

Army Regulation 59-4  
OPNAVINST 4630.24D  
AFJ 13-210(I)  
MCO 13480.1D

Air Transportation

# **Joint Airdrop Inspection Records, Malfunction/Incident Investigations, and Activity Reporting**

**Rapid Action Revision (RAR) Issue Date: 23 June 2009**

Headquarters  
Departments of the Army,  
the Navy,  
the Air Force,  
and the Marine Corps  
Washington, DC  
8 April 2008

**UNCLASSIFIED**

# ***SUMMARY of CHANGE***

AR 59-4/OPNAVINST 4630.24D/AFJ 13-210(I)/MCO 13480.1D  
Joint Airdrop Inspection Records, Malfunction/Incident Investigations, and  
Activity Reporting

This rapid action revision, dated 23 June 2009--

- o Adds policies for investigations, report requirements, and Air Force Joint Airdrop Inspectors (chaps 4, 5, and 6).
- o Makes administrative changes (throughout).

Headquarters  
Departments of the Army,  
the Navy,  
the Air Force,  
and the Marine Corps  
Washington, DC  
8 April 2008

\*Army Regulation 59-4  
\*OPNAVINST 4630.24D  
\*AFJ 13-210(I)  
\*MCO 13480.1D

Effective 8 May 2008

## Air Transportation

# Joint Airdrop Inspection Records, Malfunction/Incident Investigations, and Activity Reporting


By Order of the Secretary of the Army, Navy, Air Force and Marine Corps:

GEORGE W. CASEY, JR.  
*General, United States Army  
Chief of Staff*

Official:

THOMAS A. BENES  
*Major General, United States Navy  
Director, Expeditionary Warfare Division*

G. J. TRAUTMAN III  
*Lieutenant General, United States Marine Corps  
Deputy Commandant for Aviation*

  
JOYCE E. MORROW  
*Administrative Assistant to the  
Secretary of the Army*

RICHARD E. WEBBER  
*Major General, U.S. Air Force  
Assistant DCS, Operations, Plans &  
Requirements*

**History.** This publication is a rapid action revision (RAR). This RAR is effective 23 July 2009. The portions affected by this RAR are listed in the summary of change.

**Summary.** This regulation prescribes policy and identifies procedures and forms used in preparing Joint airdrop inspection records, airdrop malfunction investigations, and airdrop activity reports.

**Applicability.** This regulation is applicable to the Reserve Component of the military departments. Also, it applies the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated.

**Proponent and exception authority.** The proponent of this publication is the Deputy Chief of Staff, G-4. The proponent has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or field operating agency, in the grade of colonel or the civilian equivalent. Activities may request a waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be

endorsed by the commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance.

**Army management control process.** This regulation contains management control provisions and identifies key management controls that must be evaluated (see appendix B).

**Supplementation.** Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from the Deputy Chief of Staff, G-4 (DALO-SUF), 500 Army Pentagon, Washington DC 20310-0500. Services involved in unilateral operations may supplement this publication; however, airdrop malfunction and activity reporting requirements will not be supplemented.

**Suggested improvements.** Users are invited to submit comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Director, Aerial Delivery and Field Service Department (ATSM-ADFSD), 710 Adams Avenue, Fort Lee, VA 23801-1502. Air Force: Air Force units will submit recommendations for improvement or revisions to this regulation on AF Form 847 (Recommendation for Change of Publications) through their

Group Tactics or Standardization/Evaluation Office to their controlling major command, which will forward any recommendations to HQ AMC/A3DT, 402 Scott Drive, Suite 3A1, Scott Air Force Base, IL 62225-5302. Navy: Submit recommendations for improvements or revisions to this regulation on NAVMC 10772 (Recommended Changes to Publications and Blank Forms). Marine Corps: Submit recommendations for improvements or revisions to this regulation on Form NAVMC 10772 (Recommended Changes to Publications and Blank Forms) using the Logistical Command at <https://pubs.ala.usmc.mil>.

