BY ORDER OF THE COMMANDER
18TH WING

18TH WING INSTRUCTION 21-103

27 AUGUST 2020
Certified Current, 22 April 2025
Maintenance

CRASH, DAMAGED OR DISABLED AIRCRAFT RECOVERY (CDDAR) PROGRAM

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: 18 EMS/MXMTRS

Certified by: 18 EMS/CC
(Maj Jennifer A. Rogers)

Supersedes: 18WGI21-103, 30 June 2016

Pages: 15

This instruction implements Air Force Policy Directive (AFPD) 21-1, *Maintenance of Military Materiel* and is used in conjunction with Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management*; AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*; 18th Wing (18 WG) Installation Emergency Management Plan, 18th Wing Plan 91-204, *Mishap response Plan*; Kadena Air Base (AB) Instruction 13-204, *Airfield Operating Instruction*; Technical Order (T.O.) 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information*; AFI 48-137, *Respiratory Protection Program*; Air Force Manual (AFMAN) 91-203, *Air Force Occupational Safety, Fire, and Health Standards;* AFI 32-2001, *Fire and Emergency Services (F&ES) Program*; T.O. 4B-1-1, *Use of Landing Wheel Brakes and Wheels During Ground Operations*, applicable aircraft specific Dash 2 and Dash 3 series T.O.s and T.O. 00-80C-1, *Damaged, Disabled Aircraft Recovery Manual*. It establishes responsibilities and procedures for recovery of crashed and disabled aircraft. This instruction applies to maintenance activities within the 18th Wing. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFI 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS), Table 21-14, Rule 2 or other disposition authority from the applicable (21 Series) tables.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. This version incorporates updated guidance and procedures from AFI 21-101, *Aircraft and Equipment Maintenance Management,* and T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. Major changes include: updated duties, responsibilities, and publications dates.

1. Mission Statement. The Crashed, Damaged, Disabled Aircraft Recovery (CDDAR) Program is established to recover damaged or disabled aircraft in minimum time to return Kadena AB to operational status as soon as possible after a mishap. The CDDAR program will be designed with the following considerations in mind:

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

1.2. Prevention of secondary damage to the aircraft.

1.3. Preservation of evidence for mishap investigation.

1.4. Safety of personnel involved with recovery operations.

2. General. The 18th Maintenance Group Commander (18 MXG/CC) has the primary responsibility for establishing a CDDAR capability. The 18th Equipment Maintenance Squadron (18 EMS) will manage the program and has the primary responsibility for conducting CDDAR operations on all assigned and transient aircraft on Kadena AB. The 18 EMS will develop crash recovery procedures in coordination with all host and tenant units, Fire Department, Civil Engineering, Logistics Readiness, Explosive Ordnance Disposal (EOD), Security Forces, Bio Environmental, Airfield Management and Wing Safety.

3. 18 EMS Responsibilities:

3.1. 18 EMS will:

3.1.1. Maintenance Flight's Repair and Reclamation (R&R) will provide coverage for all aircraft on Kadena AB. This includes all transient aircraft. When assistance is required, coordinate with the EMS Production Super.

3.1.2. Provide a Maintenance Officer/Senior Non-commissioned Officer (SNCO) or waivered Technical Sergeant (TSgt) to act as CDDAR Team Chief.

3.1.3. Provide a Crash Recovery Team (CRT) of at least three members from the R&R Section to respond to aircraft emergencies. The CRT will consist of a CDDAR qualified 7-level, a vehicle operator and a CDDAR qualified 5/7-level. The EMS CRT 7-level will determine if additional personnel are needed. EMS CRT personnel will not approach an emergency aircraft until cleared by the on-scene Senior Fire Official (SFO).

3.1.4. Ensure that all CRT personnel are trained and certified to drive on the airfield IAW AFI 13-213, *Airfield Driving*, Kadena AB Supplement. This includes being trained and certified to operate vehicles and equipment in the Controlled Movement Area (CMA).

