BY ORDER OF THE COMMANDER
436TH AIRLIFT WING (AMC)

DOVER AIR FORCE BASE
INSTRUCTION

21-106

31 JULY 2024

Maintenance

CRASH, DAMAGE, DISABLED AIRCRAFT RECOVERY (CDDAR)

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements DAFI 21-101 AMC Sup, *Aircraft and Equipment Maintenance Management,* TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual,* IEMP 10-2, *Installation Emergency Management Plan, and OPLAN 91-2*, *Military Mishap Response & Investigation Plan.* This instruction outlines policy and establishes responsibility and procedural guidelines to support an effective Crash Recovery Program and is applicable to all active, reserve, and tenant units assigned to Dover Air Force Base (AFB). Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

This instruction has been substantially revised and must be completely reviewed. Major changes include: Inclusion of AFI 48-137 *Respiratory Protection Program*. Removed the need for Vehicle Operations to provide a CDDAR response vehicle. Current references and supporting documents. Training tracking using My Learning or local process. MXG has been updated to MGG(P).

1. CDDAR PROGRAM

1.1. Personnel Positions.

1.1.1. Repair and Reclamation will assign a sufficient number of personnel to the CDDAR team. There will be a minimum of 10 personnel assigned at all times to effectively fill all required positions IAW Technical Order (TO) 00-80C-1, *Crash, Damaged, Disabled Aircraft Recovery Manual.* The team chief will be the subject matter expert in recovery operations and assign team members and augments responsibilities throughout the recovery operation. Team chief training consist of a formal team chief course as well as a requirement to conduct an aircraft lift once every three years. Both of these must be completed and documented for initial and current team chief qualifications. CDDAR team members must complete an initial CDDAR training course. CDDAR team chiefs will conduct local training annually that addresses equipment familiarization, lifting bag operation, and aircraft related lifts or movements.

1.1.2. Personnel from other aircraft specialties will be utilized as augmentees to the team as determined by the CDDAR Team Chief in relation to the nature of the incident. These augmentees will be provided by 436 MXS/512 MXS, 436 AMXS/512 AMXS, 736 AMXS/512 AMXS, as required.

1.2. Equipment and Vehicles.

1.2.1. The Repair and Reclamation section will maintain a list of equipment designated for local CDDAR Operations and be prepared to rapidly deploy crash recovery equipment and personnel for assigned MDS as directed by 618 AOC/XOCL in order to recover assets IAW AMCI 21-108.

1.2.2. Equipment needed that is not organically possessed will be rented/leased through contract sources. Equipment rental costs under $2500 can be procured utilizing the Government Purchase Card (GPC). Contracting Squadron will be responsible for any rental/lease agreements that exceed GPC allowable limits. Local businesses, i.e. First State Crane, compact Power Equipment Rental, Dover Rental-All, Sunbelt Rentals and Burke Equipment may be utilized for crane and heavy equipment rentals.

1.2.3. Vehicles are subject to recall and re-assignment to support CDDAR operations. Vehicles needed that are not possessed by Dover Air Force Base will be rented/leased through contract sources. Repair and Reclamation section in conjunction with Contracting Squadron will coordinate any rental/lease agreements of vehicles. The crane and all CDDAR equipment currently possessed by the Repair and Reclamation shop will be available 24/7 for any CDDAR incident.

1.3. Communication.

1.3.1. 436 MGG (P)/MXOC (Maintenance Operations Center (MOC)) will notify Repair and Reclamation via telephone of any aircraft incident. If telephone capabilities are not available, land mobile radios will be utilized. The CDDAR Team Chief will communicate with the ROC and the Safety Investigation Board President until the aircraft is released back to maintenance. The CDDAR Team Chief will relay and coordinate follow on maintenance with 436 MXS Production Superintendent and MOC. MOC will utilize checklists outlined in **Para 2.1**. Communication from the CDDAR Team Chief will be

relayed through the ROC until the incident is turned over to the CDDAR Team. Subsequently, the Team Chief will communicate through 436 MGG/MXOC and the 436 MXS Production Superintendent. This communication will be either through telephone or land mobile radios.