**Distribution.** This publication is available in electronic media only and is intended for command levels A, B, C, D, and E of the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve; SNDL for the Navy; F for the Air Force (compliance with this publication is mandatory); and Code A for the Marine Corps.

\*This regulation supersedes AR 59-4/OPNAVINST 4630.24C/AFJ 13-210(I)/MCO 13480.1B, dated 1 May 1998. This edition publishes a rapid action revision of AR 59-4.

**Contents** (Listed by paragraph and page number)

**Chapter 1**

**Introduction**, *page 1*

Purpose • 1-1, *page 1*

References • 1-2, *page 1*

Explanation of abbreviations and terms • 1-3, *page 1*

Responsibilities • 1-4, *page 1*

Use of reported data • 1-5, *page 2*

Triannual airdrop malfunction and safety analysis review board • 1-6, *page 2*

**Chapter 2**

**Joint Airdrop Inspections, Procedures, and Records**, *page 3*

Joint airdrop inspection • 2-1, *page 3*

Inspection procedures • 2-2, *page 3*

Inspection records • 2-3, *page 4*

Disposition instructions • 2-4, *page 4*

Exceptions • 2-5, *page 4*

**Chapter 3**

**Malfunction Officer**, *page 5*

Malfunction officer qualifications and duties • 3-1, *page 5*

Investigating malfunctions and incidents • 3-2, *page 6*

Reporting malfunctions and incidents • 3-3, *page 7*

**Chapter 4**

**Investigations**, *page 7*

Investigations by the malfunction officer • 4-1, *page 7*

Priority of malfunction and incident investigations • 4-2, *page 8*

General guidance on malfunction and incident investigations • 4-3, *page 8*

Disposition of air items • 4-4, *page 8*

Airdrop load malfunction categories • 4-5, *page 9*

**Chapter 5**

**Report Requirements**, *page 9*

General reporting requirements • 5-1, *page 9*

Product quality deficiency reports • 5-2, *page 9*

Electronic or telephone reports • 5-3, *page 10*

Lost time report • 5-4, *page 10*

DD Form 1748-2 (Joint Airdrop Malfunction Report (Personnel-Cargo)) • 5-5, *page 11*

DD Form 1748-3 (Joint Airdrop Summary Report) • 5-6, *page 11*

**Chapter 6**

**Air Forces Joint Airdrop Inspectors**, *page 12*

Assignment • 6-16-2, *page 12*

Joint airdrop inspection of foreign airdrop/equipment loads on U.S. aircraft and U.S. loads on foreign aircraft • 6-3, *page 13*

Requirements for revalidation • 6-4, *page 13*

**Appendixes**

**A.** References, *page 15*

**B.** Management Control Evaluation Checklists, *page 18*

**Glossary**

## Chapter 1 Introduction

### 1-1. Purpose

This regulation provides policies and assigns responsibilities for initial notification, investigation, reporting, and submitting reports of parachute and airdrop load malfunctions/incidents. In addition, it standardizes Joint airdrop inspections, responsibilities and duties of the malfunction officer (MO), malfunction/incident investigation procedures, and activity reporting for all Department of Defense (DOD) components engaged in premeditated airdrop operations. Department of Defense component test agencies in authorized testing are exempt from malfunction and incident reporting for the item under test, but are not exempt from malfunction/incident reporting for any fielded/type classified parachute component or event outside the scope of the test.

### 1-2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

### 1-3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the glossary.

### 1-4. Responsibilities

*a.* The Commander, U.S. Army Combat Readiness Center (USACRC) will maintain a record of intentional and/or unintentional malfunctions/incidents that result in a serious injury or death during the conduct of an airborne operation. Accidents that involve the use of U.S. Army aircraft will be investigated, reported, and recorded in accordance with AR 385-10 and DA Pam 385-40.

*b.* The Commander, U.S. Army Quartermaster Center and School (USAQMC&S) will develop, maintain, validate, and publish both a program of instruction (POI) and lesson plans covering the duties and responsibilities of the malfunction officer (MO).