3.2. The Maintenance Flight Chief will:

3.2.1. Maintain CRTs on duty during scheduled local flying hours. During non-flying periods, the CRT will be on standby status. The weekend duty team will serve as CRT as required. Upon notification by the Maintenance Operations Center (MOC), the standby CRT will respond.

3.2.2. Ensure Transient Alert (TA) personnel are trained to provide initial response during non-flying periods until the standby CRT is available.

3.2.3. Ensure R&R is assigned with at least the minimum required equipment listed in AFI 21-101 and T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*.

3.3. The EMS R&R Section Chief will:

3.3.1. Perform duties as CDDAR Team Chief on wing assigned and transient aircraft.

3.3.2. Train all personnel assigned to the CRT IAW course control documents developed in conjunction with the Maintenance Training Flight (MTF).

3.3.3. Ensure there are a minimum of two qualified CDDAR Team Chiefs available at all times and tracked on the Special Certification Roster.

3.3.4. Ensure certified individuals are readily available to drive a 30-foot van trailer or equivalent and semi-tractor truck for CDDAR equipment. **Note: Members must have a current Government Owned Vehicle (GOV) license that list required vehicles.**

3.3.5. Ensure individual team member qualifications for specific equipment (i.e. towing, jacking, support equipment use, special purpose vehicle) are identified and documented.

3.3.6. Keep an updated recall roster of all CDDAR trained individuals on Kadena AB and external crane operating agencies on Okinawa.

3.3.7. Maintain a list of all CDDAR tools and equipment.

3.3.8. Maintain required equipment to perform recovery of an aircraft containing composite/hazardous materials as established by technical data and Bio-Environmental Engineering (BEE).

3.3.9. Maintain a CDDAR trailer for weatherproof storage and mobility with minimum required equipment listed in AFI 21-101, *Aircraft and Equipment Maintenance Management,* and T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*.

3.3.10. Ensure all crash recovery equipment is serviceable and available for use. As a minimum for CDDAR response, the crash trailer, tow vehicle and tow bars will be readily available at all times. The CDDAR Team Chief will coordinate with wing agencies for additional equipment required for a recovery operation. Inform 18 MXG/CC of equipment shortages in writing.

3.3.11. Maintain airfield maps in all crash recovery vehicles.

3.3.12. Review support agreements, base disaster response plans and the CDDAR lesson plan annually.

3.3.13. Coordinate with C-130, E-3, KC-135 and HH-60 units for equipment and personnel specific to their aircraft. If required, contact Oklahoma City Air Logistics Complex (ALC) prior to any recovery operation of an E-3 or KC-135 aircraft. If required, contact 55th Wing Offutt AFB prior to any recovery operation of a RC-135 aircraft.

3.4. Maintenance Flight Support will:

3.4.1. Provide personnel for equipment and tool control/inventory at the mishap site (24-hour coverage).

3.5. The CDDAR Team Chief/alternate will:

3.5.1. Be a SNCO or waivered TSgt (approved by the MXG/CC) and tracked on the Special Certification Roster (SCR).

3.5.2. Ensure sufficient personnel/teams are trained in CDDAR operations.

3.5.3. Ensure serviceability, availability and proper use of all required Personal Protective Equipment (PPE) and equipment as determined by technical data and BEE.

3.5.4. Ensure written Respiratory Protection Program (RPP) is current. Forward personnel roster to BEE Respiratory Program Manager every six months.

3.5.5. Conduct/participate in annual training exercises. Coordinate with the 18th Civil Engineer Squadron, Readiness and Emergency Management Flight (18 CES/CEX) before exercises. Coordinate all airfield exercises with Airfield Management (18 OSS/OSAA) before execution.

3.5.6. During on-base recovery, the CDDAR Team Chief will:

3.5.6.1. Report to the Incident Commander (IC) when requested and stand by until the IC, with the coordination of the safety representative and the accident board president, indicates the aircraft is safe for recovery.

3.5.6.2. Coordinate with all agencies required to perform recovery operations. These can include 18 CES/CEO (Operations Flight), 18 CES/CED (EOD), 18 CES/CEF (Fire Department), Logistics Readiness Squadron (LRS), BEE, Security Forces, Airfield Management, 718 CES/CEN (Engineering Assistants), tenant unit or any other agency as applicable.