2. ORGANIZATIONAL RESPONSIBILITIES

2.1. **436 MGG/MXOC Upon notification of an aircraft requiring CDDAR response, the MOC Senior Controller will review MOC QRC 103, Major Accident Recovery, the 436 AW Installation Emergency Management Plan, and review QRC A-3, On-Base Aircraft Accident and QRC A-4, Off-Base Aircraft Accident and implement as applicable.**

2.2. **436 CES/CEF.** Assumes Incident Commander authority over the incident until the Emergency Operations Center appoints a ROC, ensures safety of personnel, reports to the Wing Commander all aspects of the incident and will:

2.2.1. Provide equipment and personnel, as requested, during the recovery operation.

2.2.2. Assess, control, and remove hazardous material spills per OPLAN 32-7.

2.3. **436 CES/CED.** Explosive Ordnance Disposal removes all explosive components as required.

2.4. **436 AW/SE.** Wing Safety will:

2.4.1. Ensure that all required equipment and personnel are made available to the ROC.

2.4.2. Facilitate and assist internal and external investigation agencies as required. (Ref: OPLAN 91-2, Military Mishap Response & Investigation Plan).

2.4.3. Provide safety assessment to the ROC on removal, recovery, and cannibalization operations.

2.4.4. Brief recovery personnel on all potential hazards as applicable.

2.5. **436 AW/JA.** Judge Advocate will provide legal advice to the ROC and Wing Commander as needed based on local, state, and federal regulations.

2.6. **436 AW/IGI.** The Wing XPO office will develop a plan for conducting periodic table top exercises to discuss possible responses to a variety of scenarios, assess personnel capabilities, exercise checklists, validity of phone numbers, etc. These exercises will mirror other installation major accident response exercises and should include the Repair and Reclamation section for planning purposes.

2.7. **436 AMDS/SGPB.** Evaluate scene for potential health hazards. Provide assessment and recommendations to the ROC and Wing Commander.

2.8. **436 MGG/MXQA.** Mission Generation Group Quality Assurance will:

2.8.1. Consider recommending impoundment of aircraft and aerospace ground equipment (AGE) that may have played a role in the mishap sequence.

2.8.2. Assist in calculating weight and balance of aircraft if required.

2.9. **436 MXS/MXMTA.** The Repair and Reclamation section will:

2.9.1. Implement the section’s CDDAR initial response checklist.

2.9.2. Assemble a crash recovery team at the discretion of the CDDAR Team Chief in relation to the responding incident. NOTE: The CDDAR Team Chief will report to and receive orders exclusively from the ROC. Coupled with this direction, the CDDAR Team Chief will supervise the recovery operation.

2.9.3. Maintain the crash recovery trailers/equipment. Accountability of assets and inspection intervals will be maintained utilizing the TCMAX database.

2.9.4. Maintain respirator protection program of qualified personnel for advance composite mishap response procedures outlined in 1C-17A-3-8 and DAFI 48-137 RESPIRATORY PROTECTION PROGRAM. Full face respirators will be stored in the 436 Maintenance Squadron (MXS) Repair and Reclamation CDDAR trailers.

2.9.5. Depending on the nature of the In-Flight Emergency (IFE), Repair and Reclamation technicians may be required to stand-by to provide immediate response capability as the situation warrants.

2.10. **436 MXS/MXMG:** The Aerospace Ground Equipment section will provide equipment and personnel, as requested, during the recovery operation.

2.11. **436/512 AMXS/MXA, 736/712 AMXS/MXA & 436/512 MXS/MXA.** Maintenance supervision will:

2.11.1. Provide equipment and personnel, as requested, during the recovery operation.

2.11.2. The crash recovery Team Chief will brief AMXS personnel on specific incident hazards prior to them assisting the CDDAR team with any recovery operations. In addition, supervisors will verify all individuals tasked to perform augmentee duties are fully qualified in their respective career field and in My Learning or local process prior to assisting the CDDAR team.

2.11.3. During all IFEs, assemble and preposition a tow team for immediate response and remain in place until the IFE is terminated or until the aircraft is towed back to parking apron if required.

2.12. **436 MXS/MXMTR.** Transit Alert personnel will:

2.12.1. Provide equipment and personnel, as requested, during the recovery operation.

2.12.2. When requested, provide a “Follow-me" escort for the CDDAR team if crossing an active runway and/or taxiway is required to reach recovery site.

