

**BY ORDER OF THE COMMANDER
RAF MILDENHALL**

MILDENHALL INSTRUCTION 21-101

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Maintenance

**CRASH, DAMAGE OR DISABLED
AIRCRAFT RECOVERY (CDDAR)
PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This publication implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*. It establishes responsibilities and procedures for the performing CDDAR at Royal Air Force (RAF) Mildenhall as prescribed by Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management* and RAF Mildenhall Supplement 1 to AFI 21-101. It applies to all units assigned to RAF Mildenhall. This instruction does not apply to Air National Guard or Air Force Reserve Command units. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, Management of Records, 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 AF Form 847, *Recommendation for Change of Publication*; route AF form 847s from the field through the appropriate functional's chain of command. This publication may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval. See Attachment 1 for a Glossary of References and Supporting Information. Requests for waivers must be submitted with justification to publication OPR.

SUMMARY OF CHANGES

This interim change revises MILDI 21-101 by (1) updating references from 352d Special Operations Group (SOG) to the 352d Special Operations Wing, and (2) adding organizational

responsibilities regarding Royal Air Force United Kingdom Rivet Joint aircraft. A margin bar (|) indicates newly revised material.

1. APPLICABLE DIRECTIVES: TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual* covers Air Force CDDAR procedures and the 100th Air Refueling Wing (ARW) Plan 91-204, *Mishap Response Plan*, and RAF Mildenhall Installation Emergency Management Plan (IEMP) 10-2, cover general CDDAR procedures for base personnel. This instruction outlines additional requirements for maintenance personnel

2. ORGANIZATIONAL RESPONSIBILITIES:

2.1. 100th Maintenance Squadron (MXS) Repair and Reclamation (R&R) shall provide trained and qualified CDDAR team members and team chief for KC-135, CV-22, C-130 and transit aircraft and will supply KC-135 specific crash recovery equipment. In the event of an incident/accident involving a different Mission Design Series (MDS), R&R will provide general crash recovery equipment, support, and a crash recovery team at the direction of the Incident Commander (IC). The following organizations will provide qualified personnel with MDS specific equipment, technical expertise and support in the CDDAR process:

2.1.1. 100th Aircraft Maintenance Squadron (AMXS) will support assigned KC-135 aircraft, to include those supporting wing operations.

2.1.2. 352d Special Operations Wing will support Air Force Special Operations Command (AFSOC) MC-130 (352 SOAMXS) and CV-22 (352 SOMXS) aircraft.

2.1.3. For transient aircraft, Transient Alert will assist host/partner units with similar MDS aircraft (i.e. KC-135/100 AMXS or MC-130/352 SOMXS).

2.1.4. 95th Reconnaissance Squadron (RS) will support RC/OC/WC -135 aircraft under their control.

2.1.5. RAF will support United Kingdom Rivet Joint aircraft under their control. 100 MXS R&R personnel will support as required.

2.2. 100th Maintenance Operations Flight MOC will notify the 100 MXS Production Supervisor and R&R section of any actions requiring CDDAR support. MOC will also notify 100 ARW Command Post and 603d Air Mobility Division as necessary to notify appropriate MAJCOM of assistance needed for other MDS aircraft not listed above. 100 MOC will notify the 95 RS Production Superintendent if a 55 WG aircraft is involved in an incident. In the event an AFSOC aircraft is involved in an incident, 100 MOC will notify 352 SOMXG MOC.

3. INCIDENT/ACCIDENT REQUIREMENTS:

3.1. The CDDAR team will consist of the following minimum requirements: one CDDAR Team Chief, one Crane Operator (as required), Crash Recovery Team Members (as required) and one Tow Vehicle and Operator (supplied by owning/responsible organization).

3.2. Personal Protective Equipment (PPE):

3.2.1. There are no composite materials on KC-135 aircraft and no special PPE is required when performing CDDAR duties on KC-135 aircraft. General purpose PPE, i.e. leather gloves, hard hats, etc. will be used at all times. During a routine recovery, operations will not begin until the fire chief and bioenvironmental give the all clear.

3.2.2. There are composite materials on many aircraft, such as the CV-22 and special PPE is required when performing CDDAR duties on aircraft containing composite materials. Special PPE, i.e. respirators, tevek suits, over boots, etc. will be used at all times until the composite material is removed from the site. Bioenvironmental will determine required PPE during the recovery process.