*c.* Commanders at all levels of command will—

(1) Ensure malfunction investigations receive the highest priority, secondary only to medical aid for the injured, which will supersede all other aspects of the operation, including ground tactical play. Prompt and accurate investigations and reporting can and will save lives and equipment.

(2) Ensure that qualified personnel are ready and available for the purpose of recording the Joint airdrop inspection, conducting malfunction/incident investigations, and providing timely and accurate reporting of airdrop malfunctions and activities.

(3) Ensure standards of onsite investigations and chain of custody are strictly enforced as outlined in this regulation.

(4) Appoint, in writing (of units owning airdrop equipment), a unit subject matter expert (SME) who is a parachute rigger such as an airdrop systems technician (military occupational specialty (MOS) 921A), a MOS 92R4P, or other Service-specific rigger personnel. The appointed SME may assist the designated MO in the event of a serious incident, malfunction, or fatality.

*d.* Air Force (AF) operations group commanders will appoint an aerial delivery review panel (ADRP) to investigate airdrop malfunctions, incidents, and off drop zone (DZ) airdrops occurring within their command area of responsibility.

(1) The ADRP chairperson will determine panel composition based on the nature of the situation under review.

(2) Panel members will include the chief of tactics (chairperson), tactics pilot, navigator, loadmaster, standardization pilot, Joint airdrop inspector (JAI) loadmaster, flying safety officer, maintenance representative, aerial port representative, crewmembers from the incident aircraft and drop zone control officer.

(3) Aerial delivery review panel members (except maintenance representatives) will be airdrop qualified where appropriate. A special tactics squadron (STS) ADRP will consist of the unit commander, the MO, and the chief of standardization.

(4) The review panel will convene the next duty day after the airdrop if the malfunction or incident occurs in the local area. If the incident occurs away from home station, the panel will convene within five duty days (10 days for the Air Reserve component) after the aircrew returns to home station. In the event of a Class A or B mishap, the aircrew will remain on station until the aircraft has been eliminated as a potential causal factor for the mishap by the Malfunction Officer.

(5) Results of the review panel will be sent to Headquarters (HQ) Air Mobility Command (AMC)/A3DT through the parent AF major command (MAJCOM) and, if applicable, to the command having command and control of that aircraft, with an information copy to the Director, Aerial Delivery and Field Services Department (ADFSD) (ATTN: ATSM-ADFSD), 710 Adams Avenue, Fort Lee, VA 23801-1502.

*e.* Army, Navy, and Marine Corps units will convene local review boards at the next higher command level to evaluate malfunctions or other airdrop related incidents within their commands.

(1) *Army.* The review panel will convene the next duty day or sooner if the malfunction/incident occurs in the local area. If the incident occurs away from home station, the panel will convene within five duty days. The panel will be

chaired by a parachute rigger qualified officer or warrant officer (MOS 92D or 921A). The chairperson will determine the composition of the board. At minimum, it will include an MOS 921A, the MO, and a recorder. Results of the review panel will be sent through the Army Command (ACOM)/Army Service Component Command (ASCC)/Direct Reporting Unit (DRU) to the Army transported force, the U.S. Army airdrop support unit, and the Director, ADFSD (ATTN: ATSM-ADFSD), 710 Adams Avenue, Fort Lee, VA 23801-1502.

(2) *Navy and Marine Corps.* The composition of the board will be determined by the severity of the malfunction or incident. At minimum, it will include a Marine MOS 0451/Navy enlisted classification 7353 parachute rigger and an MO.

*f.* The airlift unit will secure all airdrop loads and personnel in the aircraft, complete rigging the aircraft, and accomplish the extraction or release of personnel, supplies, and equipment from aircraft in flight. A JAI will be completed for all loads rigged for airdrop from all aircraft in accordance with this regulation. The loadmaster will make available the specific cargo loading manual (AF TO 1C-XXX-9) for that particular aircraft during the JAI.

*g.* The transported force will prepare and deliver supplies and equipment to be airdropped to the airdrop support unit and assist with rigging and transportation. The transported force will request AF Joint airdrop inspector support.

