

**BY ORDER OF THE COMMANDER  
WRIGHT-PATTERSON AIR FORCE  
BASE**

**WRIGHT-PATTERSON AIR FORCE BASE  
INSTRUCTION 21-102**



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Maintenance**

**CRASH DAMAGED/DISABLED  
AIRCRAFT RECOVERY (CDDAR)**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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(Col Bradley D. Spacy)

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This instruction establishes guidance, policy, responsibility and reporting procedures for Crash Damaged/ Disabled Aircraft Recovery (CDDAR) IAW Air Force Instruction (AFI) 21-101, *Aerospace Equipment Maintenance Management*, AFI 21-101/AFMCSUP1, and AFI 91-204, *Safety Investigations and Reports*; it applies to active duty, Air National Guard (ANG), Air Force Reserve, civilian employees and contractor personnel, who manage, fly, service, inspect, and/or repair Air Force, Aero Club and transient aircraft on WPAFB. This Instruction (WPAFBI) provides the basic procedures to be followed for the physical aircraft recovery/removal of crash/disabled aircraft after all initial response events, including response to hydrazine spills, have been accomplished in accordance with WPAFB *Comprehensive Emergency Management Plan* (CEMP 10-2) and AFMAN 32-4004, Chapter 2, *Emergency Response Operations*. Send comments and suggestions about this publication for improvements on AF Form 847, *Recommendation for Change of Publication*, to the Office of Primary Responsibility (OPR). Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm>.

**1. GENERAL.**

1.1. The Logistics Readiness Division (88 MSG/LGR) in the 88th Mission Support Group (88 MSG) will maintain a CDDAR capability and provide a CDDAR Team Chief (TC) for transient aircraft, (if not provided by owning MAJCOM) or a Crash Recovery Representative (CRR), if a Team Chief is provided by owning MAJCOM, from the Transient Maintenance Section (LGRM). The LGR Team Chief or CRR will act as liaison with tenant/MAJCOM

units and facilitate the use of 88 ABW assets in the recovery of their aircraft. The LGR Transient Maintenance Section will be responsible for maintaining a generic aircraft recovery capability. This capability will consist of a crash recovery team equipped with generic aircraft recovery equipment. If recovery efforts for tenant/transient aircraft exceed the capabilities of the 88 ABW, the TC will contact the aircraft's home base and/or TACC/XOCL (in accordance with AMCI 21-108, *Logistics Support Operations*, for AMC aircraft) for assistance.

1.2. The CDDAR Program is established to recover damaged and disabled aircraft in minimum time and be consistent with the following considerations:

1.2.1. The requirement to reopen the runway for operational use.

1.2.2. Preservation of evidence for accident/safety investigation.

1.2.3. Prevention of secondary damage to the aircraft.

1.2.4. Safety of CDDAR and all initial response personnel involved with recovery operations.

1.3. Physical aircraft removal procedures will not be implemented until approved by the Incident Commander (IC) with concurrence of the Safety Investigation Board (SIB) president. For circumstances requiring immediate aircraft removal, coordinate with Interim Safety Board (ISB) president to receive approval from the Convening Authority. CDDAR teams are considered Follow-On Elements under the AF Incident Management System.

1.4. Aircraft Support Equipment (e.g., aircraft tugs and aerospace ground equipment) are available through LGR's Transient Maintenance Section. Crane, bulldozer, backhoe, dump truck and front-end loader capabilities are available from Civil Engineering. Fill rock or gravel, plywood, and shoring lumber are available on base or through a local off-base contractor.

1.5. The Logistics Readiness Division (LGR) has refuel and defuel capabilities for all base assets. The Fire Department and 88 ABW/CEV Spill Response Team have fuel-spill capabilities.

**WARNING:** Incidents involving aircraft made up of a composite structure may cause serious injury or death to those in contact. Transient aircraft home bases should be contacted to determine composite and depleted uranium material risks and any requirement for personal protective equipment prior to commencement of clean-up activities.

**CAUTION:** The aircraft and crash site will only be disturbed as required to eliminate an imminently dangerous situation to the aircraft, support equipment and/or personnel, and will remain in an undisturbed state until the aircraft is released by the SIB President, per AFI 91-204, to the IC.