3.2.3. In the event of a different MDS incident/accident where the potential for hazardous material exposure exists, CDDAR operations will not begin until the owning organization provides guidance for personnel and equipment to properly handle the hazards. NOTE: RAF Lakenheath's 48th Civil Engineer Squadron Explosive Ordinance Disposal Team provides support to clear explosives loaded aircraft as required before CDDAR operations begin.

4. CDDAR PROCEDURES:

4.1. The CDDAR Team will consist of 100 MXS personnel from the R&R Section, assisted by personnel from applicable aircraft maintenance units. Upon notification of an incident/accident from MOC, R&R Section will mobilize general and/or C-135 series aircraft crash recovery equipment and stand by for dispatch to the crash site when requested by the IC. If an incident occurs during normal duty hours, the shift supervisor will assemble the crash team. If the incident requires more personnel, a shop recall will be initiated. After normal duty hours, the R&R technician on standby will initiate a recall of required personnel.

4.1.1. In accordance with (IAW) 100 ARW Plan 91-204, *Mishap Response*, off-base incidents are considered crime scenes under law. The local Constabulary has jurisdiction over any incident/accident occurring off base. Off base response will be accomplished in coordination with the RAF Mildenhall Station Commander and will be fully supported by 100 MXS CDDAR Team.

4.2. Once a CDDAR team has been established, the Team Chief will assess the situation and begin organizing the required crash recovery equipment. Transportation of equipment to the site will be requested through the IC. The Team Chief will report immediately to the IC for instructions.

4.3. If the aircraft is disabled on the runway/taxiway and time permits, the IC will direct routine runway clearance operations. If immediate removal is required, the IC may direct urgent clearance operations IAW 100 ARW Plan 91-204. When the aircraft is not on the runway and does not pose a danger to inbound aircraft, routine operations will apply. Under this condition, removal actions are taken to minimize damage to aircraft/equipment and to minimize danger to personnel.

4.4. Blown tires: Upon notification of a blown tire from MOC, the owning organization's Production Supervisor will immediately report to the IC. Blown tires should be handled IAW Technical Order (TO) 4B-1-1, *Use of Landing Gear Wheel Brakes and Wheels During Ground Operations*. The owning organization is responsible for removing the aircraft from the disabled location. The 100 MXS R&R Section will report to the on-scene Production Supervisor to assist as needed in the event normal tire change procedures are not possible.

4.5. Hot brakes: Hot brakes will be handled IAW Mildenhall Instruction (MILDI) 13-204, *Airfield and Air Traffic Control Operations* by the aircraft owning organization. A CDDAR

Team will be assembled and dispatched only if emergency runway/taxiway clearing is required. Procedures for handling hot brakes are outlined in TO 4B-1-1.

4.6. Barrier engagements: Barrier engagements will be handled IAW MILDI 13-204. A CDDAR Team will be assembled and dispatched only if emergency runway/taxiway clearing is required.

4.7. Gear up landing: CV-22 gear up landing equipment will be stored/inspected by owning organization. Upon an In Flight Emergency notification the R&R CDDAR team will dispatch with owning organization to designated gear up landing site. The owning organization will be responsible to deliver CV-22 gear up recovery equipment to site. CDDAR team will assist equipment set-up. Team Chief will clear personnel from site and owning organization will marshall CV-22 onto recovery equipment. After engine shut down Team Chief will resume recovery process.

5. CDDAR TRAINING AND EXERCISES:

5.1. Partner units will coordinate with 100 MXS Maintenance Flight (MXMT), 100th Maintenance Group (MXG) Quality Assurance (QA), and 100 ARW Plans and Programs to conduct annual joint CDDAR training exercises. 100 MXG/QA and partner unit QA will provide the scenario for and evaluate each exercise. These exercises will utilize partner unit aircraft except for 95 RS assets. 100 ARW aircraft will be utilized in place of 95 RS assets and will include simulated lifting of operational aircraft.

5.2. Due to limited resources and costs, the use of consumable materials during exercises will be held to a minimum as long as proficiency to utilize said equipment can be demonstrated by the CDDAR team.

5.3. Partner units may participate in 100 ARW exercises in order to obtain general CDDAR training.

5.3.1. 100 MXS/MXMT R&R will notify partner units of potential exercises in order to get max participation from partner units.

5.4. Exercises that are scheduled between base and civilian authorities will be utilized to the maximum extent possible for CDDAR training for difficult to reach areas such as water or mountain recovery, if available.

5.5. The 100 MXS/MXMT R&R section is required to complete initial formal CDDAR team training and annual recurring training, as well as conducting an annual exercise to be evaluated by 100 MXG/QA.

