAINING

Figure A3.1. Team Member Training.

WJQS - 54935 - 025.001	Crash Recovery Operation-TEAM MEMBER TR: Crash Recovery Lesson Plan
WJQS - 54935 - 025.003	Crash Recovery Safety, Warnings, Cautions, and Hazards TR: 07-00-01, 00-105E-9 and AFMAN 10-2502
WJQS - 54935 - 025.004	Crash Recovery Air Bag Pre-use Inspection and Operation TR: 35D-5-3-11
WJQS - 54935 - 025.005	Crash Recovery Air Manifold-Operation TR: Local Checklist Procedures & Factory Manual
WJQS - 54935 - 025.006	Crash Recovery Block, Tackle, and Grip hoist-Operation TR: Local Checklist Procedures & Factory Manual
WJQS - 54935 - 025.008	Crash Recovery MC-7 Compressor-Operation TR: 34Y1-244-4
CFETP - 2A5X1 AND 2A5X4-000 - 011.009	Crash recovery TR: TOs GE07/2AAKP- 502, 1B-1B-2-07GS-00-1
CFETP - 2A5X1 AND 2A5X4-000 - 011.004	Safe aircraft for maintenance TR: TO 1B-1B-2-05JG-20-1
CFETP - 2A5X4-008 - 001.005.004.001	Jacking team member
CFETP - 2A5X4-008 - 001.005.004.003	Operate jacking manifold

Attachment 4

AUGMENTEE CDDAR TEAM MEMBER TRAINING

Figure A4.1. Augmentee Team Member Training.

CFETP - 2A5X1 AND 2A5X4-000 - 011.004	Safe aircraft for maintenance
CFETP – 2A5X4 – 008-001.005.003.001	Wing/tail walker
CFETP – 2A5X4 – 008-001.005.003.003	Brake operator
CFETP – 2A5X4 – 008-001.005.003.004	Tow team supervisor
CFETP - 2A5X4-008 - 001.005.004.001	Jacking team member
CFETP - 2A5X1 AND 2A5X4-000 - 011.009	Crash recovery TR: TOs GE07/2AAKP-502, 1B-1B-2-07GS-00-1
CFETP - 2A5X1 AND 2A5X4-000 - 011.004	Safe aircraft for maintenance TR: TO 1B-1B-2-05JG-20-1
WJQS - 54935 - 025.001	Crash Recovery Operation-TEAM MEMBER TR: Crash Recovery Lesson Plan
WJQS - 54935 - 025.003	Crash Recovery Safety, Warnings, Cautions, and Hazards TR: 07-00-01, 00-105E-9, and AFMAN 10-2502
WJQS - 54935 - 025.004	Crash Recovery Air Bag Pre-use Inspection and Operation TR: 35D-5-3-11
WJQS - 54935 - 025.005	Crash Recovery Air Manifold-Operation TR: Local Checklist Procedures & Factory Manual
WJQS - 54935 - 025.006	Crash Recovery Block, Tackle, and Grip hoist-Operation TR: Local Checklist Procedures and Factory Manual
WJQS - 54935 - 025.008	Crash Recovery MC-7 Compressor-Operation TR: 34Y1-244-4