BY ORDER OF THE COMMANDER
MINOT AFB

MINOT AIR FORCE INSTRUCTION
21-501

21 MARCH 2017

Maintenance

CRASHED, DAMAGED OR DISABLED AIRCRAFT RECOVERY PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(Colonel Thomas C. Kirkham)

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This instruction implements requirements in AFI 21-101, **Chapter 11** and defines responsibilities to be performed in the recovery of a Crashed, Damaged or Disabled Aircraft (CDDAR). This instruction applies to all 5th Bomb Wing (5 BW) units and the 54th Helicopter Squadron (54 HS) and does not pertain to the Air National Guard or Civil Air Patrol. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF IMT 847, *Recommendation for Change of Publication*, and route the AF IMT 847 from the field through the Base Publishing Manager. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. Contact supporting records managers as required.

SUMMARY OF CHANGES

Opening paragraph: reformatted to reflect, implement, purpose, application of OI. Equipment required for CDDAR added to sections **3.3.8**- **3.3.21**. The 5 BW/54 HS, with support from 5 MXG Crash Team Chief was added in **4.1.1**. Minimum of 30 Crash Recovery Team is now 30 members. Glossary of References and supporting Information can be found in **Attachment 1**; **Attachment 2** listed as CDDAR Vehicle Specifications; **Attachment 3** listed as Crash Recovery Recall. In addition Attachment 4 was added as M1 Support Services as Local Operating

Instructions (LOI) Helicopter maintenance. This document is substantially revised and must be completely reviewed.

1. General:

1.1. Supervisors at all levels must recognize sources of hazards and apply appropriate safety practices to minimize their effect. There is an infinite variety of possible emergency and crash recovery situations, therefore, specific procedures cannot be prescribed for every situation. Practice through participation in wing crash recovery exercises and implementation of risk management techniques are imperative for all emergency and crash recovery operations.

1.2. The CDDAR program applies to all 5 BW host and tenant organizations and is designed to recover crashed, damaged, or disabled aircraft in a minimum time period consistent with the following consideration(s):

1.2.1. Safety of all personnel involved with recovery operations.

1.2.2. Requirement to open the runway for operational use.

1.2.3. Prevention of secondary damage to the aircraft.

1.2.4. Preservation of evidence for mishap or accident investigations in accordance with AFI 91-202, *The Air Force Mishap Prevention Program* and AFI 91-204, *Safety Investigations and Reports.*

1.3. When an aircraft is under investigation by the Interim Safety Board (ISB), recovery operations will NOT proceed until the board president in coordination with the installation commander releases the aircraft. Personnel who are not engaged in the investigation will remain outside the recovery area. The CDDAR team may be called upon to perform tasks as required by the investigation team. Furthermore, 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 to the ISB president by the On-Scene Commander.

1.4. The CDDAR program instruction is procedural and will not take precedence over aircraft specific technical data in recovery of crashed, damaged, or disabled aircraft.

2. CDDAR Program Definitions:

2.1. Normal Flying Period: Whenever base assigned aircraft are airborne on scheduled local area flights.

2.2. Disabled Aircraft: An aircraft on the runway or taxiway that cannot or should not be moved in its current condition until necessary actions are made for it to be towed by its undercarriage. This normally includes aircraft with blown tires, hot brakes, failed engine(s) or failed hydraulic systems.

2.3. Damaged Aircraft: An aircraft that cannot be moved from the runway using its own power or by towing on its undercarriage without sustaining considerable secondary damage.

2.4. Airfield: Includes the aircraft runway, taxiways, parking area, ramps, and areas surrounding the flight line as well as perimeter and access roads.