3.5.6.3. Conduct a crew briefing stating specifically what is to be done, how it will be done and assign specific responsibilities to each CRT member.

3.5.6.4. Remove any personnel who are not involved in the recovery operations or safety surveillance.

3.5.6.5. Every effort will be made to ensure the wreckage is removed from the runway in minimum time commensurate with requirements to reopen the runway for operational use, prevent unnecessary secondary damage to aircraft and preserve evidence for the accident investigation.

3.5.6.6. Notify MOC and Airfield Management when recovery operations are complete.

3.5.7. During off-base recovery, the CDDAR Team Chief will:

3.5.7.1. Work within the scope of the U.S. Forces, Japan (USFJ).

3.5.7.2. Respond at the request of the IC after the crash site has been located.

3.5.7.3. Determine the personnel and equipment required to remove the wreckage.

3.5.7.4. Advise MOC of requirements for personnel, equipment, transportation and housing when the mishap aircraft has been released for recovery.

4. Organizational Responsibilities:

4.1. 18 CES will:

4.1.1. Provide initial response via Fire Emergency Services Flight (18 CES/CEF).

4.1.2. Assist CRT with any equipment and skills within unit capability and beyond those of CRT for the purposes of aircraft removal/site clean-up.

4.1.3. Supply heavy-earth moving equipment and operators as requested by the IC or CDDAR Team Chief, i.e. bulldozer, etc.

4.2. Fire Department will:

4.2.1. The SFO will be IC until the aircraft is deemed fire safe and incident command is either terminated or transferred to the CDDAR Team Chief.

4.2.2. The IC will consider activating the EOC for coordination with all required agencies.

4.2.3. Provide fire suppression/protection and remain on site until released by the IC.

4.2.4. Ensure composite materials are cooled to ambient temperatures before the CRT performs containment clean-up and disposal operations.

4.3. EOD will:

4.3.1. Coordinate with the IC and CDDAR Team Chief upon arrival to mishap site. Assist with emergency extraction of aircrew personnel, if necessary.

4.3.2. Provide assessments to the IC and CDDAR Team Chief to determine the initial cordon area.

4.3.3. Determine if any explosive hazards or forward exclusion areas exist. Coordinate with MOC for armament stores. Advise on cordon adjustment and forward exclusion areas. Adjust orientation of aircraft if necessary and possible.

4.3.4. Provide munitions safing prior to recovery operations.

4.3.5. Advise the IC on weapons recovery. Coordinate with owning Aircraft Maintenance Unit (AMU)/Helicopter Maintenance Unit (HMU) for weapons de-arm for additional support.

4.3.6. Provide technical guidance on explosive components/hazards.

4.4. 18th Security Forces Squadron (18 SFS) will:

4.4.1. Provide personnel to set up safety cordons and provide security for incident site.

4.4.2. Set up an Entry Control Point (ECP) in coordination with the IC, BEE and the CDDAR Team Chief and coordinate with Airfield Management.

4.5. BEE will:

4.5.1. Evaluate the scene for potential health hazards and provide assessments to the IC and CDDAR Team Chief.

4.5.2. Provide PPE recommendation to the IC and CDDAR Team Chief.

4.5.3. Monitor air conditions through all phases of recovery to evaluate airborne hazard potential.

4.6. Airfield Management will:

4.6.1. Provide services to the CRT, as needed, as it pertains to the airfield/aerodrome.

4.6.2. Ensure that the Wing Airfield Driving Program Manager assist 18 EMS Unit Airfield Driving Program Manager with airfield driving requirements outlined in AFI 13-213, *Airfield Driving*, Kadena AB Supplement.

4.7. 18th Wing Safety (18 WG/SE) will:

4.7.1. Coordinate with the IC for mishap evidence preservation, per AFI 91-204, *Safety Investigations and Reports.*

4.8. TA will:

4.8.1. Provide initial response to in-flight emergencies/ground emergencies (IFE/GE) during non-normal duty hours until the standby CRT arrives.

