BY ORDER OF THE COMMANDER
SPANGDAHLEM AIR BASE (USAFE)

AIR FORCE INSTRUCTION 21-108

SPANGDAHLEM AIR BASE
Supplement

20 AUGUST 2025

Maintenance

CRASH DAMAGED DISABLED AIRCRAFT RECOVERY (CDDAR) PLAN

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at **www.e-publishing.af.mil** for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: 480 FGS/MXAGI

Certified by: 480 FGS/CC
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Supersedes: SPANGDAHLEMABI 21-108, 11 July 2024

Pages: 16

This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance.* It establishes guidance to effectively respond to and recover crash damaged or disabled aircraft during normal and major aircraft emergencies/mishaps on or off Spangdahlem Air Base (Spangdahlem AB), Germany. It will be used in conjunction with Department of the Air Force Instruction (DAFI) 21-101 *Aircraft and Equipment Maintenance Management*, and all other applicable documents. This instruction applies to all base agencies assigned disaster preparedness duties under *52 FW Installation Emergency Management Plan 10-2* (52 FW IEMP 10-2) and T.O. 00-105E-9. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFI 33-332, *Records Management and Information Governance Program*, and disposed of IAW the Air Force Records Disposition Schedule (RDS) located at **https://afrims.cce.af.mil/afrims/rims.cfm**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF 847, *Recommendation for Change of Publication*; route AF 847s from the field through the appropriate Functional's chain of command. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See DAFMAN 90-161, *Publishing Process and Procedures*, Table A10.1 for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items.

SUMMARY OF CHANGES

This revision includes administrative changes throughout and must be completely reviewed.

1. General. The 52 Fighter Wing Commander (52 FW/CC) is responsible for the active airfields/runways and flying missions and will implement a CDDAR Program IAW TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. The program must be designed to provide a response and/or recovery capability of assigned host, tenant, and consider transient aircraft (1) Urgency to open the runway for operational use; (2) prevention of secondary damage to the aircraft; and (3) preservation of evidence for mishap or accident investigations IAW DAFI 91-202 and DAFI 91-204. The 480 Fighter Generation Squadron/Sortie Support Flight (480 FGS/ MXAGI) has the primary responsibility for conducting CDDAR operations, as directed by the 52d Maintenance Group Commander (52 MXG/CC). The 52 FW Maintenance Operations Center (MOC) will implement the 52 MXG/CC's instructions and will request support from transient alert home station/Major Command (MAJCOM) as required. Sortie Support Flight will develop CDDAR procedures in coordination with the 52 FW Command Post (52 FW/CP), 52d Civil Engineer Squadron Fire Department (52 CES/CEF), 52 FW Ground Safety (52 FW/SEG), 52 CES Readiness and Emergency Management Flight (52 CES/CEX), 52d Medical Group (MDG), 52d Aerospace Medical Squadron and Bioenvironmental Engineering (52 AMDS/SGPB), 52d Security Forces Squadron Plans and Programs (52 SFS/ S5P), 52 CES Explosive Ordnance Disposal Flight (52 CES/EOD), 52d Operations Support Squadron Airfield Manager (52 OSS/OSAM) and other on/off base agencies as applicable.

2. Generalized CDDAR Responsibilities

2.1. Supervisors at all levels must recognize the sources of hazards and apply appropriate safety practices to minimize their effect. There are an infinite number of possible emergency and crash recovery situations; therefore, specific procedures cannot be prescribed for every situation. All aircraft recovery actions are coordinated through the Incident Commander (IC) then communicated directly to the EOC. Practice/participation in 52 FW crash recovery exercises and implementation of operational risk management techniques are imperative for all emergency and crash recovery operations.

3. Definitions

3.1. Normal Responses: Aircrew declared emergency requiring crash recovery team response but limited action in recovering the aircraft. EXAMPLES: Flight control malfunctions, radio failures, bird strikes, low fuel. Hung ordnance and gun malfunctions do not require crash recovery to respond unless specifically requested by IC.

3.2. Major Responses: Aircrew declared emergency requiring crash recovery team response and action in recovering/removing the aircraft. EXAMPLES: Landing gear extension failure, collapsed landing gear, blown tires, emergency power unit activation and hydrazine leaks/spills, hot brakes, hung flares, barrier engagement/cable arrestment, aircraft departs runway/taxiway and/or aircraft crashes.

3.3. Incident Commander (IC): Individual assigned responsibility for directing and coordinating all emergency response and recovery actions.

