BY ORDER OF THE COMMANDER
SPACE LAUNCH DELTA 45

SPACE LAUNCH DELTA 45
INSTRUCTION 21-105

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Maintenance

CRASH DAMAGED OR DISABLED AIRCRAFT RECOVERY (CDDAR) PROGRAM

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This instruction implements Department of the Air Force Instruction (DAFI) 21-101, *Aircraft and Equipment Maintenance Management*, and Technical Order (TO) 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. The Crash Damaged or Disabled Aircraft Recovery (CDDAR) program is applicable to all organizations tasked to support recovery operations, to include tenant units, and transient aircraft. These organizations must be prepared to rapidly deploy crash recovery equipment and personnel for crashed, damaged, or disabled aircraft deemed necessary by Space Launch Delta (SLD) 45 and other tenant units at Patrick Space Force Base (PSFB) and Cape Canaveral Space Force Station (CCSFS). The Det 2/CC is responsible for developing and implementing a CDDAR capability for Ascension Auxiliary Airfield. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction 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.

SUMMARY OF CHANGES

This publication has been revised and must be completely reviewed. Changes include updates to several of the organization references that were either re-designated or have been deactivated. This document has been substantially revised and must be thoroughly reviewed. Significant changes include: Rewritten as specified in Technical Order (TO) 00-80C-1, *Crash, Damaged, Disabled Aircraft Recovery Manual* and to meet the Space Launch Delta 45 (SLD 45) unique mission requirements.

1. Overview.

1.1. The Crash Damaged or Disabled Aircraft Recovery (CDDAR) program is designed to recover crashed, damaged, or disabled aircraft in a minimum time period and assist in returning the airfield to operational status consistent with the following:

1.1.1. The requirement to open the runway for operational use.

1.1.2. The prevention of secondary damage to the aircraft.

1.1.3. The preservation of evidence for mishap or accident investigations in accordance with (IAW) Air Force Instruction (AFI) 91-202, *The US Air Force Mishap Prevention Program*, and Department of the Air Force Instruction (DAFI) 91-204, *Safety Investigations and Reports*.

1.2. In flight emergencies (IFEs) or ground emergencies (GEs) involving aircraft require prompt, coordinated actions from many agencies to prevent unnecessary loss of life, damage to equipment, or interference with other flying operations. IFEs and GEs may occur with little to no warning or indication that a problem exists.

1.3. The SLD 45 CDDAR program establishes procedures for recovering crashed, damaged, or disabled aircraft located on Patrick Space Force Base (PSFB), Cape Canaveral Space Force Station (CCSFS), or within the geographical area of responsibility. Due to the unique organizational structure of SLD 45 (no Maintenance Group, Squadrons, or flying missions), Mission Design Series (MDS)-specific equipment, personnel, and resources are limited in scope and capabilities.

1.4. Active Runways.

1.4.1. PSFB has two active runways (03/21 and 11/29).

1.4.2. CCSFS has one active runway (13/31).

1.5. Units.

1.5.1. Aerospace Support Services Contract (ASSC).

1.5.1.1. PSFB and CCSFS Transient Alert (TA) and Aerospace Ground Equipment (AGE) support services are provided and established per ASSC. TA/AGE ASSC providers have limited capabilities to recover crashed, damaged, or disabled aircraft but will respond to all CDDAR events.

1.5.1.2. The Contract Officer's Representatives (CORs) who oversee the TA/AGE ASSC are assigned to the 45th Logistics Readiness Squadron (45 LRS) and are the OPRs for this instruction (45 LRS/OSM). Ownership of the Transient Alert (TA) and Aerospace Ground Equipment (AGE) ASSC belongs to the 30th Contracting Squadron (30 CONS).

1.5.1.2.1. For any requested actions beyond the scope of response and support roles, please consult with the local TA/AGE CORs, the 30 CONS/Program Management (PM), or the 30 CONS office for any Performance Work Statement (PWS) clarifications.

1.5.2. 920th Rescue Wing (920 RQW).

1.5.2.1. 920 RQW is an Air Force Reserve Command (AFRC) tenant unit flying organization stationed at Patrick SFB. 920 RQW will respond and provide personnel, to include a CDDAR Team Chief, and MDS-specific equipment as required to support CDDAR operations for 920 RQW aircraft. 920 RQW will comply with DAFI 21-101, *Aircraft and Equipment Maintenance Management*, AFI 21-101_AFRCSUP, *Aircraft and Equipment Maintenance Management*, and this instruction.