*h.* Members of the airdrop support unit will—

(1) Rig, deliver, and assist with airdrop cargo in accordance with applicable Service directives and/or as outlined in DOD 4500.9-R, Part 3, Appendix Z. For Services supporting their own unilateral training, the aerial delivery function will assume the responsibilities of the transported force. For personnel airdrops, the jumpmaster's (JM's) unit of assignment will assume the responsibilities of the transported force.

(2) Ensure that the JM, drop zone safety officer (DZSO), JAI, MO, and safety and medical personnel are appointed as required in accordance with Service regulations.

(3) Ensure a MO is present on the DZ during all airborne operations. This MO will maintain constant contact (may be by radio) with the DZ control party and the Air Force combat control team, if present.

(4) Ensure the applicable field manual (FM), AF technical order (AFTO), or Naval Air Systems Command (NAVAIR)/Naval Sea Systems Command (NAVSEA) publication is available to all JAIs. Digital format is preferred (hard copy is acceptable).

(5) Provide Joint airdrop inspection records to be used as a checklist for Joint airdrop inspections.

(6) Provide information on combat and humanitarian airdrop operations. Ensure every effort is made by the airdrop support unit officer in charge/noncommissioned officer (NCO) in charge to collect this information through any and all means possible (such as strike reports, flash reports, after action reports, camera footage, and so forth). This information will be submitted in accordance with the reporting requirements in chapter 5 of this regulation.

*Note.* Under certain circumstances, the transported force and airdrop support unit are the same.

## **1-5. Use of reported data**

*a.* Accurate and timely reports are essential for proper analysis to improve existing procedures and technology as rapidly as possible.

*b.* The USAQMC&S, ADFSD, Fort Lee, VA, will publish all reported malfunction/incident activity data for review and analysis during the triannual airdrop malfunction and safety analysis review board meeting. The USAQMC&S, ADFSD is the proponent activity responsible for receiving, tabulating, and developing airdrop malfunctions/incidents for review and analysis.

## **1-6. Triannual airdrop malfunction and safety analysis review board**

*a.* The USAQMC&S, ADFSD, will host a triannual airdrop malfunction and safety analysis review board. Airdrop units throughout DOD are strongly encouraged to send representatives.

*b.* The board will include—

(1) Presentations of new systems or procedures pertinent to the DOD airdrop community.

(2) Presentations by ACOM/ASCC/DRU and/or subordinate command representatives of the results of previous malfunctions/incidents and any corrective measures units have adopted since the previous board.

(3) A review and analysis of standard and nonstandard malfunctions/incidents.

(4) Presentation of findings.

*c.* Representatives from each Service, the Army ACOM/ASCC/DRU, the Navy, the Marine Corps, and the Air Force MAJCOMs will provide feedback from Service or command oversight of airdrop operations. The representatives will also be responsible to the board to review and analyze incidents for trends concerning Joint inspection of airdrop loads.

*d.* Interaction with airdrop personnel throughout DOD provides a forum to ensure the highest standards of airdrop operations and safety. Participants are highly encouraged to discuss airdrop issues that may be of benefit to the entire board as well as selected participants. Time will be allocated for this interaction.

*e.* The MAJCOM aircrew, tactics, standardization/evaluation, survival equipment repair/life support, transportation functional managers, and personnel parachuting program managers will convene at least yearly in conjunction with the board to discuss AF matters concerning aerial delivery. The conference will have a standing agenda consisting of

standardization of publications and procedures, review AF Instruction (AFI) 13-210(I), AFI 11-410, the DD Form 1748-series (Joint Airdrop Inspection Record), and major problem areas.

## **Chapter 2**

### **Joint Airdrop Inspections, Procedures, and Records**

#### **2-1. Joint airdrop inspection**

The JAI will be performed in preparation for each cargo airdrop by representatives of each of the Services participating in the airdrop mission. The USAQMC&S certifies JAIs. Certification requires successful completion of the USAQMC&S resident or mobile training team Airdrop Load Inspector Certification Course (ALICC) presented by the ADFSD at Fort Lee, VA.