3. CDDAR Program Policies:

3.1. This operating instruction (OI) is applicable to all on-station aircraft and will be used by deployed 5 BW personnel in conjunction with Forward Operating Location (FOL) developed publications. Minot Air Force Base (MAFB) has no Geographically Separated Units (GSUs). Recovery of aircraft on and off base, to include difficult to reach areas such as water or rugged terrain, is handled by implementing MAFB Plan 10-2, *Minot AFB Installation Emergency Management Plan* checklists and additional disaster-related guidance deemed applicable to the situation according to 5 BW/91 MW safety representatives in corroboration with the Incident Commander (IC). Team member positions and specific responsibilities are identified in Attachment 3. Damaged or disabled aircraft which are tow capable will be removed from the runway area by 5 AMXS/54 HS with the Crash Recovery Team Chief observing the tow, and if required, providing guidance to the Tow Supervisor.

3.2. Transient aircraft beyond the capabilities of the host CDDAR unit are handled by the owning command. When a disabled or damaged transient aircraft situation occurs, 5 BW Command Post will notify the owning command.

3.3. The following equipment and vehicles are the minimum essential for clearing the active runway. If recovery vehicles are unavailable at the time of the incident, 5 LRS Vehicle Management and Analysis will source suitable replacements through the vehicle recall plan, short term rentals in accordance with AFI 23-302, *Vehicle Management*, paragraph 4.31.1., or coordination with nearby federal/state units or MAJCOM staff.

3.3.1. 6 PAX Crew Cab 4x4 truck with non-tactical radio (5 MXG).

3.3.2. Aircraft lifting bags with consoles, hoses and mats as required (5 MXS).

3.3.3. Crash Recovery equipment as required (5 MXS).

3.3.4. B-52H fin fold kit (5 MXS).

3.3.5. Rudder lock assembly, if fin fold is required (5 MXS).

3.3.6. Grip hoist system for shoring/mooring to facilitate the tightening of cables (5 MXS).

3.3.7. B-52H flight control component slings as required (5 MXS).

3.3.8. Dunnage as required (5 MXS).

3.3.9. B-52H emergency tow kit (5 MXS).

3.3.10. Relief valves, repair kits and earplugs (5 MXS).

3.3.11. 30-ton tripod jacks as required (5 MXS).

3.3.12. B-52H tow bar (5 MXS).

3.3.13. MC-7 Air compressors as required (5 MXS).

3.3.14. FL-1D light carts as required (5 MXS).

3.3.15. The 7.5-ton crane for engine, vertical stabilizer, hatch, and ejection seat removal (5 AMXS).

3.3.16. Tow tractor(s) (MB-2) with chains during winter months, and buddy bar (5 AMXS).

3.3.17. Bulldozer for debris removal with operator (5 CES provided).

3.3.18. 10K all terrain fork lift(s) with operator (5 LRS provided).

3.3.19. 40-foot flatbed trailer(s) with semi-tractor(s) and driver(s) for debris removal/CDDAR equipment transportation as required (5 LRS provided).

3.3.20. 50/200-ton crane with operator as required (BPA supported).

3.3.21. UH-1 tow vehicle, wheels (2 sets), and tow bar (54 HS).

3.4. All safety related vehicle discrepancies that occur during a recovery or exercise will be reported immediately to 5 LRS for repair. If a crash recovery vehicle becomes non-operational, the 5 MXG Crash Recovery Team Chief or designated person will notify the Maintenance Operations Center (MOC) by radio or phone.

4. CDDAR Program Responsibilities:

4.1. 5 BW personnel are trained specifically to recover B-52H aircraft. 5 BW has primary responsibility for maintaining the CDDAR program at MAFB, ND. 5 BW will ensure CDDAR training is provided to all augmentees prior to any CDDAR related activities. 5 MXS/ 5 AMXS/54 HS will provide personnel and participate in any CDDAR related activities.

4.1.1. In the event of a helicopter mishap, 5 BW/54 HS will follow procedures in Operating Instruction 14 **(Attachment 4)** and Technical Order 1H-1-39 *Shipment of Aircraft*. 5 BW/54 HS, with support from 5 MXG Crash Team Chief, executes UH-1 CDDAR operations. 54 HS will provide a subject matter expert (SME) to advise the Crash Recovery Team Chief and conduct augmentee training prior to any CDDAR related activities. 5 BW will provide vehicles with trained drivers/operators as required.