3.4. Senior Fire Official (SFO): Individual assigned responsibility for all firefighting and rescue actions. The SFO can also serve as the initial IC for most incidents resulting from an aircraft crash, aircraft fire or a declared IFE.

3.5. Crash Recovery Team Chief (CRTC): Individual assigned responsibility for managing the crash recovery program according to AFIs, 52 FW mission plans, and applicable host-tenant agreements. Qualified members will be familiar with DAFI 21-101 and all other applicable documents.

3.6. Crash Recovery Team Supervisor (CRTS): Individual assigned responsibility for directing and coordinating aircraft recovery procedures and actions.

3.7. Crash Recovery Team Member (CRTM): Individual tasked to perform aircraft recovery duties.

3.8. Recovery Operations Chief (ROC): Individual assigned once the emergency is over, and the site is transferred from the IC for recovery operations to begin.

3.9. Augmentees: Individuals ideally suited for simple tasks such as transporting supplies and equipment, setting up tents and similar structures, excavating soil or snow (other than by mechanical means), moving heavy equipment, sweeping floors or other surfaces, etc. Augmentees shall not be used to conduct aircraft recovery tasks, which require specialized training or skills to complete (e.g. lifting and aircraft)

3.10. The United States (US) Air Force F-16CJ aircraft is the primary Mission, Design, Series (MDS) assigned to 52 FW.

4. Responsibilities

4.1. 480 FGS/MXAGI Crash Recovery Section is responsible for the training and equipment required to maintain the crash recovery program. The section chief or designated representative will assume the duties of CRTC, per SCR.

4.2. **The CRTC (Primary & Alternate) will:**

4.2.1. Establish the 480 FGS CDDAR program and serve as OPR for the unit CDDAR Operating Instruction.

4.2.2. Review support agreements and the base disaster response plan on an annual basis. Provide inputs/changes as required.

4.2.3. Ensure CDDAR procedures are coordinated with the 52 FW/CP, 52 CES/CEF, 52CES/CEX, 52 CES/CED, 52 FW/SE, 52 SFS, 52 AMDS/SGPB, 52 OSS/OSAM, and on/off base agencies (as required).

4.2.4. Inform 52 MXG/CC in writing of equipment shortages/serviceability that precludes effective CDDAR support/response.

4.2.4.1. Ensure a list of all vehicles and SE equipment allocated to CDDAR is maintained within the section’s continuity binder.

4.2.5. Ensure sufficient personnel are trained to support CDDAR operations. This includes:

4.2.5.1. All recovery CRTM's must receive initial training comprised of both academic and hands-on training/exercises. Training shall include basic equipment operation (e.g., light carts, generators, etc.).

4.2.5.2. Familiarization training on any unique characteristics/hazards/materials for assigned aircraft (e.g., F-16 EPU activation, hydrazine leak/spill, aircraft composite material). Ensure training is documented.

4.2.5.3. Proper use of Personal Protection Equipment (PPE) as determined by technical data and the base Bioenvironmental Engineer. Crash Recovery PPE gear listing and training qualification/information will be maintained at the 480 FGS Crash Recovery section.

4.2.5.4. Special qualifications for personnel. Ensure individual team member qualifications for specific equipment operations (e.g., lift bags, recovery 1 truck, tow vehicle) are identified and documented in the Career Field Education Training Plan, Air Force (AF) Form 797, Job Qualification Standard Continuation/Command JQS, or MIS as applicable.

4.2.5.5. Serviceable tools and support equipment for recovery operations (e.g., lift bags, slings, manifolds, tow bars, dunnage/shoring) are available. Maintain a list of all CDDAR tools and equipment.

4.2.5.6. If training with owned aircraft, units may position lifting bags and equipment but will only inflate bags so the bags mate to the aircraft. Extreme caution will be used to prevent damage to the aircraft or equipment. Under no circumstances will units attempt to lift an active aircraft off the ground.

4.2.5.7. All CRTM must receive annual training compromised of both academic and hands-on training/exercises. Hands-on training includes aircraft lifting exercises using a unit owned aircraft or Ground Instructional Training Aircraft (GITA). Do not use operational aircraft for actual aircraft lifts in a training environment. If units have no available training assets, consider participating with other organizations possessing training assets. If no assets are available suitable for these exercises, units demonstrate capability by completing all steps but stop short of lifting an operational aircraft. Ensure all training is documented in the applicable MIS.