#### **2-2. Inspection procedures**

a. Prior to airdrop, loads or containers rigged for airdrop will be inspected three times separately. An airdrop load will not be accepted unless it is rigged in accordance with specific FMs/TOs distributed by USAQMC&S, ADFSD, or the Joint Special Operations Command. Nonstandard and free-drop door bundles will be rigged and inspected in accordance with the appropriate FM/TO and/or manufacturer instructions. Waivers for nonstandard airdrop loads dropped from AF aircraft will be submitted to HQ AMC/A3DT through the applicable Army ACOM/ASCC/DRU or Air Force MAJCOM. Do not accept an airdrop load unless it has been rigged by a qualified rigger or under the supervision of a qualified rigger. Air Force riggers fall into two categories—

(1) Air transportation specialists (AF specialty code (AFSC) 2T2X1), Aircrew Flight equipment specialist (AFSC 1POX1), or aircraft loadmasters (AFSC 1A2X1) who have successfully completed the USAQMC&S Fabrication of Aerial Delivery Loads Course (FADLC).

(2) Airdrop specialists of the Parachute Rigger Course who are considered qualified riggers may rig any AF-owned equipment for airdrop.

b. Individuals holding any of the above AFSCs and completing the AMC version of FADLC are authorized to rig only unilateral airdrop training loads as defined in paragraph 2-2e.

c. Inspection criteria are detailed below.

(1) The first inspection is the shop final inspection, which is conducted when the rigging is complete. This inspection is in accordance with the FM, TO, or NAVSEA publication for the specific piece of equipment or load. The inspector will use the applicable DD Form 1748-series form for this inspection, which will be performed by a rigger other than the one who supervised the rigging of the load. The inspector does not need to be JAI qualified.

(2) The second inspection is the before-loading inspection. An airdrop support unit JAI and an AFJAI will conduct it jointly. Both inspectors will complete the applicable DD Form 1748-series form, and both will sign the appropriate blocks to certify correct rigging of the load. Both inspectors must be JAI qualified.

(a) The AFJAI will focus on safety of flight; aircrew safety; dimensions of rigged airdrop loads in accordance with applicable rigging FMs/TOs; extraction/deployment systems; platform/skid condition; lashings and load restraint; emergency aft restraint provisions; weight, type, and number of recovery parachutes; hazardous cargo certification; and locks.

(b) The AFJAI will bring to the attention of the airdrop support unit JAI, any items other than those listed in paragraph (a), above that are found to be incorrect or in question. If the airdrop support unit JAI accepts the condition of the item, the discrepancy will be annotated in the "Remarks" section of the appropriate inspection form. Upon delivery, the aircraft loadmaster will review the DD Form 1748-series form verifying that the inspections are complete.

(c) If the AFJAI rejects the rigged load or any portion of the load, the AFJAI will annotate the reason in the "Remarks" section of the appropriate inspection form.

(3) The third inspection is the after-loading inspection. After the aircraft loadmaster completes the loading and in-aircraft rigging, the AFJAI, an airdrop support unit JAI, and the aircrew loadmaster together will accomplish this inspection. The AFJAI and the airdrop support unit inspectors must be JAI qualified. The aircraft loadmaster does not need to be JAI qualified.

(a) After completion of the after-loading inspection, the two inspectors and the aircrew loadmaster will sign the form certifying that the load is ready for airdrop. The aircraft loadmaster, the AFJAI, and the support unit JAI will retain copies and forward a copy to the transported force's appropriate command headquarters.

*Note.* When authorized by the AF MAJCOM Director of Operations, an airdrop-qualified loadmaster (qualified on the specific type of aircraft and associated airdrop system) who is not assigned to the aircrew or performing aircrew duties may conduct the after-loading inspection as the aircraft loadmaster.