4.2. The Incident Commander/Safety Investigation Board president will be determined as per MAFB Plan 10-2, *Minot AFB Installation Emergency Management Plan*, and AFI 91-204, *Safety Investigations and Reports*. They determine the time/date the aircraft is released to maintenance, at which time 5 MXG Crash Recovery Team Chief will conduct recovery operations.

5. 5 MXG/CC will ensure :

5.1. Availability of qualified maintenance/munitions personnel for immediate response to assist/augment as required by Incident Commander/Crash Recovery Team Chief.

5.2. MOC notifies Alert Photography assigned to 5 BW Public Affairs office and assists the senior on-scene maintenance representative by coordinating with other units and/or agencies as required.

5.3. Initiate agreements with outside agencies to coordinate the acquisition of vehicles/items that cannot be procured through the utilization of MAFB assets for any mishap on/off base (specifically items in paragraphs 3.3.16-3.3.18 stated above) in accordance with MAFB Plan 10-2, *Minot AFB Installation Emergency Management Plan*, and AFI 23-302, *Vehicle Management*, paragraph 4.31.1., 5 LRS/5 CONS approval/coordination.

6. 5 MXS/CC will ensure:

6.1. All assigned dispatched personnel report to 5 MXG Crash Recovery Team Chief.

6.2. Production Superintendent assigns an Aerospace Ground Equipment (AGE) driver, with bobtail, to the Crash Recovery Team during a major accident response or exercise for the sole purpose of retrieving powered and non-powered AGE equipment. The driver will monitor the assigned radio net and respond to Crash Recovery requests. AGE drivers assigned will have Controlled Movement Area (CMA) qualifications.

6.3. Aerospace Ground Equipment Flight identifies and maintains all Crash Recovery AGE. They will ensure that each piece of equipment is identified and available for Crash Recovery responses. At a minimum, items will include:

6.3.1. Four each MC-7s (air compressor).

6.3.2. Four each FL-1D (light cart).

6.3.3. One each B-52H tow bar.

6.3.4. Seven each B-4A 30-ton tripod jacks.

6.4. Egress personnel are available to safe and de-arm ejection seats/hatches as needed to prevent inadvertent firing of the egress system.

6.5. Purchase and maintenance of all personal protective equipment (PPE), all equipment listed in section **7.7.1**.

7. Repair & Reclamation Sectionll ensure:

7.1. Maintenance of all assigned crash recovery equipment including those stated in **paragraphs 3.3.1** thru **3.3.10**. This equipment will be inventoried and inspected for serviceability quarterly, with the exception of air bags, slings and manifolds, which will be inspected in accordance with current applicable directives.

7.2. The Crash Recovery Team consists of a minimum of 30 people.

7.3. The Crash Recovery Team including team chiefs, area supervisors, and team members receive initial and annual refresher crash recovery training. Training consists of academic training and a hands-on crash recovery exercise. Training is provided by the team chief or a trainer designated by the team chief. Augmentees are trained by the team chief or a trainer designated by the team chief prior to any CDDAR related activities.

7.4. Upon notification of an aircraft mishap, CDDAR personnel will respond as required. If the mishap happens outside the installation, CDDAR personnel will provide 5 LRS/LGRF with a list of required vehicles for CDDAR operations to include **paragraph 3.3**.

7.5. A crash recovery subject matter expert (SME) is appointed in writing for 5 BW/54 HS. This will be the most experienced NCO/civilian regardless of rank. The individual appointed assists the team chief as required.

7.6. Recovery of disabled aircraft on the active runway, taxiway or flight line using specified crash recovery methods as outlined in applicable aircraft technical orders, checklists (see **Attachment 1**) and this instruction. It is the responsibility of the owning organization (for transient aircraft, Transient Alert) to tow the disabled aircraft to its final parking location.