4.8.2. Assist CRT personnel with IFE/GE for transient aircraft.

4.9. Host/Tenant units will:

4.9.1. Ensure Subject Matter Experts (SME) are available to assist CRT with the safe recovery of respective unit's aircraft (7-level technicians with 12 months experience on airframe are considered SME's).

4.9.2. Ensure technical data is available for their airframes.

4.9.3. Ensure Mission Design Series (MDS) equipment/specific tools are available or procedures are in place to obtain equipment necessary for the safe recovery of the unit's aircraft.

4.9.4. Provide CRT and TA with airframe familiarization.

4.9.5. Provide personnel as needed to support recovery operations for unit's aircraft.

4.9.6. Provide a qualified tow team to respond to all IFE/GE, hot brakes, or to remove aircraft capable of being towed using standard towing procedures.

4.9.7. Remain on site until released by the IC or CDDAR Team Chief.

4.9.8. Appoint a primary and alternate CDDAR Program representative in writing.

4.9.8.1. Tenant unit CDDAR representatives will work closely with 18 EMS R&R to coordinate participation in CDDAR exercises, training and equipment inventories as applicable to their respective aircraft.

4.9.8.2. Host units will provide a minimum of two 5-level personnel to assist with recovery operations from the following Air Force Maintenance Specialties (when required): Crew Chiefs, Avionics, Electrical Systems, Egress, Engines, Fuels, Structures, Metals Technology and Hydraulics/Pneudraulics. Individuals will be trained by R&R on CDDAR response, equipment use and lifting techniques. These appointed individuals will receive at a minimum annual training following their initial training. **Note:** More than two individuals may be required based on the circumstances of the crashed, damaged or disabled aircraft being recovered.

4.10. MOC will:

4.10.1. Coordinate with assigned and associate units for assistance in the reclamation of their aircraft.

4.10.2. For KC-135, RC-135, E-3 and HH-60 aircraft MOC will contact the applicable AMU/HMU to stand up their recovery team IAW T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*.

4.10.3. For C-130, Marine, Naval and transient aircraft MOC will coordinate communications with the owning units for CRT guidance and support.

4.10.4. Make radio contact with the CRT and enforce radio discipline during the recovery operation.

4.10.5. Coordinate support and equipment as requested by the CDDAR Team Chief.

4.11. 18th Logistics Readiness Squadron (18 LRS) will:

4.11.1. Supply special purpose vehicles and operators as requested by the IC or CDDAR Team Chief.

4.11.2. Fuels Management Flight will process fuel and oil samples, maintain a crash kit and abide by all other CDDAR requirements IAW T.O. 42B-1-1, *Quality Control of Fuels and Lubricants,* and AFI 23-201, *Fuels Management*.

4.12. 718th Civil Engineer Squadron (718 CES) will:

4.12.1. Provide assistance in coordinating clean-up procedures and make notifications as necessary to ensure compliance with governing environmental laws.

4.12.2. Provide assistance in mapping and surveying crash site for investigation purposes.

5. Crash Recovery Procedures: In the event of a crashed/disabled aircraft incident, Kadena AB IEMP 10-2 will be implemented and all applicable checklists will be started. **NOTE:** Kadena AB does not possess hydrazine safing/clean-up capabilities.

5.1. Airfield Management will notify MOC and R&R via the secondary crash net whenever there is an in-flight emergency, ground emergency or hot brake condition.

5.2. MOC will record the condition, type of aircraft, tail number, location, armament, total fuel remaining and time of notification.

5.3. MOC will notify applicable units to ensure appropriate checklists are initiated for heavy aircraft (e.g. C-130, KC-135 and E-3).

5.4. MOC will notify the R&R Section Chief/CDDAR Team Chief to assemble the CRT. After activation of the CRT, the R&R Section Chief/CDDAR Team Chief will do a recall of all CRT personnel needed for incident.

5.5. CDDAR Team Chief will coordinate with the IC, Safety and EOD, as applicable, to determine what needs to be accomplished and when the CRT will be allowed to enter the area.