4.2.5.8. Additionally, Team Chiefs are required to perform an actual lift at a minimum every three years. This can be accomplished through real-world events, an AETC approved CDDAR training course, the ANG CDDAR Training Exercise, or coordinating usage of a Ground Instructional Training Aircraft (GITA) with an outside agency or unit.

4.2.6. Response Responsibilities: Normal Responses: Assign an F-16 qualified Crash Recovery Team (CRT) consisting of at least two CRTM's, including a CRTS qualified to the seven-skill level (minimum). Two team members will be qualified as aircraft tow supervisor and tow vehicle operator, (the Team Supervisor can act as tow supervisor). The aircrew member will act as a brake rider if mission/time constraints dictate. A member of the owning Fighter Generation Squadron (FGS) will, when requested, assist as the tow supervisor or tow vehicle operator.

4.2.7. Major Responses: Assign an F-16 qualified CRT consisting of at least three CRTM's, including a CRTS qualified to the seven-skill level (minimum). Two team members will be qualified as aircraft tow supervisor and tow vehicle operator, (the CRTS can act as tow supervisor). The aircrew member will act as a brake rider if mission/time constraints dictate. A member of the owning FGS will, when requested, assist as the tow supervisor or tow vehicle operator.

4.2.7.1. The CRT responds to most In-Flight Emergencies (IFE) and Ground Emergencies (GE) except for hung ordnances, unsafe guns, and fuel spills unless directly endangering an aircraft. In addition, the CRT is responsible for removal of disabled, damaged and/or crashed aircraft from the active runway, taxiways or final resting location of aircraft. The CRT has responsibility for composite material mishap containment and cleanup.

4.2.8. Ensure a CRT is available in accordance with published Wing Flying Schedule (weekends included) and standby crew is designated for all non-scheduled flying hours. A list of standby CRT members will be published weekly and furnished to the MOC, through 480 FGS supervision.

4.2.9. Ensure the following equipment is centrally located and available for emergency dispatch.

4.2.9.1. General-purpose radio-equipped 6 PAX truck with emergency lights.

4.2.9.2. Trailer with 12,000-pound load capacity and minimum 15,000-pound tow capacity

vehicle (to store and transport recovery equipment on and off base.).

4.2.9.3. Aircraft tow vehicle.

4.2.9.4. Aircraft tow bars.

4.2.9.5. Slings, bellybands, snatch cables, chains, etc.

4.2.9.6. Dunnage/shoring

4.2.10. Ensure the 52 FW/CP is notified immediately of any emergencies that activate any portion of this plan.

4.2.11. Plan annual 52d FW CDDAR training events in conjunction with 52d FW Major Aircraft Recovery Exercises (MARE). Coordinate two annual training events to coincide with other similar activities such as MAREs to ensure seamless interface with the 52d FW Incident Response program, ensuring exercise of the CDDAR recovery process prior to ENDEX. Coordinate training with the 52 MXG/CC, 52 FW/SE, and 52 FW/XP offices as well as all CDDAR supported tenant unit maintenance activities.

4.3. **52 FW/CP will:**

4.3.1. Manage Wing level and above Command and Control (C2) for incidents relating to any portion of this plan.

4.3.2. Maintain a copy of the current CRT recall roster. Command Post will run appropriate checklists, contact EOD (DSN 452-6266), CRT and the MOC.

4.3.3. Recommend activating the Crisis Action Team (CAT) and Emergency Operations Center (EOC), as required, for incidents relating to any portion of this plan.

4.3.4. Submit Operations Reports (OPREP-3s), storyboards and other formal notifications as required by CJCS, HAF, and USAFE reporting requirements related to any incident (whether relating to 52 FW, tenant unit or other transient aircraft) that activates any portion of this plan.

4.4. **Fire Chief shall:** provide fire protection/suppression capabilities as required during initial mishap response and throughout the duration of recovery operations. The Fire Chief or the SFO will serve as the initial Incident Commander for most incidents resulting from an aircraft crash, aircraft fire, or a declared In-Flight Emergency (IFE). The Fire Chief or senior fire fighter will transfer incident command to the appointed Incident Commander/recovery operations chief when they arrive on the mishap site.