7.7. The proper use of PPE as determined by technical data and MAFB Bioenvironmental Engineer/NCOIC (5 MDOS/SGOJ).

7.7.1. PPE will include, at a minimum:

7.7.1.1. Safety glasses.

7.7.1.2. Leather gloves. Nitrile gloves will be worn underneath leather gloves to further prevent absorption of materials/chemicals (consumable).

7.7.1.3. Hard hats.

7.7.1.4. Hearing protection to include earplugs (consumables) and ear defenders.

7.7.1.5. Safety toe boots.

7.7.1.6. In the case of chemical contact hazards, PPE will also include:

7.7.1.6.1. Tyvek protective suits (consumable).

7.7.1.6.2. Protective footwear that extends above the ankle and has enough traction for the individual to operate in slick conditions and can be worn in place of/over work boots that meet standard work center safety requirements (consumable).

7.8. Ensure individual team member's qualifications for specific equipment operations (e.g., lifting bags, respirators, recovery vehicles, crash saw) are identified and documented. Respirators will be deemed as emergency use and worn by CDDAR team members/augmentees only when given the recommendation from Bioenvironmental in accordance with AFI 48-137, *Respiratory Protection Program* and 29 CFR 1910.134, OSHA *Code of Federal Regulation governing Respiratory Protection*.

7.9. Personnel are familiar with hazards associated with B-52H/UH-1 (e.g., JP-8, Jet A, hydraulic fluid, engine oil, radioactive components (ignition boxes/FLIR windows/lasers).

7.10. Emergency Operations Center/5 LRS/5 CONS is provided with **Attachment 2** when emergency rental procedures prove necessary.

8. 5 AMXS/CC will ensure:

8.1. All assigned dispatched personnel report to 5 MXG Crash Recovery Team Chief.

8.2. The aircraft is towed from the runway to final parking location after the crash recovery team has performed necessary tasks to allow the aircraft to be towed from the runway. The Aircraft Maintenance Unit (AMU) will dispatch a tow vehicle with assigned team.

8.3. Two flight line crew chiefs are provided to manage aircraft forms and to defuel the aircraft as needed prior to aircraft being removed from site to prevent possible fuel spill.

8.4. Ensure flight line Avionics, Electronic Countermeasures, and other system specialists are provided to remove all accessible classified/hazardous items from the aircraft.

8.5. Availability of Crash Recovery support equipment and a trained vehicle operator for a 7.5-ton crane for engine removal and a tow tractor (MB-2), stated in **paragraphs 3.3.12** and **3.3.15**, respectively.

9. 5 LRS/CC will ensure:

9.1. All assigned dispatched personnel report to the 5 MXG Crash Recovery Team Chief.

9.2. 5 MXG/CC and 5 MXS/CC are notified of equipment shortages/serviceability that affect CDDAR support, stated in paragraph 3.3.

9.3. 10-ton tractor(s) with 40-foot trailer(s), two C-300 diesel refueling trucks, one R-11 JP-8 refueling/defueling truck, one general purpose 1-ton truck and operators when requested by the Incident Commander or Crash Recovery team chief.

9.4. Petroleum, Oils, and Lubricants (POL) personnel obtain a fuel sample from the crashed aircraft and submit to Wright-Patterson AFB for analysis in accordance with T.O. 42B-1-1, *Quality Control of Fuels and Lubricants*.

10. 5 CES/CC will ensure:

10.1. All assigned dispatched personnel report to 5 MXG Crash Recovery Team Chief.

10.2. Personnel and equipment are provided for response in accordance with applicable procedures and directives.

10.3. Availability of qualified Explosive Ordnance Disposal (EOD) personnel for immediate response to aircraft mishaps as required.