5.6. CDDAR Team Chief will evaluate the site with the IC and BEE to determine what PPE and recovery equipment will be required for entry into the area.

5.7. CDDAR Team Chief will brief all personnel on the site condition, review individual responsibilities of team members and set up the work schedule for personnel.

5.8. CDDAR Team Chief will review all safety precautions and ensure all personnel have proper PPE.

5.9. Once directed by the IC to conduct recovery procedures, the CDDAR Team Chief will ensure the aircraft is safe for recovery operations, configure aircraft and begin recovery/removal actions.

6. IFE/GE Procedures: MDS specific tech data will be used for IFE/GE purposes. The following is a general outline of procedures.

6.1. R&R South will provide primary coverage for all fighter aircraft and R&R North will provide primary coverage for all heavy aircraft on Kadena AB. Coordination for additional support will be made via the EMS Production Super.

6.2. Upon notification of an IFE/GE, R&R initial response will be limited to the primary crash vehicle and tow vehicle with applicable tow bar. There will be a minimum of three qualified personnel, one of which will be a fully qualified 7-level.

6.3. The CRT will coordinate with Chief 2/IC on TAC-1 to determine a rendezvous location. Once notification is received that the emergency aircraft is on the ground, crash recovery vehicles will remain behind all Fire Department vehicles.

6.4. Once the aircraft has been declared safe by IC, the CRT will approach the aircraft. If the aircraft is disabled on the runway and unable to move under its' own power, the CRT will remove the aircraft from the runway.

6.5. If aircraft can be towed under normal conditions, the owning AMU/HMU will be responsible for towing the aircraft back to the designated parking spot after the CRT removes it from the runway.

6.6. The CRT will respond to all GEs in the same manner as an IFE and stand by until released by Chief 2.

6.7. TA will provide initial response during non-normal duty hours.

7. Hot Brakes Events: MDS specific technical data will be used for hot brake purposes. The following is a general outline of procedures.

7.1. There are no mechanical means to determine if an aircraft has hot brakes (T.O. 4B-1-1, *Use of Landing Wheel Brakes and Wheels during Ground Operations*) therefore hot brakes can only be declared by the Aircraft Commander (AC), Fire Emergency Services (FES), or CRT personnel.

7.2. IAW T.O. 4B-1-1, *Use of Landing Wheel Brakes and Wheels During Ground Operations*, a hot brakes condition exists if any of the following conditions are present: Aircrew has reported possible hot brakes, wheel thermal plugs have melted, a visible fire has been observed, wheel drive keys are glowing red or white, the axle over temperature indicator (if equipped) has extended or the reading from an IR heat gun indicates an over temperature condition.

7.3. **Hot Brakes Procedures:**

7.3.1. If the aircraft is on rollout, the tower will direct the aircraft to taxi to the nearest hot brakes area IAW Kadena AB Instruction 13-204, *Airfield Operating Instruction*. If the aircraft is already at End of Runway (EOR), the aircraft will remain in position IAW T.O. 4B-1-1, *Use of Landing Wheel Brakes and Wheels During Ground Operations*.

7.3.2. If hot brakes are suspected, the brakes will not be checked until 10 - 15 minutes have passed since the last application of brakes/initial temperature readings, due to heat transfer from the brakes to the wheel assemblies.

7.3.3. FES or Crash Recovery personnel will chock the aircraft. Personnel will approach aircraft from a forward or aft direction. FES personnel will check brake temperatures with an IR heat gun to establish a baseline temperature. After consulting with CRT and determining brakes have dropped below acceptable levels IAW T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. CRT personnel will conduct a check of the aircraft brakes for excessive heat and ensure the aircraft is safe to taxi. Fighter aircraft engines will not be shut down unless directed by the IC.

7.3.4. If the AC, FES or CRT personnel declare hot brakes, the aircraft will remain in the designated area for a minimum of 30 minutes to allow adequate cool-down time IAW TO 4B-1-1, *Use of Landing Wheel Brakes and Wheels During Ground Operations*. All personnel will remain clear of an area 300 feet from both sides of the wheel in a 45 degree angle until the brakes have cooled or the thermal release plugs have deflated the tires.