4.4.1. Aircraft removal/recovery will not commence until the SFO or IC has released the aircraft to the CRT.

4.5. **The 480 FGS CDDAR Section Chief/Team Chief will:**

4.5.1. Coordinate with the MOC for all CRTS support requests for onbase agencies during Normal Responses.

4.6. **The 52 MXS Fuels (52 MXS/MXMCF) will:**

4.6.1. Provide a Hydrazine Response Team (HRT) for all hydrazine related aircraft emergencies. The HRT is responsible for detection, neutralization, and clean-up of hydrazine leaks/spills IAW DAFI 21-101 / IAW LCL-52MXG-36

4.7. **The 52 CES/CEF will:**

4.7.1. Provide manpower and equipment necessary to support the recovery mission as directed by the IC and CRTC. Assist in providing access to crash site and assist in site setup in accordance with 52 FW CEMP 10-2. Will make provisions to recall a representative for non-duty hours.

4.7.2. Coordinate delivery of heavy machinery with operators as determined by the CRTC and IC.

4.7.3. Procure and deliver necessary supplies needed for the recovery/removal operation (i.e. dunnage, plywood, planking, etc.).

4.7.4. When directed by the IC and SIB; CES/CEF will complete a grid survey of the area and identify the location of aircraft parts and remains.

4.8. **52 AMDS/SGPB will:**

4.8.1. Bioenvironmental Engineering (BE) will provide a health risk assessment to the IC. This includes identifying health hazards and making control recommendations for the identified hazards.

4.8.2. BE will conduct initial and continual site monitoring as directed by the IC to provide the most updated information regarding health hazards. Control recommendations should include training and appropriate levels of PPE.

4.8.3. Will work in conjunction with the CRT to recommend PPE and monitor health effects to individuals performing the operations.

4.9. **480 FGS Weapons Flight (480 FGS/MXAQW) will:**

4.9.1. Provide a qualified weapons load crew for download of all munitions/explosives upon request of IC/CRTC

4.10. **52 MXS Munitions Flight (52 MXS/MXMW) will:**

4.10.1. Provide qualified individuals and 40-foot flatbed trailer or appropriate munitions trailer as needed for removal of munitions/explosives.

4.11. **52 MXS Aerospace Ground Equipment Flight (52 MXS/MXMG) will:**

4.11.1. Provide ground equipment at the request of SFO, IC and/or CRTC. All equipment must be readily available for use during CDDAR operations.

4.12. 52 Logistics Readiness Squadron (52 LRS) Deployment and Distribution Flight, Ground Transportation Element (52LRS/LGRDDO) will:

4.12.1. Provide qualified drivers and special purpose vehicles at the request of SFO, IC, and/or CRTS. All vehicles and drivers must be readily available for use during CDDAR operations.

4.13. **52 Maintenance Operation Center (MOC) will** :

4.13.1. Contact CRTC, MXG/CC, and QA. 4.13.2. Coordinate with 52 OSS Airfield Management to notify the appropriate organization in the event of a mishap. MOC will be the focal point to relay information between the CRTS and the MAJCOM/owning organization.

4.13.3. MOC will coordinate the needs of the CRT via radio after they have been activated. All requirements will be coordinated with the IC or SFO while at the mishap site.

4.14. **The 726 AMS MOC will:**

4.14. 1. Notify the appropriate headquarters and owning organization after an initial response by the CRT. Spangdahlem CRT does not have AMC aircraft equipment or training. In case of an AMC incident at Spangdahlem or in the immediate surrounding area, the 480 FGS CRT will act as an initial responder (with 726 Air Mobility Squadron augmentees) to secure the area and perform safing actions. The 726 AMS MOC will notify 618 TACC/XOCL Scott AFB, Illinois at DSN 312-779-0363 and request assistance as required per the AMC/ USAFE Command to Command Agreement.

4.15. **52 Force Support Squadron (52 FSS) will:**

4.15.1. 52 FSS will provide billeting, meals, ice, water, etc. and any other services as deemed necessary by the IC or ROC.

4.16. **52 Comptroller (52 CPTS) will:**

4.16.1. 52 FMA will establish a fund site to procure the necessary equipment and supplies needed in the CDDAR recovery operation.

4.17. **52 Security Forces Squadron (52 SFS) will:**

4.17.1. Establish a cordon area and ECP (entry control point) in conjunction with the IC and BIO.

4.18. **52 Contracting Squadron (52 CONS) will:**

4.18.1. Procure the needed supplies and coordinate with the IC and CRTC for availability and delivery of all emergency requests.

4.19. **52 Civil Engineer Squadron Explosive Ordnance Disposal (52 CES/EOD) will:**

4.19.1. 52 MOC will contact 52 EOD at DSN 452-6266 in accordance with Check Sheet #4. 52 EOD will contact/coordinate with the IC and CRTC upon arrival. Locate and mark all explosive hazards to provide an entry path for emergency responders.