1.5.2.1.1. AFI 21-101_AFRCSUP requires more stringent actions for all AFRC CDDAR programs and will be discussed in Section 2.3. of this instruction.

1.5.3. Department of State Air Wing (DoSAW).

1.5.3.1. The DoSAW is a tenant unit flying organization stationed at Patrick SFB. DoSAW will respond and provide personnel, to include a CDDAR Team Chief, and MDS-specific equipment as required to support CDDAR operations for DoSAW aircraft. DoSAW will comply with DAFI 21-101 and this instruction.

1.5.4. The SLD 45 CDDAR program is a combined effort between SLD 45 support agencies, TA/AGE ASSC provider, and tenant and transient unit flying organizations (as applicable). This instruction is mutually recognized by all organizations.

1.5.4.1. SLD 45 support agencies will respond to all tenant and transient unit emergency aircraft and provide assistance, as prescribed in Section 3.3. of this instruction.

1.5.4.2. Due to the unique mission at SLD 45, tenant and transient unit flying organizations will ultimately be responsible for their assigned aircraft and will lead coordination with SLD 45 support agencies to obtain essential equipment, tools, and personnel, including a CDDAR Team Chief, as appropriate, to the response and recovery of any emergency scenario involving their aircraft.

1.6. This instruction is not all-inclusive and is not intended to replace any detailed guidance directed by airframe specific TOs, other instructions, or regulations. Rather, it serves as a coordination tool to ensure all support agencies are aware of their responsibilities during aircraft emergencies.

2. Roles and Responsibilities.

2.1. SLD 45 Commander (SLD 45/CC).

2.1.1. Installation/WG/CCs responsible for active airfields/runways, and flying missions, will implement a CDDAR Program IAW TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. (Reference, DAFI 21-101, *Aircraft and Equipment Maintenance Management*, Pararagraph. 11.28.1).

2.1.2. The SLD 45/CC, or designated representative, with the advice and assistance of PSFB or CCSFS Airfield Management (45 LRS/OSAB or 45 LRS/OSAM) and the Chief of Safety (SLD 45/SE), notifies the PSFB or CCSFS Emergency Operations Center (EOC) Director, as appropriate, and determines the removal conditions which are designated below:

2.1.2.1. In the event of an Emergency or Urgent removal condition, the Recovery/Investigation Phase may be waived by the SLD 45/CC or designated representative.

2.1.2.2. In the event of a Routine removal condition, sufficient time is allowed to use recovery techniques to minimize further damage to aircraft, preserve evidence and preclude exposing personnel or equipment to danger.

2.1.3. For PSFB Airfield, if an aircraft incident causes both runways to close, it may be necessary to clear the aircraft/wreckage as soon as possible to facilitate the re-opening of at least one runway for operational use. The SLD 45/CC, or designated representative, is the only one authorized to direct this course of action. This decision will be made upon the recommendation of the 45 LRS/OSA, or designated official.

2.1.4. While all CDDAR events are situational based, CDDAR teams may be limited to method towing for the removal/recovery of tenant/transient aircraft. If a crane or other specialized equipment is needed and cannot be provided by SLD 45, tenant/transient flying organizations or safety investigation board (SIB) as appropriate will coordinate contracting support through their chain of command, SLD 45, and/or 45th Contracting Squadron (45 CONS), as appropriate.

2.1.5. The 45 LRS/OSM are the OPRs for this instruction and responsible for the planning and execution of the SLD 45 CDDAR program. 45 LRS/OSM will:

2.1.5.1. Ensure units with a CDDAR requirement are provided with support and resources to accomplish CDDAR operations, within the capabilities of SLD 45.

2.1.5.2. Host at least one exercise annually and ensure all applicable units participate. The exercise will consist of a review of all available equipment and resources, as well as an updated point of contact list from all applicable units.

2.1.5.3. Manage CDDAR at the base level and maintain a Master SLD 45 CDDAR Continuity Book per TO 00-80C-1. To minimize duplication of efforts, will provide best practices for unit CDDAR continuity books.

2.2. TA/AGE ASSC will:

2.2.1. Provide 24-hour on-call capability in support of CDDAR and contingency operations with a response time of no more than 1 hour after notification.

2.2.2. Maintain a pickup truck as the primary CDDAR response vehicle. This vehicle is considered a mission essential vehicle and will be allowed to visit all base agencies, as applicable to CDDAR.

2.2.3. Maintain an aircraft tow vehicle, MB-2 or equivalent, and will be equipped with emergency lights and a portable Land Mobile Radio (LMR) capable of monitoring the Fire, Ramp, and Tower radio frequencies.