2.12.3. Evaluate each situation specific to the MDS for applicable hazards to determine if further maintenance is required before the CDDAR team can effectively perform recovery operations.

2.13. **436 LRS/GTOC Logistic Readiness Squadron Ground Transportation Operations Center will:**

2.13.1. Provide equipment and personnel, as requested, during the recovery operation.

2.14. **436 CONS/LGCB.** The Contracting Squadron will:

2.14.1. Provide contractual services, as required, during the recovery operation.

2.14.2. Organizations shall use their Government Purchase Card to procure items and services less than $2,500 in accordance with DAFI 64-117, *Government Purchase Card Program*.

2.15. **436 APS/TRKR.** The Aerial Port Squadron will:

2.15.1. Provide equipment and personnel, as requested, during the recovery operation.

2.15.2. Provide detailed cargo manifest, with complete descriptions of any explosives or hazardous materials to the EOC, EM, ROC or others as directed.

2.16. **436 SFS/SFCC.** Security Forces Squadron will provide equipment and personnel as requested during the recovery operation to secure the site and maintain security at the scene.

3. RECOVERY OPERATIONS

3.1. **Evaluation of Scene.** The ROC and CDDAR Team Chief must evaluate the scene to determine the best possible course of action that will provide a safe, secure, and expedient recovery while preserving evidence. Gather all necessary information and use data collected to accomplish a risk assessment using Operational Risk Management (ORM). Before beginning the recovery, the ROC must obtain approval from the SIB president. The following factors should be considered to determine how great the need is for rapid recovery:

3.1.1. Availability of alternate runways/taxiways.

3.1.2. Availability of alternate airports.

3.1.3. Position of disabled aircraft relative to aircraft movement areas.

3.1.4. Cost of diversions/loss of operations.

3.1.5. Military alert commitments.

3.1.6. Adequacy of mishap scene photography to preserve evidence.

3.2. **Aircraft Recovery.** Aircraft recovery usually involves the following seven general steps which can be found in TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual:*

3.2.1. Overall assessment, analysis, planning and briefings.

3.2.2. Alteration of weight and center of gravity (CG).

3.2.3. Functional and structural assessment of the aircraft.

3.2.4. Lifting aircraft.

3.2.5. Providing portability to the airframe.

3.2.6. Lowering the aircraft.

3.2.7. Movement of the aircraft.

3.3. **Briefing.** After initial planning steps have been completed a briefing will be conducted for all involved recovery personnel. This will allow all involved to begin thinking of various possible hazards and ways to minimize them. Detailed briefings are best broken down into several distinct tasks with one person appointed to be responsible for each task. Each team leader must understand his/her responsibilities and how they interface with each other. Team

leaders will ensure recovery personnel have the necessary Personal Protective Equipment for their assigned tasks and will brief personnel involved in their task(s) on the following:

3.3.1. The task to be accomplished (what).

3.3.2. The intended purpose of each task (why).

3.3.3. The sequence of the task (when).

3.3.4. Responsibility for each task (who).

3.3.5. Task accomplishment and coordination (how).

3.3.6. Any known hazards involved.

3.3.7. Evacuation procedures.

3.3.8. Procedures for sounding an alarm if a serious hazard is observed (whistle, air horn, spotlight, or megaphone). NOTE: Recovery and removal of the aircraft and aircraft parts will be IAW DAFI 91-204, Safety Investigations Reports to ensure preservation of evidence for Safety/Accident Investigation Boards. Consult and obtain approval from the ROC, Safety/Accident Investigation Board president(s), and Bio- Environmental Engineer (to ensure site safety) before initiating recovery/removal actions.

WILLIAM MCDONALD, Colonel, USAF
Commander, 436th Airlift Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFMAN 10-206, *Operational Reporting,* 01 Sep 2020

AFMAN 10-206_*AMCSUP*, 04 NOV 2021

DAFI 10-2501, *Emergency Management Program*, 16 Oct 2023

DAFI 21-101 *AMCSUP*, *Aircraft and Equipment Maintenance Management,* 03 Feb 2022

DAFI 21-101_*AMCSUP_DoverAFBSUP,* 24 Aug 2023

DAFI 21-103, *Equipment Inventory, Status and Utilization Reporting,* 01 Nov 2022