4.19.2. Perform procedures on any explosive hazard that poses an immediate threat to personnel or property IAW applicable EOD 60 Series T.O.s.

4.20. **52 Maintenance Group Quality Assurance (52 MXG/QA) will:**

4.20.1. Upon request, we will provide Weight and Balance information when weight and center of gravity (CG) conditions are unknown.

4.21. **52 Fighter Wing Safety (52 FW/SE) will:**

4.21.1. Coordinate with the CRTC as required. Wing Safety will also give guidance for preservation of evidence for Safety Investigation Board (SIB) (Ref. DAFI 91-204).

4.21.2. 52 FW/SE will act as the primary liaison to AFSEC, USAFE/A3, and any Safety Investigation Board (SIB) upon activation.

4.21.3. Maintain real-time coordination with the CRTC and IC during recovery efforts to ensure preservation of mishap evidence (photos, logbooks, audio/video surveillance, aircraft data download, etc.).

4.21.4. Provide oversight and technical guidance for evidence tagging and recovery zone security to preserve perishable data required by the SIB.

4.21.5. Ensure mishap reporting is initiated in AFSAS within timelines established by DAFI 91-204 and that Hazard Reports (AF 457s) are generated when appropriate.

4.21.6. Make every effort to observe local CDDAR training events to remain familiar with aircraft-specific recovery hazards that may impact evidence preservation.

4.22. **52 Medical Group (52 MDG) will:**

4.22.1. 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.

4.23. **726 Air Mobility Squadron (726 AMS) will:**

4.23.1. Aid with special equipment and qualified personnel for specific crash recovery requirements.

4.23.2. Maintain qualified personnel on-station and participate in annual exercises.

4.23.3. Furnish updated qualified personnel list to 52 FW CRTC.

5. Crash Recovery Response Procedures

5.1. **Normal Response:**

5.1.1. The CRTS will establish and maintain radio contact with the SFO or IC on the fire/crash net.

5.1.2. If, upon landing, the aircraft stops on the active runway, the SFO or IC will determine if a fire or explosive hazard exists. Once the fire or explosive hazard is eliminated, the SFO or IC will clear the CRTS to begin recovery operations.

5.1.3. The CRT will establish interphone and/or hand signal communication with the aircraft commander. If no further assistance is required, the CRT will recommend to the IC to clear the aircraft to taxi to End of Runway (EOR) and be de-armed by the EOR crew. The SFO or IC will terminate the In-Flight Emergency (IFE).

5.1.4. If further assistance is required, the CRTS will supervise normal engine shutdown procedures on the runway. The CRT will, with the pilot as brake rider, tow the aircraft to an open parking location at either Bravo or Delta Arm/De-Arm pads. The EOR crew will respond to de-arm the aircraft. The CRTS will then contact the appropriate squadron, and based on mission requirements, either tow the aircraft to its designated location or request that the owning organization retrieve the aircraft from EOR. Once the aircraft has cleared the runway, the SFO or IC will terminate the IFE.

5.2. **Major Response:**

5.2.1. The CRTS will establish and maintain radio contact with the SFO or IC on the fire/crash net.

5.2.2. **EPU Activations:**

5.2.2.1. Upon landing, the aircraft will taxi to designated hydrazine area in which the SFO or IC will establish a 300-foot radius cordon, and the fire crash crew will install wheel chocks, landing gear safety pins, and perform engine shutdown procedures. The fire crash crew will egress the pilot. NOTE: The SFO or IC may expand the cordon size as warranted when hydrazine danger exists.

5.2.2.2. The HRT supervisor will verify with the SFO or IC that no fire or explosive hazard exists.

5.2.2.3. The HRT will replace the fire crash crew’s safety pins with the aircraft safety pins and clear/safe the EPU system IAW LCL-52MXG-11and LCL-52MXG-36.

5.2.2.3.1. The HRT will install EPU safety pin and clear/safe the EPU system.

5.2.2.4. Once the aircraft is declared clear/safe by the HRT supervisor, the HRT will contact the applicable FGS, via the MOC, for aircraft retrieval.

5.2.3. **Hot Brakes:**

5.2.3.1. The pilot or ground crew, e.g. (EOR crew or CRT), will be responsible for identifying potential or actual hot brake conditions. IAW (T.O. 1F-16CM-1, Pilots Flight Manual).