7.3.5. The SFO will direct a fire vehicle to remain with the aircraft for the allotted cool down time. Once the allotted cool-down time has expired, FES will check brake temperatures and compare them to the technical data with CRT personnel.

7.3.6. Aircraft with engines running may taxi back to the designated parking area after the allotted cool-down time and after brake temperatures have dropped to accepted levels.

7.3.7. If the aircraft is disabled on the runway and unable to move under its' own power, the CRT will remove the aircraft from the runway.

7.3.8. If the aircraft can be towed under normal conditions, the owning AMU/HMU will be responsible for towing the aircraft back to the designated parking spot after the CRT removes it from the runway.

8. Barrier Engagements: MDS specific technical data will be used for barrier engagement purposes. Procedures will be IAW but not limited to AFMAN 32-1040, *Civil Engineer Airfield Infrastructure Systems,* and T.O. 35E8-2-5-4, *IPB -- ACFT Arresting Barrier*, The following is a general outline of procedures.

8.1. FES personnel will ensure the aircraft is safe and chocked. The IC will then turn control of the aircraft over to the CRT supervisor for barrier extraction.

8.2. IAW AFMAN 32-1040, *Civil Engineer Airfield Infrastructure Systems*, alternate extraction procedures are commonly referred to as "slingshotting" the aircraft. Potential for aircraft damage is high when using these methods; therefore, use these procedures only during contingencies or IFE's that require rapid removal of an aircraft from a cable. IAW T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual.* This procedure must be approved by the Installation Commander (not to be confused with the incident commander) before being used for routine disengagement of aircraft during local exercises or scheduled testing of the arresting system (e.g., certification).

8.3. The CRT will ensure the aircraft is safe prior to towing the aircraft off the runway. At a minimum, the aircraft landing gears and all live forward-firing ordnances will be pinned. Immediately upon exiting the active runway, the tow team will stop the aircraft and all remaining safing operations will be completed.

8.4. In the event CRT personnel are not available, or there is an imminent danger to the pilot (i.e. smoke in the cockpit, aircraft fire, etc.), FES will safe the landing gear and direct the AC to shut down engines.

9. CDDAR Vehicle and Equipment Requirements. R&R North and South sections will be equipped with a crash hotline and base station radio for monitoring the crash dispatch net.

9.1. The following vehicles are required for IFE response and crash recovery capability.

9.1.1. Two unit assigned (1 for R&R North, 1 for R&R South), 6-passenger, 1-ton, 4x2 pickups with heavy-duty pintle-hook and utility body (or equivalent). Vehicles will be equipped with emergency lights, siren, radio (capable of monitoring all maintenance nets to include the Secondary Crash Net independently), T.O.s, tools and safety equipment to perform immediate response operations.

9.1.1.1. Crash recovery emergency response vehicles will be inspected daily by the on-coming shift for verification of response capability and will be documented on the AF Form 1800, *Operator's Inspection Guide and Trouble Report*.

9.1.2. Two unit assigned (1 for R&R North, 1 for R&R South), 6-passenger, 1-ton, 4x4 pickups with heavy-duty pintle-hook and utility body (or equivalent) for storage and security of all tools and crash equipment.

9.1.3. Semi-tractor truck with 40-foot flatbed trailer maintained/operated by 18 LRS to facilitate aircraft removal as determined by CDDAR Team Chief.

9.1.4. Unit assigned aircraft tow tractor (MB-2 or MB-4) maintained by 18 LRS/LGRV for recall and tow bar maintained by 18 EMS/MXMG Aerospace Ground Equipment (AGE).

9.1.5. Heavy industrial crane capabilities, readily available with operator.

9.1.6. 10K All-terrain forklift for CDDAR equipment transportation and aircraft removal provided by 18 LRS/LGRDDO.

9.2. A minimum of three wheel dollies for disabled aircraft maintained by 18 EMS/MXMG.

9.3. Powered and Non-Powered AGE as required, e.g. aircraft jacks, light carts, compressors, tow bars, etc.

9.4. Dedicated CDDAR Consolidated Tool Kit (CTK) managed IAW AFI 21-101, *Aircraft and Equipment Maintenance Management,* and applicable supplements.