2.3. 920 MXG/CC or equivalent will:

2.3.1. Ensure, as a minimum, units with a CDDAR requirement possess sufficient equipment to accomplish recovery of the assigned MDS aircraft, including 4 pneumatic lifting bags (26 Ton) and 4 manifolds. If a crane or other specialized equipment is needed and cannot be provided by SLD 45, 920 RQW will coordinate contracting support through their chain of command, SLD 45, and/or 45 CONS, as appropriate.

2.3.1.1. Provide adequate weatherproof storage for all recovery equipment.

2.3.2. Ensure, as a minimum, units with a CDDAR requirement possess sufficient personnel, to include a CDDAR Team Chief, to accomplish recovery of the assigned MDS aircraft. Personnel appointed to CDDAR teams will comply with this instruction and training requirements IAW DAFI 21-101 and AFI 21-101_AFRCSUP.

2.3.3. Ensure all applicable units participate in at least one exercise annually with the host unit.

2.3.4. Coordinate management of CDDAR at the unit level to minimize duplication of resources. A unit CDDAR Continuity book shall be maintained.

2.4. Department of State Air Wing will:

2.4.1. Ensure, as a minimum, units with a CDDAR requirement possess sufficient equipment to accomplish recovery of the assigned MDS aircraft. If a crane or other specialized equipment is needed and cannot be provided by SLD 45, DoSAW will coordinate contracting support through their chain of command, SLD 45, and/or 45 CONS, as appropriate.

2.4.2. Ensure, as a minimum, units with a CDDAR requirement possess sufficient personnel, to include a CDDAR Team Chief, to accomplish recovery of the assigned MDS aircraft. Personnel appointed to CDDAR teams will comply with this instruction and training requirements IAW DAFI 21-101.

2.4.3. Ensure all applicable units participate in at least one exercise annually with the host unit.

2.4.4. Coordinate management of CDDAR at the unit level to minimize duplication of resources. A unit CDDAR Continuity book shall be maintained.

2.5. Incident Commander (IC).

2.5.1. The Senior Fire Official (SFO)/Fire Chief will serve as the IC for all incidents resulting from an aircraft crash, fire, or a declared In-Flight Emergency (IFE).

2.5.2. The IC ensures initial rescue, firefighting, security, and safeing procedures are performed. No one other than the first/emergency responders can enter the mishap area. The mishap scene must be determined safe by the IC prior to any investigation or CDDAR actions. The EOC Director will prepare a formal turnover to the Interim Safety Board/Safety Board President (ISB/SBP) in accordance with the Installation Emergency Management Plan (IEMP).

2.5.2.1. If an Interim Safety Board (ISB) is appointed, the IC will transfer ownership and operational control of the mishap evidence to the ISB when they arrive on site and the emergency response phase has concluded.

2.5.3. The incident aircraft and its equipment must not be disturbed or removed unless directed or released by the IC, ISB/SBP, or Impoundment Official/owning unit representative. Control of the mishap scene/site remains with the IC. Once the site is safe, the ISB/SBP becomes the owner of the mishap evidence at the site, but does not assume control or overall authority for the site. After the scene is safe to enter, and at a time deemed appropriate by the IC, command of the incident aircraft/wreckage may be transferred from the IC to the Impoundment Official/owning unit representative appointed by the Investigating Authority.

2.6. Interim Safety Board/Safety Board President (ISB/SBP).

2.6.1. The ISB/SBP is responsible for all activities of the Interim Safety Board. Ensures evidence is preserved and the installation is prepared to provide all necessary support to the Investigating Authority upon arrival. Does not assume the role of IC. Coordinates evidence collection with other ISBs if the mishap aircraft or involved personnel are not from the base of occurrence.

2.6.2. The ISB/SBP will not assume control or overall authority for the mishap site. Before the mishap site is declared safe, the ISB/SBP's primary role is to monitor and document actions taken so that the original state of the evidence can be understood by the Investigating Authority. Once the site is safe, the ISB/SBP becomes the owner of the mishap evidence at the site, but does not assume control or overall authority for the site. The ISB/SBP should have a member at the mishap site whenever possible.

2.6.3. The ISB/SBP will coordinate with the IC to ensure access to the mishap site is closely controlled.

2.7. Emergency Operations Center (EOC):

2.7.1. The EOC is a single-point location for all Emergency Support Functions (ESFs). The ESFs consists of representatives from each responding agency and will serve as a liaison between the SLD 45/CC, the IC, and the ESFs agency.