## 2. RESPONSIBILITIES.

2.1. Logistics Readiness Division (88 MSG/LGR):

2.1.1. Maintain a generic CDDAR capability (trained personnel, and equipment) within the Transient Maintenance Section. Maintain the WPAFB CDDAR Instruction, and maintain a LGR Operating Instruction that includes (as a minimum) internal operating requirements, notifications, an aircraft data checklist, a hazards checklist, and a list of

available CDDAR equipment with locations. Maintain and inspect CDDAR equipment in accordance with applicable TOs (minimum annually), and notify 88 MSG/CC in writing of any equipment shortages/serviceability issues that may preclude effective CDDAR support.

2.1.2. Provide a CDDAR Team Chief (CDDAR TC) or Crash Recovery Representative (CRR), approved by 88 MSG/CC, and maintain an off-duty team recall roster.

2.1.3. Respond to aircraft crash recovery scenario when directed.

2.1.4. Train CDDAR team members.

2.1.5. Train host and tenant base crash recovery team members in recovery procedures at least annually IAW 88 LGR 01 90-5, Appendix A.

2.1.6. Once notified of a crash through the Command Post (CP), the CDDAR TC or CRR will work with the appropriate response team and IC to coordinate recovery actions. The CDDAR TC or CRR will ensure 88 ABW/CC is informed of all significant actions through the CP.

2.1.7. Provide vehicles when required to transport CDDAR equipment or to augment Civil Engineering forces when requested.

2.1.8. Provide fueling and defueling support when requested.

2.1.9. Provide cargo off-load capability when requested.

2.1.10. Develop and review, at least annually, Host Tenant Support Agreements that include CDDAR support. Provide inputs for change as required.

## 2.2. 445 AW:

2.2.1. The 445 AW will provide recovery personnel to support the recovery of their aircraft in the event of an aircraft mishap. The 88 ABW CDDAR TC or CRR will provide assistance and coordinate host-wing support for the recovery and act as the 88 ABW CDDAR representative on scene.

2.2.2. Provide academic training and hands on CDDAR training on their specific aircraft to LGRM CDDAR personnel at least annually.

2.2.3. If recovery operations are under the supervision of the 445 MXG CDDAR team chief. The team chief will:

2.2.3.1. Assemble and brief the combined CDDAR teams on the location and condition of the damaged aircraft.

2.2.3.2. Review appropriate technical publications and establish a recovery plan.

2.2.3.3. Assemble and transport available recovery equipment and material to the crash site. If beyond 445 AW capabilities, request additional "as needed" supplies, transportation and equipment through 88 ABW CDDAR TC or CRR .

2.2.3.4. In the event 445 AW crash removal equipment proves inadequate, request support through 88 ABW CDDAR TC or CRR.

2.2.3.5. Coordinate all required 88 ABW host-wing support with 88 ABW CDDAR TC or CRR.

2.2.4. Provide LGR's CDDAR TC with name and contact information for 445 AW CDDAR personnel.

2.3. 55 Wing (E-4):

2.3.1. CDDAR support is provided IAW AF E-4 Contractor Logistics Support Agreements. The applicable contractor will assist/provide crash recovery and or salvage operations for E-4 aircraft. The contractor will supply all required special equipment, personnel and technical data. The 88 ABW CDDAR CRR will provide assistance and coordinate host-wing support for the recovery and act as the 88 ABW CDDAR representative on scene.

2.3.2. Provide LGR's CDDAR TC with name and contact information for their lead CDDAR personnel.

2.4. 88th Contracting Squadron (88 CONS/CC):

2.4.1. Fulfill required contracts as requested per *Wright-Patterson Air Force Base Contingency Operational Contracting Support Plan (COCSP)*. Such contracts may include, but are not limited to, obtaining cranes, heavy equipment, dollies, jacks and tow vehicles, when not organically available. The point of contact for this plan is 88 CONS/PK.

2.4.2. Organizations shall use their Government Purchase Card to procure items and services less than \$2,500 in accordance with AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program*.

2.5. Base Plans and Programs Office (88 ABW/XP):

2.5.1. Develop a plan for conducting periodic table top exercises to discuss possible responses to a variety of scenarios, assess personnel capabilities, exercise checklists, check validity of phone numbers, etc. These exercises will mirror/be conducted at same time as other installation major accident response exercises.

2.6. Civil Engineer Directorate (88 ABW/CE):

2.6.1. Provide personnel and equipment as required by the specific incident (e.g., dozers, graders, shoring materials, railroad ties, plywood, gravel, forklifts).