5.5.1. Initial CDDAR team training will be documented in the Training Business Area. To qualify as a CDDAR Team Chief, the member must be a Senior NCO or - waived NCO. Qualification is tracked on the Special Certification Roster.

5.6. The 100 MXS/MXMT CDDAR Team Chief will update the 100 MXS Commander at least annually on the status and the results of joint host/partner unit training exercises.

6. VEHICLE/EQUIPMENT REQUIREMENTS:

6.1. 100 MXG will supply the following equipment and operators to support all CDDAR operations.

6.1.1. General Purpose truck (preferred, 6 pax 4x4) equipped with Land Mobile Radio.

6.1.2. Crane (if available).

6.1.3. Powered and Non-Powered Aerospace Ground Equipment as required, i.e. aircraft jacks, light carts, compressors, tow bars, etc.

6.1.4. 26 TON lifting bags and manifolds.

6.1.5. CDDAR Consolidated Tool Kit (CTK) equipped with slings, belly bands, snatch cables, chains, etc. Specific equipment is at the discretion of the 100 MXS/MXMT Flight Chief. Manage CDDAR CTK IAW AFI 21-101, Chapter 8.

6.1.6. 100 AMXS/352 SOAMXS and SOMXS/TA section will supply tow vehicle and operator as required by IC or Team Chief.

6.2. 100th Logistics Readiness Squadron will supply special purpose vehicles and operators as requested by the IC or Team Chief, i.e. tractor capable of pulling flatbed trailer.

6.3. 100th Civil Engineer Squadron will supply heavy earth moving equipment and operators as requested by the IC or Team Chief, i.e. bulldozer, etc.

6.4. Equipment not available on RAF Mildenhall should first be sourced from RAF Lakenheath. If still unavailable, rent the necessary equipment utilizing an emergency and special program (ESP) code established by the 100th Comptroller Squadron or USAFE-AFAFRICA/FM. Coordinate with your Resource Advisor to ensure all expenditures are properly tracked for potential reimbursement.

7. GENERAL. Supervisors at all levels must recognize the sources of hazards and apply appropriate risk management measures to minimize their effect. Developing specific procedures for every possible emergency scenario is impossible. All crash recovery actions are coordinated through the emergency operations center to the IC and the Team Chief. During the recovery process the Team Chief or IC may appoint a qualified CDDAR team member to the emergency operations center as a liaison. Participation in wing crash recovery exercises and adherence to technical data and safety precautions are crucial to the success of CDDAR operations.

CHRISTOPHER J. KULAS, Colonel, USAF
Commander

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

AFPD 21-1, Air and Space Maintenance, 25 February 2003

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 21 May 2015

AFI 21-101, RAF Mildenhall Sup 1, *Aircraft and Equipment Maintenance Management, June 2014*

MILDI 13-204, *Airfield and Air Traffic Control Operations, 28 July 2010*

RAF Mildenhall Installation Emergency Management Plan (IEMP) 10-2, *September 2014*

100 ARW Plan 91-204, *Mishap Response Plan, January 2013*

TO 4B-1-1, *Use of Landing Gear Wheel Brakes and Wheels During Ground Operations, 6 April 2011*

AFMAN 33-363, *Management of Records, 01 Mar 2008*

TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual, 24 April 2014*

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFSOC—Air Force Special Operations Command

AFPD—Air Force Policy Directive

AMXS—Aircraft Maintenance Squadron

ARW—Air Refueling Wing

CDDAR—Crash, Damaged or Disabled Aircraft Repair

CTK—Composite Tool Kit

IAW—In Accordance With

IC—Incident Commander

IFE—In Flight Emergency

MAJCOM—Major Command

MDS—Mission Design Series

MILDI—Mildenhall Instruction

MOC—Maintenance Operations Center

MOF—Maintenance Operations Flight

MXMT—Maintenance Flight

MXS—Maintenance Squadron

MXG—Maintenance Group

NCO—Non Commissioned Officer

OI—Operating Instruction

OPR—Office of Primary Responsibility

PPE—Personal Protective Equipment

QA—Quality Assurance

RAF—Royal Air Force

RDS—Records Disposition Schedule

RS—Reconnaissance Squadron

R&R—Repair and Reclamation

SOG—Special Operations Group

SOAMXS—Special Operations Aircraft Maintenance Squadron

SOMXS—Special Operations Maintenance Squadron

SOW—Special Operations Wing

TO—Technical Order

USAFE—United States Air Forces in Europe