9.5. Two unit assigned (1 for R&R North, 1 for R&R South) crash trailers with at least the minimum required tools equipment and PPE.

9.5.1. Air bags and control consoles in sufficient quantity to support the aircraft assigned to the wing.

9.5.2. General lifting/securing devices such as belly bands, shackles, chains, cargo tie-down straps, Tirfors, slings and sling adapters, jack adapters, nylon/cotton rope and snatch cables.

9.6. Equipment not available on Kadena AB will be sourced from other military installations on Okinawa. If unavailable, civilian companies will be contracted.

JOEL L. CAREY,
Brigadier General, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1, *Maintenance of Military Materiel*, 1 August 2018

AFI 13-213, *Airfield Driving,* 4 February 2020

AFI 21-101, *Aircraft and Equipment Maintenance Management,* 16 January 2020

AFI 21-103, *Equipment Inventory, Status and Utilization Reporting,* 30 April 2020

AFI 23-201, *Fuels Management*, 20 June 2014

AFI 32-2001, *Fire and Emergency Services (F&ES) Program,* 28 September 2018

AFI 33-322, *Records Management and Information Governance Program,* 23 March 2020

AFI 48-137, *Respiratory Protection Program,* 12 September 2018

AFI 91-204, *Safety Investigations and Reports*, 17 April 2018

AFMAN 32-1040, *Civil Engineering Airfield Infrastructure Systems,* 23 August 2019

AFMAN 91-203, *Air Force Occupational Safety, Fire Health Standards,* 11 December 2018

KADENAABI 13-204, *Airfield Operating Instruction,* 27 March 2015

AFI13-213_KADENAABSUP, *Airfield Driving*, 23 May 2017

18WG *Mishap Response Plan (18 WG Plan 91-204),* 8 August 2018

18WG *Installation Emergency Management Plan,* March 2020

T.O. 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information,* 9 April 2014

T.O. 4B-1-1, *Use of Landing Wheel Brakes and Wheels During Ground Operations,* 23 April 2020

T.O. 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual,* 20 March 2015

T.O. 35E8-2-5-4, *IPB -- ACFT Arresting Barrier,* 26 May 2013

T.O. 42B-1-1, *Quality Control of Fuels and Lubricants,* 15 November 2016

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AF Form 1800, *Operator's Inspection Guide and Trouble Report*

Abbreviations and Acronyms

AB—Air Base

AC—Aircraft Commander

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRIMS—Air Force Records Information Management System

AGE—Aerospace Ground Equipment

ALC—Air Logistics Complex

AMC—Aircraft Maintenance Unit

AMU—Aircraft Maintenance Unit

BEE—Bio-Environmental Engineering

CDDAR—Crash, Damaged, Disabled Aircraft Recovery

CES—Civil Engineer Squadron

CMA—Controlled Movement Area

CTK—Consolidated Tool Kit

CRT—Crash Recovery Team

ECP—Entry Control Point

EMS—Equipment Maintenance Squadron

EOD—Explosive Ordnance Disposal

EOR—End of Runway

FES—Fire Emergency Services

GE—Ground Emergency

GOV—Government Owned Vehicle

HMU—Helicopter Maintenance Unit

IAW—In accordance with

IC—Incident Commander

IEMP—Installation Emergency Management Plan

IFE—In-flight Emergency

LRS—Logistics Readiness Squadron

MDS—Mission Design Series

MOC—Maintenance Operations Center

MTF—Maintenance Training Flight

OPR—Office of Primary Responsibility

RDS—Records Disposition Schedule

PPE—Personnel Protective Equipment

RPP—Respiratory Protection Program

R&R—Repair and Reclamation

SCR—Special Certification Roster

SFO—Senior Fire Official

SME—Subject Matter Expert

SNCO—Senior Noncommissioned Officer

TA—Transient Alert

T.O.—Technical Order

TSgt—Technical Sergeant