5.2.3.2. When an aircraft is declared as having a potential/actual hot brake condition, the SFO or IC will establish a cordon and determine if a fire or explosive hazard exists. Once the fire or explosive hazard is eliminated the SFO or IC will clear the CRT to begin recovery operations. CAUTION: It is impossible for the ground crew to avoid the hot brake and engine danger areas while pinning the EPU or chocking the aircraft. Therefore, if the conditions permit, the aircraft should be shut down without pinning the EPU or chocking wheels. After the brakes have cooled, all ground safety pins can be installed. (Reference 1F-16CM-1).

5.2.3.3. Prior to engine shutdown, the SFO OR IC will contact the pilot using Ultra High Frequency/Very High Frequency radio to confirm the EPU switch is in the "OFF" position and instruct the pilot to hold the aircraft in position using minimal brake.

5.2.3.4. The pilot will remain in the cockpit until the brakes have cooled sufficiently. If the pilot must be extracted, 52 CES/CEF personnel or IC will chock the nose tire before pilot extraction, after confirming the aircraft has been shut down.

5.2.3.5. The emergency will not be terminated at this point.

5.2.3.6. After 45 minutes the CRT will approach the wheel area from the front or rear only to assess hot brake condition. If conditions still exist, the CRT will re-inspect at 15-minute intervals until the hot brake condition no longer exists. When it is safe to approach the aircraft, the CRT will install the remainder of the safety pins and wheel chocks and EOR will de-arm the aircraft. The CRT will, based on mission requirements, request tow support from the owning squadron or tow aircraft to its designated location.

5.2.3.7. If mission demands require immediate movement of aircraft and internal thermal plugs do not relieve tire pressure sufficiently to eliminate explosion hazard, the aircraft will be taxied over pre-positioned spike plates and recovered IAW with **Paragraph 5.2.5**.

5.2.4. **Hung Flare:**

5.2.4.1. The IFE aircraft will taxi to arm/de-arm pad depending on the approach angle and the SFO or IC will establish a cordon and determine if a fire or explosive hazard exists. If the fire or explosive hazard is eliminated, the SFO or IC will normally clear the CRTS to begin recovery operations.

5.2.4.2. If the hazard cannot be eliminated the SFO or IC will contact 52 CES/CED. If activated, utilize Emergency Operations Center (EOC) to establish contact, otherwise contact MOC.

5.2.4.3. 52 CES/CED will coordinate the clearing/safing of the flare dispenser IAW applicable EOD 60 Series T.O.s with the IC. The SFO or IC will terminate the emergency once the flare is clear/safe.

5.2.4.4. The CRTS will establish interphone communication with the aircraft commander and supervise the installation of the landing gear, EPU, wing tank pylon, and arresting hook safety pins.

5.2.4.5. The CRTS will supervise engine shutdown procedures and egress the pilot.

5.2.4.6. MOC will notify the applicable FGS to dispatch a tow team to tow the aircraft to its designated parking location.

5.2.5. **Blown Tires:**

5.2.5.1. If upon landing, the aircraft stops on the active runway, the SFO or IC will determine if a fire or explosive hazard exists. Once the fire or explosive hazard is eliminated, the SFO or IC will clear the CRT to begin recovery operations.

5.2.5.2. The EOR crew will respond to de-arm the aircraft.

5.2.5.3. The CRTS will establish interphone/hand signal communication with the aircraft commander and supervise normal engine shutdown procedures. The pilot will egress the aircraft and the CRT will safe the aircraft for maintenance.

5.2.5.4. The CRT will recover the aircraft IAW applicable safety standards, T.O.s and instructions.

5.2.5.5. The CRT will tow the aircraft to an open parking location at either Bravo or Delta EOR pads. The CRTS will then contact the appropriate FGS to request a tow crew to retrieve the aircraft from EOR. Once the aircraft has cleared the runway the SFO or IC will terminate the IFE.

5.2.6. **Barrier Engagement/Cable Arrestment:**

5.2.6.1. If the aircraft engages the barrier, the CRT will remain behind the fire safety vehicles until the aircraft is declared safe by the SFO or IC. The fire crash crew will determine if a fire or explosive hazard exists. Once the fire or explosive hazard is eliminated, the SFO or IC will clear the CRT to begin recovery operations.

5.2.6.2. The CRT will establish interphone and/or hand signal communication with the aircraft commander and install the arresting hook safety pin. If no further assistance is required, the aircraft will be cleared to taxi to EOR. The SFO or IC will terminate the emergency.