10.4. Provide portable runway material as required.

11. 5 CONS/CC will ensure:

11.1. Emergency items are procured, including construction equipment, when necessary in accordance with the 5 BW/CC approved Contingency Operational Contracting Support Plan (COCSP).

12. 5 MDG/CC will ensure:

12.1. Personnel and equipment for emergency response are provided in accordance with MAFB Plan 10-2, *Minot AFB Installation Emergency Management Plan*, and any applicable procedures/directives. 5 MDOS/SGOJ will train CDDAR team members, augmentees, and other personnel as required on respiratory use, maintenance and compliance issues.

MATTHEW R. BROOKS, Colonel, USAF
Commander, 5th Bomb Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 13-213, *Airfield Operations and Base Flying Procedures*, 01 June 2011

AFI 21-101, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, 21 May 2015

AFI 21-101 Minot Air Force Base Supplement 1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, 26 October 2015

AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, 26 January 2012

AFI 23-302, *Vehicle Management*, 25 April 2007

AFI 31-101, *The Air Force Installation Security Program*, 8 October 2009

AFI 91-202, *The Air Force Mishap Prevention Program*, 24 June 2015

AFI 91-203, *Air Force Consolidated Occupational Safety and Health Standard*, 15 June 2012

AFI 91-204, *Safety Investigations and Reports*, 12 February 2014

AFI 48-137, *Respiratory Protection*, 15 July 2014

AFMAN 32-4004, *Emergency Response Operations*, 1 December 2013

AFMAN 37-123, *Management of Records*, 25 March 2005

OSHA Code of Federal Regulation 29 CFR 1910.134, governing Respiratory Protection, 1 December 2006

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

TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 9 August 2013

TO 00-105E-9, *Aircraft Emergency Rescue information*, 1 February 2006

TO 1B-52H-2-2JG-4, *Ground Handling, Servicing, and Airframe Maintenance*, 15 February 2016

TO 1B-52H-3, *Structural Repair Instructions*, 15 July 2016

TO 1H-1-39, *Shipment of Aircraft*, 1 April 2016

TO 42B-1-1, *Quality Control of Fuels and Lubricants*, 1 August 2014

MAFB Plan 10-2, *Minot AFB Installation Emergency Management Plan*, 28 May 2015

Prescribed Forms

AF IMT 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACSS—Aircraft Support Squadron

AFI—Air Force Instruction

AFMAN—Air Force Manual

AGE—Aerospace Ground Equipment

AMU—Aircraft Maintenance Unit

AMXS—Aircraft Maintenance Squadron

BPA—Blanket Purchase Agreement

BW—Bomb Wing

CDDAR—Crash, Damaged, Disabled, Aircraft Recovery

CE—Civil Engineer

CFR—Code of Federal Regulations

CMA—Controlled Movement Area

CONS—Contracting Office

FOL—Forward Operating Unit

GSU—Geographically Separated Units

IC—Incident Commander

ISB—Interim Safety Board

LRS—Logistic Readiness Squadron

MAFB—Minot Air Force Base

MDG—Medical Group

MOC—Maintenance Operations Control

MXG—Maintenance Group

MXS—Maintenance Squadron

NCO—Noncommissioned Officer

OI—Operating Instructions

OP—Office of Primary Responsibilities

OSHA—Occupation Safety and Health Administration

PPE—Personal Protective Equipment

POL—Petroleum, Oils and Lubricants

PWS—Performance Work Statement

QAE—Quality Assurance Assessment Evaluation

RDS—Records Disposition Schedule

SIB—Safety Investigation Board

SME—Subject Matter Expert

Attachment 2

CDDAR VEHICLE SPECIFICATIONS

A2.1. Vehicles required upon site assessment by ISB/SIB/Team Chief. Need based on severity of emergency as determined by ISB/SIB President/IC/Team Chief.

A2.2. The following vehicles must be equipped to safely operate on surface area as required by nature of emergency; i.e., ice, snow, wet lands, grass lands, asphalt, concrete etc.