2.7. Base Safety Office (88 ABW/SEF):

2.7.1. Provide safety guidance to IC on removal, recovery, and cannibalization operations.

2.7.2. Provide guidance to recovery personnel on all potential hazards as applicable.

2.8. Base Bio-Environmental Engineering (88 MDG/SGPB):

2.8.1. Specify proper personal protective equipment (PPE) as required based on assessments.

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

### 3. RECOVERY OPERATIONS.

3.1. The IC must ensure the security and preservation of any evidence and wreckage through coordination with the SIB president.

3.2. Before beginning the recovery, the IC must obtain approval from Security Forces, EOD, Bio-Environmental Engineering (BEE), and the Safety Investigation Board (SIB) and identify any real or potential hazards to recovery personnel.

3.3. The following factors should be considered to determine how great the need is for rapid recovery.

3.3.1. Availability of alternate runways/taxiways.

3.3.2. Availability of alternate airports.

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

3.3.4. Cost of diversions/loss of operations.

3.3.5. Military alert commitments.

3.3.6. Adequacy of MISHAP scene photography and SIB to preserve evidence.

**4. SITUATION EVALUATION. NOTE:** The first task at a recovery site is to gather information and evaluate the situation. The initial response team will be able to gather much of this data and initiate requests for additional information from appropriate sources.

4.1. Gather all necessary information and use to accomplish risk assessment, using Operational Risk Management (ORM).

**NOTE:** Safety, definitions, purpose, scope, and using ORM is the common sense approach to making calculated decisions on human material and environmental factors. It enables those in charge to maximize operational capabilities while minimizing risks at all levels preserving assets and safeguarding health and welfare. Accept no unnecessary risk.

4.2. ORM.

4.2.1. Identify the hazards.

4.2.2. Assess the risk.

4.2.3. Analyze risk control measures.

4.2.4. Make control decisions.

4.2.5. Implement risk controls.

4.2.6. Supervise and review.

### 5. RECOVERY METHODS.

5.1. Aircraft recovery usually involves seven general steps.

5.1.1. Overall assessment, analysis, planning and briefings.

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

5.1.2.1. In the event that an aircraft being recovered requires the removal of cargo, contact 88 MSG/LGRTT.

- 5.1.3. Functional and structural assessment of the aircraft.
- 5.1.4. Lifting aircraft.
- 5.1.5. Providing portability to the airframe.
- 5.1.6. Lowering the aircraft.
- 5.1.7. Movement of the aircraft.

## **6. CDDAR TEAM BRIEFING.**

6.1. 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.

6.2. Each team leader must fully understand his/her responsibilities and how they interface with each other.

6.3. Team leaders will brief personnel involved in their task(s).

6.4. Briefings will cover the following topics (as a minimum).

6.4.1. The task to be accomplished (what).

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

6.4.3. The sequence of the task (when).

6.4.4. Responsibility for each task (who).

6.4.5. Task accomplishment and coordination (how).

6.4.6. Any known hazards involved.

6.4.7. Evacuation procedures.

6.4.7.1. Personnel will sound an alarm if a serious hazard is seen (whistle, air horn, spot light, or megaphone).

## **7. ADOPTED FORM:**

AF Form 847, *Recommendation for Change of Publication*

BRADLEY D. SPACY, Colonel, USAF  
Commander

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

88 ABW, *Comprehensive Emergency Management Plan (CEMP 10-2)*

88 LGR 01 90-5 Appendix A, *LGR CDDAR Operating Instruction*

AFI21-101, *Aerospace Equipment Maintenance Management*

AFI64-117, *Air Force Government-Wide Purchase Card (GPC) Program*

AFI91-204, *Safety Investigations and Reports*

AFMAN32-4004, Chapter 2, *Emergency Response Operations*

WPAFB Plan 91-204, *Aircraft Mishap Investigation Plan*

WPAFB *Contingency Operational Contracting Support Plan (COCSP)*

***Abbreviations and Acronyms***

**CDDAR**— Crash Damaged/Disabled Aircraft Recovery

**CP**— Command Post

**CRR**— Crash Recovery Representative

**IC**— Incident Commander

**ISB**— Interim Safety Board

**SIB**— Safety Investigation Board

**TC**— Team Chief

**TO**— Technical Order

***Terms***

**Damaged Aircraft**— an aircraft that cannot be removed under its own power or by towing on its own undercarriage without sustaining considerable secondary damage.

**Disabled Aircraft**— an aircraft that cannot or should not be moved under its own power, but can be towed using its own undercarriage.