5.2.6.3. If further assistance is required, the CRT will chock the aircraft, the EOR crew will respond to de-arm the aircraft, and the CRTS will supervise engine shutdown in the barrier.

5.2.6.4. The CRT will install the applicable safety pins and remove the aircraft from the barrier and the runway. Once the aircraft is off the runway, the SFO or IC will terminate the emergency.

5.2.7. **Aircraft Departs Runway/Taxiway:**

5.2.7.1. Once cleared by the SFO or IC, the HRT will check F-16 aircraft for hydrazine leaks or spills. If leaks or spills are detected, the HRT will clear/safe the area IAW LCL-52MXG-36, F-16 Hydrazine Emergency Procedures for Leak Detection, Activated EPU Checks.

5.2.7.2. The CRT will safe the aircraft for maintenance.

5.2.7.3. The CRTS will monitor munitions safety or removal by the applicable FGS.

5.2.7.4. The CRT will recover the aircraft IAW applicable safety standards, technical orders, instructions and direction of the IC or 52 FW/CC.

5.3. **Transient Aircraft:**

5.3.1. Transient Alert personnel will assist the CRT with all transient aircraft emergencies and will supplement the CRT upon request of CRTS or IC. Refer to T.O. 00-105E-9 for specific US Military and Civil aircraft hazards.

5.3.2. Should a transient fighter aircraft become damaged, disabled, or crash, the MOC will notify the appropriate MAJCOM/unit for further handling instructions once the incident area/crash site is determined safe and secure. If the owning unit is on Temporary Duty (TDY) at Spangdahlem AB, the MOC will notify the TDY unit and request an aircraft technician and specialized equipment be dispatched to the scene. The dispatched technician will report to the IC, SFO, or CRTS.

5.3.3. Should a wide-bodied aircraft become damaged, disabled, or crash the 52 FW MOC will coordinate with 52 OSS Airfield Management to notify the appropriate MAJCOM/unit for further handling instructions once the incident area is determined safe and secure. Further actions will be accomplished IAW pre-established MAJCOM agreements, LCL-52MXG-11, Crash Recovery Response Checklist, or owning agency guidance.

5.4. **Tenant Agencies:**

5.4.1. The 480 FGS has overall responsibility for CDDAR operations. Tenant units are primarily responsible for assisting crash recovery operations with crew chief and specialist support, provide tow team and tow vehicle as required per AMC/USAFE Command to Command Agreement, to support the CRT. The 726 AMS will take charge of all emergency tow situations in the event an aircraft without structural damage requires removal from the active runway, to include IFE situations, hot brakes, blown or flat tires. The 480 FGS CRT will respond and render assistance as requested, however the 480 FGS CRT does not have heavy aircraft equipment or training. If an AMC aircraft has an incident, the 618 TACC/XOCL Scott AFB, Illinois DSN 312-779-0363 will be contacted via the MOC and request assistance through the major command. The 480 FGS CRT will only act as a first responder and render the site safe and secure.

6. On/Off-Base Recovery Procedures:

6.1. The 52 FW/CC, through Disaster Response Force, i.e., 52 FW Command Post (52 FW/CP), Unit Control Centers, Emergency Support Function and any specialized teams, coordinates on/off base recovery actions. Refer to 52 FW Installation Emergency Management Plan 10-2, 52 FW Operation Plan 32-1, AFMAN 10-2502, DAFMAN 91-203, applicable 48-Series AFOSHSTD's, T.O. 00-105E-9, T.O. 00-80C-1, and aircraft specific -2 and -3 T.O.s for agency/team responsibilities.

6.2. **Evidence Handling:**

6.2.1. The 52 FW/SE will direct evidence preservation measures upon notification of a crash or mishap, including but not limited to:

6.2.1.1. Suspension of maintenance logbook entries until directed

6.2.1.2. Photographic documentation of equipment, ground markings, or wreckage

6.2.1.3. Controlled access zones and tagging of displaced parts

6.2.1.4. Coordination with AFOSI if criminal misconduct is suspected

7. Additional Training and Certification Requirements for CRT Personnel:

7.1. **Licensing Requirements:**

7.1.1. All CRTM will possess a valid AF 2293, US Air Force Motor Vehicle Operator Identification Card, and AF 483, Certificate of Competency, for airfield driving with the authorized airfield SAB stamp.