A2.2.1. 6 PAX truck, Crew Cab, 4x4 w/non-tactical radio, light bar, class IV trailer hitch w/2" receiver and trailer braking system.

A2.2.2. Trailer 30-foot w/2" ball hitch for transportation of CDDAR equipment.

A2.2.3. Trailer 40-foot flat bed for removal/relocation of large aircraft debris/CDDAR equipment from immediate recovery location to disposition site.

A2.2.4. Semi-tractor (with driver) built to power 40-ft trailer loaded at maximum safe weight specifications for trailer.

A2.2.5. 7.5 Ton crane for removal of engines and flight controls as needed.

A2.2.6. Aircraft Tow tractor (MB-2)

A2.2.7. 50/200 Ton crane with operator for lifting major aircraft debris (ex. fuselage in the case of complete main landing gear failure). Two Blanket Purchase Agreements (BPA) support this requirement.

A2.2.8. Dependent upon weight to be lifted and distance required to reach object to lift

A2.2.9. 49 Ton/474 HP bulldozer for immediate relocation of aircraft debris from runway/high traffic area.

A2.2.10. 10K fork lift for removal of aircraft debris, load/off load support equipment.

Attachment 3

CRASH RECOVERY RECALL

A3.1. The following crash recovery positions may be recalled in the event of a damaged/disabled aircraft: (Usually Repair & Reclamation Section Chief and identified by red helmet)

A3.1.1. Team Chief:

A3.1.1.1. Overall responsibility for recovery operations

A3.1.1.2. Point of contact to Incident Commander for recovery operations

A3.1.2. Area Supervisors:

A3.1.2.1. Assigned to Repair & Reclamation

A3.1.2.2. One stationed in each area to provide direct communication from the Team Chief to team members and augmentees in their area

A3.1.2.3. Responsible to Team Chief for all actions that take place in their assigned aircraft area during recovery operations

A3.1.3. Team Members

A3.1.3.1. Used in various locations around aircraft to operate crash recovery equipment such as lifting bags, aircraft jacks and crash saws

A3.1.3.2. Responsible to Team Chief/Area Supervisor during recovery operations

A3.1.3.3. Individual Team Member qualifications documented in individual training records

A3.1.4. Crash Recovery Subject Matter Expert:

A3.1.4.1. Most knowledgeable NCO/Civilian regardless of rank

A3.1.4.2. Will be available to assist Team Chief as required

A3.1.5. Qualified drivers for equipment determined to be necessary by CDDAR personnel (Supplied by 5 LRS/5 CES) and/or local contractors.

A3.1.6. AGE personnel (Number to be determined by Team Chief).

A3.1.7. Qualified EOD personnel (Supplied by 5 CES).

A3.1.8. Tow team members (Supplied by 5 AMXS).

A3.1.9. Augmentees as required.

Attachment 4

M1 SUPPORT SERVICES

A4.1. This instruction establishes procedures for recovery of UH-1N helicopters by ground transportation after a mishap, precautionary landing or discovery of a serious maintenance condition where it is not feasible to conduct repair actions at the location of the aircraft. It applies to all maintenance personnel and complies with the requirements of AFI 21-101 and the PWS. In the event a recovery by helicopter is required, the procedures outlined in TO 1-H-39, Shipment of Aircraft USAF Series H-1, H-53, and H-60 Helicopters, will be followed.

Figure A4.1. Local Operating Instructions (LOI), Helicopter Maintenance.

OI-14				
CRASHED, DAMAGED OR DISABLED AIRCRAFT			RECOVERY (CDDAR)	
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A4.2. PROCEDURES: When it has been determined by appropriate authority that ground transportation of a helicopter is required, the Site Manager will appoint a Maintenance Recovery Team Lead, who using all applicable technical data will oversee all aspects of the aircraft recovery.

A4.2.1. The Recovery Team Lead upon notification of appointment will task the Maintenance Operations Center (MOC) to contact the following agencies that a ground movement of aircraft is going to occur.