DAFI 21-103 *AMC_SUP*, 31 Mar 2023

DAFI 64-117, *Government Purchase Card (GPC) Program,* 19 May 2022

DAFI 91-204, *Safety Investigations and Reports,* 10 Mar 2021

DAFI 91-204 *AMC_SUP*, 13 Jul 2021

DAFI 91-203, *Air Force Occupational Safety Fire and Health Standards,* 25 Mar 2022

DAFI 48-137, *Respiratory Protection Program,* 26 May 2023

AMCI 21-108, *Logistics Support Operations,* 02 Mar 2023

OPLAN 91-2, *Military Mishap Response/Investigation Plan,* 1 Dec 2016

TO 1C-5M-2-1*, Ground Handling and Servicing,* 31 Mar 2023

TO 1C-5M-3, *Structural Repair Instructions,* 27 Feb 2023

OPLAN 10-2, *Installation Emergency Management Plan,* 28 Feb 2021

OPLAN 32-7, *Oil and Hazardous Substance Spill Prevention and Response Plan,* 1 Sep 2014

QRC 103, *Major Accident Recovery,* 30 Jan 2017

QRC A-1, *HAZMAT Response,* 1 Apr 2016

QRC A-3, *On-Base Acft Accident,* 1 Apr 2016

QRC A-4, *Off-Base Acft Accident,* 1 Apr 2016

00-105E-9, *Aerospace Emergency Rescue & Mishap Response Information,* 6 Jul 2023

00-80C-1, *Crashed, Damage, Disabled Aircraft Recovery Manual,* 21 Jun 2023

Prescribed Forms

None

Adopted Forms

None

Abbreviations and Acronyms

AFIMS—Air Force Incident Management System

AGE—Aerospace Ground Equipment

AMXS—Aircraft Maintenance Squadron

APS—Aerial Port Squadron

BEE—Bio-Environmental Engineer

CDDAR—Crashed-Damaged/Disabled Aircraft Recovery

CES—Civil Engineer Squadron

CG—Center of Gravity

CTK—Consolidated Tool Kit

EM—Air Force Emergency Management (EM) Program Planning and Operations

EOD—Explosive Ordinance Disposal

FES—Fire Emergency Services

FOE—Follow-on-Element

GPC—Air Force Government-wide Purchase Card

HQ AMC—Headquarters Air Mobility Command

ICC—Installation Control Center

IFE—In Flight Emergency

IRE—Initial Response Element

LRS—Logistics Readiness Squadron

MAF—Mobility Air Forces

MDS—Model Design Series

MOC—Maintenance Operations Center

MOB—Main Operating Base

MGG/CC—Mission Generation Group Commander

MXS—Maintenance Squadron

OPR—Office of Primary Responsibility

ORM—Operational Risk Management

PPE—Personal Protective Equipment

QRC—Quick Reaction Checklist

RDS—Records Disposition Schedule

ROC—Recovery Operations Chief

SFS—Security Forces Squadron

SIB—Safety Investigation Board

TACC—Tanker Airlift Control Center

XPO—Wing Operational Plans

Attachment 2

USEFUL PHONE NUMBERS FOR CDDAR

Table A2.1. Useful Phone Numbers For CDDAR.

Dover DSN	DSN: 445-xxxx
MXS Disaster Control Center	DSN: 445-5625
LRS Vehicle Dispatch	DSN: 445-4870
MOC Senior Controller	DSN: 445-5436
MXG Quality Assurance	DSN: 445-5906
AGE Dispatch	DSN: 445-5928
COBRA 2 (MXS Pro Super Cell)	Comm: (302) 363-0105
RAPTOR 2 (C-5 Pro Super Cell)	Comm: (302) 363-9463
TALON (C-17 Pro Super Cell)	Comm: (302) 363-7883
GOLF 2 (Transient Alert Pro Super Cell)	Comm: (302) 363-9307
436 APS Duty Officer	DSN: 445-2300
Base Fire Department (Non-Emergency)	DSN: 445-4420
436 MXS Repair and Reclamation Section	DSN: 445-5714
436 MXS Wheel and Tire Section	DSN: 445-5598
618 AOC/XOCL	DSN: 799-0363
436 MXG Environmental	DSN: 445-5388
EPA Region 3 Office	Comm: (215) 814-5700