7.2. **MDS Requirements:**

7.2.1. All CRTM are specifically trained to recover the F-16CJ primary assigned aircraft.

7.2.2. All CRTM will, as a minimum, receive familiarization training on primary and tenant unit aircraft.

7.2.3. All CRTM will, as a minimum, receive aircraft familiarization training on any transient aircraft operating flying missions at Spangdahlem AB for an extended length of time, (i.e., 3 or more months), consisting of:

7.2.3.1. Specific aircraft -21 safety equipment locations and installation required to safe the aircraft in an emergency.

7.2.3.2. Aircraft Danger Areas: Engine inlet and exhaust(s) zones, flight control surface hazards, auxiliary power supply/unit exhaust port(s), and any other hazards CRT may encounter during an emergency response/recovery.

7.2.3.3. Training will be conducted by the transient unit, specific aircraft commander, flight crew and/or qualified aircraft crew chief(s).

8. Supplemental Procedures

8.1. During wing deployments/contingencies to operational locations, this instruction will be implemented unless other directives are already in effect at the deployed location.

WILLIAM D. LUTMER, Colonel, USAF
Commander, 52d Fighter Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1, *Maintenance of Military Material*, 21 February 2024

AFMAN 10-206, *Operational Reporting*, 18 June 2018

DAFI 21-101, *Aircraft and Equipment Maintenance Management*, 20 December 2023

DAFI 91-202, *The Department of the Air Force Mishap Prevention Program*, 10 April 2024

DAFI 91-204, *Safety Investigations and Reports*, 27 April 2022

DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*,25 March 2022

DAFMAN 91-223, *Aviation Safety Investigations and Reports*, 20 September 2022

AFMAN 10-2502, *Air Force Incident Management System Standards and Procedures*, 13 September 2018

AFI 33-332, *Records Management and Information Governance Program*, 10 March 2020

T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*, 21 June 2023

T.O. 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information*, 6 June 2023

T.O. 1F-16CJ-2-1-1, *Cross Servicing Guide*, 1 September 2022

T.O. 1F-16CJ-3-1, *Aircraft Structural Repair*, 1 May 2023

T.O. 1F-1CM-1, *Pilot Flight Manual*, 15 June 2023

52 FW IEMP 10-2, 52FW *Installation Emergency Management Plan*, 1 February 2021

Agreement Number *FB5621-17199-001, 726 AMS Support Agreement*, 18 July 2017

Prescribed Forms

None

Adopted Forms

AF Form 483, *Certificate of Competency*

AF Form 797, *Job Qualification Standard Continuation/Command JQS*

AF Form 847, *Recommendation for Change of Publication*

AF Form 2293, *US Motor Vehicle Operator Identification Card*

LCL-52MXG-36, *F-16 Hydrazine Emergency Procedures for Leak Detection, Activated EPU Checks*

LCL-52MXG-11, *Crash Recovery Plans*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFPD—Air Force Policy Directive

AMC—Air Mobility Command

AMDS—Aerospace Medicine Squadron

BE—Bioenvironmental Engineering

CC—Commander

CDDAR—Crash, Damaged, Disabled Aircraft Recovery

CES—Civil Engineer Squadron

CES/CED—Explosive Ordnance Disposal Flight

CES/CEF—Fire Department

CES/CEX—Readiness and Emergency Management Flight

CP—Command Post

CRT—Crash Recovery Team

CRTC—Crash Recovery Team Chief

CRTM—Crash Recovery Team Member

CRTS—Crash Recovery Team Supervisor

EOD—Explosive Ordnance Disposal

EOR—End of Runway

EM—Emergency Management

EPU—Emergency Power Unit

FGS—Fighter Generation Squadron

FW—Fighter Wing

HRT—Hydrazine Response Team

IAW—In Accordance With

IC—Incident Commander

IFE—In-Flight Emergency

GE—Ground Emergency

LCL—Local Check List

LRS—Logistics Readiness Squadron

MAJCOM—Major Command

MDG—Medical Group

MDS—Mission Design Series

MOC—Maintenance Operations Center

MXG—Maintenance Group

MXS—Maintenance Squadron

OPLAN—Operations Plan

OPREP—Operational Reporting

OSS—Operation Support Squadron

OSAM—Operation Support Squadron Airfield Manager

OPR—Office of Primary Responsibility PPE—Personal Protection Equipment

SAB—Spangdahlem Air Base

SFO—Senior Fire Official

SFS—Security Forces Squadron

TDY—Temporary Duty

T.O.—Technical Order