2.8. 45th Security Forces Squadron (45 SFS).

2.8.1. 45 SFS will establish a cordoned area and entry control point (ECP) in conjunction with the Fire Chief, Bioenvironmental Office, and IC.

2.8.1.1. The cordon size will be established and adjusted, as the situation warrants.

2.8.1.2. The IC will ensure initial cordon dimensions (lateral and vertical), will be passed to the Air Traffic Control (ATC) Tower without delay. Expansions and reductions of the cordon dimensions will be relayed to the ATC Tower without delay.

2.9. Chief of Safety (SLD 45/SE).

2.9.1. Coordinates removal procedures with the CDDAR Team Chief, as required.

2.9.2. Gives guidance for the preservation of evidence for the SIB in accordance with SLD 45 OPLAN 91-204.

2.9.3. Ensures Aviation Safety (SLD 45/SEF) responds as required, to provide SME support.

2.10. The SLD 45 Command Post (SLD 45/CP):

2.10.1. For after-hours emergencies, SLD 45/CP will implement the appropriate checklists and coordinate with the following agencies for CDDAR response/support: SLD 45/CC, the 45th Civil Engineering Squadron (45 CES)/Readiness Flight (CEX), SLD 45/SE, and the 45th Aerospace Medicine Squadron (45 AMS/Bioenvironmental Engineering (SGXB).

2.11. 45th Operational Medical Readiness Squadron (45 OMRS).

2.11.1. Will assist the IC and be available for medical consultation and evaluation of CDDAR personnel in case of ill effects of composite exposure or any other hazards.

2.11.2. Bioenvironmental Engineering (45 OMRS/SGXB).

2.11.2.1. The Bioenvironmental Engineering (BE) office will be consulted in determining personnel health hazards, training required, and appropriate levels of Personal Protective Equipment (PPE) for anticipated responses. Not every scenario can be accounted for, but BE will help determine the most appropriate PPE, which will most likely suit the needs of CDDAR responders.

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

2.12. The 45 LRS Commander (45 LRS/CC):

2.12.1. Will coordinate with the SLD 45/CC, or designated representative, for all operational matters and decisions affecting the handling of aircraft emergencies.

2.12.2. Provide on-scene fuel servicing of recovery support equipment (i.e., AGE and heavy equipment) and provide fuel sample/analysis of aircraft fuel.

3. General Sequence of Events.

3.1. Declaration of Emergency.

3.1.1. An emergency is declared by any of the following: The pilot, ATC, officials responsible for the operation of the aircraft, and/or a system-generated transmission from an aircraft.

3.2. Notification.

3.2.1. Following the emergency declaration, 45 LRS/OSAT will activate the Primary Crash Alerting System (PCAS) and notify first/emergency responders.

3.2.2. Upon PCAS notification, PSFB or CCSFS Airfield Management (45 LRS/OSAB or 45 LRS/OSAM) will immediately activate the Secondary Crash Net (SCN) and facilitate the rapid response of key base agencies.

3.2.2.1. During after hours, SLD 45/CP can activate the SCN to contact response agencies and inform them of the emergency.

3.2.3. Following notification, the SFO will assume the role of the IC until one can be appointed if deemed necessary.

3.2.4. First responders will proceed to the emergency aircraft location IAW SLD 45 IEMP 10-2. This will initiate the Response Phase of the plan.

3.2.4.1. If aircraft location is on the airfield/CMA, procedures in DAFI 13-213, *Airfield Driving*, must be adhered to.

3.3. Response Phase.

3.3.1. The SFO/IC will decide which first/emergency responders may proceed to ensure the safety of responding personnel, aircrew, and equipment.

3.3.1.1. 45 CES/CEF will extinguish/prevent aircraft fires, ensure the aircraft is safe for other support agencies to approach, and evacuate aircrew, as required. In the event of hazardous material/spill, 45 CES will determine the appropriate cleaning actions and direct support agencies as appropriate. Personnel responding on CCSFS are under the Fire and Emergency Services Contract.

3.3.1.2. 45 SFS, as directed by the SFO/IC, will establish a designated perimeter and an Entry Control Point (ECP).

3.3.1.3. 45th Medical Group (45 MDG) will provide medical services to first/emergency responders and aircrew, as required.

3.3.1.3.1. 45 MDG personnel will remain outside the designated perimeter. 45 CES/CEF will transport personnel requiring medical attention through the ECP to 45 MDG personnel.