A4.2.1.1. MXG/CC

A4.2.1.2. FC / QAE

A4.2.1.3. HQ 20 AF/A4H

A4.2.1.4. Affected Highway Patrol and local law enforcement offices

A4.2.1.5. Affected power and light offices

A4.2.1.6. Security Forces

A4.2.1.7. LRS Vehicle Dispatch

A4.2.1.8. WR-ALC, 580 ACSSS/GFEAC (if required)

A4.2.2. The local Security Forces Squadron will be contacted to request support if the aircraft must remain in the field, unsecured overnight or if the security situation warrants.

A4.2.3. The local LRS Squadron will be contacted to supply vehicles and drivers to transport the aircraft from its downed location to the location determined by the Recovery Team Lead. The LRS representative and the Recovery Team Lead will determine the minimum vehicle and crane requirements and all will be available before the recovery begins.

A4.3. PRE-DEPARTURE REQUIREMENTS. The Recovery Team Lead will review TO 1H-1-39, for recommended vehicle and equipment requirements. Additionally, adequate cargo straps, copies of tech data and tools will be assembled. Company Proprietary

A4.3.1. The minimum crew for recovery operations will consist of the following;

A4.3.1.1. Recovery Team Lead appointed by the Site Manager

A4.3.1.2. At least two additional qualified maintenance personnel

A4.3.1.3. One crane operator/driver

A4.3.1.4. One tractor-trailer driver and assistant

A4.3.2. A trip number will be obtained from LRS and the following information given;

A4.3.2.1. Name and Rank of drivers and passengers

A4.3.2.2. Serial numbers of all vehicles

A4.3.2.3. Vehicle radio capabilities

A4.3.2.4. Intended route of travel

A4.3.2.5. Confirmation of risk assessment completion

A4.3.3. Recovery Team Lead will ensure vehicles are inspected and ready for travel. Ensure fuel cards, spare tires, tire chains, radios, cell phones, etc. are available as required. During the period of 15 September through 15 May, each vehicle must have a survival kit on board to accommodate the number of personnel on board.

A4.3.4. A safety brief will be given to all individuals prior to departure. Any meeting points, final destination, route of travel and key points of the recovery will be clearly defined. MOC will act as the single point of contact between the recovery team and home station. MOC will ensure all required notifications are made during the recovery process. Safety precautions, adverse weather conditions and special hazards of the route of travel and recovery location will be special points of interest.

A4.4. DISASSEMBLY AND LOADING. The Recovery Team Lead has full authority and is fully responsible for the aircraft recovery operation.

A4.4.1. All disassembly and loading procedures will be IAW TO 1H-1-39 and 1H-1(U)N-2-1. Disassembly and tie down beyond that outlined in technical data will be accomplished at the direction of the Recovery Team Lead.

A4.5. RETURN TRIP. Prior to departure from the recovery site, the Recovery Team Lead will inspect the aircraft and transport saddle to ensure both are properly secured. Road hazards, weather, traffic and route of travel will be discussed with the tractor-trailer driver. Company Proprietary

A4.5.1. Measurements will be taken from the ground to the highest point of the aircraft and at the widest point. This information with all other required entries will be entered on a "Certification of Preparation for Ground Transportation" check sheet and signed by the tractor-trailer driver and Recovery Team Lead prior to vehicle movement.

A4.5.2. The Recovery Team Lead will notify MOC the helicopter is ready for transport and MOC will in-turn notify the Site Manager, Functional Commander and other pertinent authorities.

A4.5.3. Maintenance personnel will accompany the aircraft to the designated location for off loading.

A4.6. RECOVERY TERMINATION. Once at the designated location, the aircraft will be off loaded and MOC will be notified and the trip number will be closed out.

A4.6.1. The Recovery Team Lead will brief the Site Manager on any problem areas encountered and make suggestions on how to improve the process. Company Proprietary