3.3.2. All non-essential vehicles will position themselves not to impede movement or vision and will remain clear of the emergency aircraft. If necessary, the SFO/IC will direct 45 SFS to clear the area of non-essential personnel.

3.3.2.1. This does not prohibit essential vehicles (i.e., tow vehicles) from positioning themselves nearby for immediate use.

3.3.3. The unit owning the aircraft will work through their designated representatives, through the EOC, to advise the SFO/IC of any special considerations, such as classified materials/equipment and/or hazardous cargo on board. These items will need to be identified, accounted for, and recovered prior to any recovery actions. The owning unit, through the EOC, will also provide information on any special recovery requirements for these items.

3.3.3.1. 45 LRS/OSA may also have information on whether or not the emergency aircraft contained classified and/or hazardous cargo.

3.3.4. When first/emergency responder actions have been completed and the emergency aircraft has been declared as “Fire Safe” by the SFO/IC, the Response Phase will end, and the Recovery Phase, including investigation actions, will begin.

3.4. Recovery Phase.

3.4.1. The SFO will transfer control of the emergency aircraft over to the newly appointed IC. If a newly appointed IC is deemed unnecessary, control will transfer to the Interim Safety Board President (ISBP) or Safety Board President (SBP) for investigation.

3.4.2. The EOC Director with approval from the SLD 45/CC or designated representative will activate the Recovery Working Group and identify a Recovery Operations Chief. The main goal of recovery is to reestablish the installation's mission and return to normal operations.

3.4.3. The SFO/IC, in consultation with 45 LRS/OSA, SLD 45/SE, and the owning organization CDDAR Team Chief, will decide the best removal method.

4. Off-base Crash Recovery.

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

4.2. 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 SLD 45/CC or designated representative.

STEPHEN G. PURDY, JR
Brigadier General, USSF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 21-101_AFRCSUP, *Aerospace Equipment Maintenance Management*, 13 Aug 2020

AFI 33-322, *Records Management and Information Governance Program*, 28 Jul 2021

AFI 91-202, *The US Air Force Mishap Prevention Program*, 12 Apr 2022

DAFI 13-213, *Airfield Driving*, 24 Mar 2022

DAFI 21-101, *Aircraft and Equipment Maintenance Management*, 16 Jan 2020

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

IEMP 10-2, *Installation Emergency Management Plan*

TO 00-80C-1, *Crash, Damaged, Disabled Aircraft Recovery Manual*, 17 Nov 2020

Prescribed Forms

None

Adopted Forms

DAF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFRC—Air Force Reserve Command

AGE—Aerospace Ground Equipment

ASSC—Aerospace Support Services Contract

ATC—Air Traffic Control

BE—Bioenvironmental Engineering

CC—Commander

CCSFS—Cape Canaveral Space Force Station

CDDAR—Crashed, Damaged or Disabled Aircraft Recovery

CES—Civil Engineer Squadron

CONS—Contracting Squadron

COR—Contracting Officer Representative

DAFI—Department of the Air Force Instruction

DoSAW—Department of State Air Wing

ECP—Entry Control Point

EOC—Emergency Operations Center

ESF—Emergency Support Function

GE—Ground Emergency

IAW—In Accordance With

IC—Incident Commander

IEMP—Installation Emergency Management Plan

IFE—In Flight Emergency

ISB—Interim Safety Board

ISBP—Interim Safety Board President

LMR—Land Mobile Radio

LRS—Logistics Readiness Squadron

MDG—Medical Group

MDS—Mission Design Series

OMRS—Operational Medical Readiness Squadron

OPR—Office of Primary Responsibility

PCAS—Primary Crash Alerting System

PM—Program Management

PPE—Personal Protective Equipment

PSFB—Patrick Space Force Base

PWS—Performance Work Statement

RQW—Rescue Wing

SBP—Safety Board President

SCN—Secondary Crash Net

SFO—Senior Fire Official

SFS—Security Forces Squadron

SIB—Safety Investigation Board

SLD—Space Launch Delta

TA—Transient Alert

TO—Technical Order

WG/CC—Wing Commander

Terms

Contracting Officer Representative (COR)—A COR is an individual designated in accordance with Department of Defense Federal Acquisition Regulation Supplement subsection 201.602-2 and authorized in writing by the contracting officer to perform specific technical or administrative functions.

Crashed, Damaged or Disabled Aircraft Recovery (CDDAR)—The ability to move damaged or disabled aircraft using specialized equipment.

Program Manager (PM)—The designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM shall be accountable for credible cost, schedule, and performance reporting to the Milestone Decision Authority.