(b) If the aircraft loadmaster or AFJAI rejects the load for any reason, the reason(s) for rejection will be annotated in the "Remarks" block of the appropriate DA Form 1748-series form and a copy will be retained. The loadmaster or inspector will submit the copy to the wing tactics function the next duty day or on return to home station. Wing tactics

will forward an info copy to the group standardization/evaluation office. Wing tactics will develop a trend/metrics tool to monitor the number and type of rejections as well as the corrective actions taken. When trends are identified, the wing tactics organization will work with the airdrop support unit to rectify the problem.

(c) Items that cannot be inspected during the after-loading inspection will be annotated in the "Remarks" section of the appropriate DD Form 1748 or overprint (for example, multiple airdrop passes from a single aircraft). An asterisk will be placed in the applicable block(s) of the DA Form 1748-series form. The inspection items that will be rigged in-flight are listed in the "Remarks" block. The aircraft loadmaster and AFJAI will initial the remarks block indicating that the aircraft loadmaster is responsible for rigging and inspecting these items in-flight.

d. The before- and after-loading inspections ensure compliance with appropriate rigging instructions, FMs, TOs, and this regulation. The airdrop support unit will furnish an up-to-date copy of the appropriate FM, TO, or NAVAIR/NAVSEA publication (in either digital format or hard copy) to the inspectors during the inspection. The aircraft loadmaster will also make available the applicable aircraft TO (commonly referred to as the -9).

e. Air Force unilateral training operations augment the Joint Airdrop/Air Transportability Training Program and are essential to maintaining mission-ready, airdrop-qualified aircrew members. A unilateral airdrop training load is defined as any airdrop load owned by the same Service that operates the aircraft and is dropped solely for the purpose of training. These loads are low cost and may consist of ballast material, such as ammo cans. Unilateral training loads must be rigged in accordance with the specific rigging manual. Any exceptions for unilateral training loads will be annotated in the applicable FM, TO, or NAVAIR/NAVSEA publication. Airdrop load inspection procedures are essentially the same as Joint operations, with the following exceptions:

(1) Individuals listed in paragraph 2-2b perform the shop final inspection.

(2) The transported force does not need to be present during the before and after-loading inspections. A signature in the transported force signature block is not required.

(3) Air National Guard (ANG) and AF Reserve Command units, air transportation specialists (AFSC 2T2X1), survival equipment specialists (AFSC 2A7X4), or aircraft loadmasters (AFSC 1A2X1) who have successfully completed the USAQMC&S FADLC or airdrop specialist phase of the Parachute Rigger Course may perform the before-loading inspection as the AFJAI and sign the before-loading inspection Air Force's inspector block. A certified AFJAI (AFSC 1A2X1) must accomplish the after-loading inspection and sign the after-loading Air Force's inspector block.

(4) The aircrew secondary loadmaster and the primary loadmaster, with MAJCOM approval, can accomplish the after-loading inspection on rigged alternate method, zodiac loads only. The primary loadmaster does the loading and in-aircraft rigging. The secondary loadmaster will sign the Air Force's inspector block on the Joint inspection record. This will be done only as an absolute necessity when there is no certified AFJAI available to conduct the after-loading inspection.

(5) Air Force Special Operations Command (AFSOC) flying units conducting training missions with special tactics units will consider all loads as training unless identified as a real world mission or conducting operations in a forward deployed location.

## 2-3. Inspection records

The Joint airdrop inspection forms listed below will be used as a guide for Joint airdrop inspections. Completion instructions are printed on the reverse side of the forms. Each form will be filled out in triplicate (two copies for unilateral training loads): the airdrop support unit JAI retains the first copy, the AFJAI retains the second copy, and the aircraft loadmaster from the aircraft that performs the airdrop retains the third copy. The airdrop support unit provides the following forms:

a. *DD Form 1748 (Joint Airdrop Inspection Record (Platforms))*. Complete one form for each low-velocity platform load to be air dropped.

b. *DD Form 1748-1 (Joint Airdrop Inspection Record (Containers))*. Complete one set of forms for each load of containers rigged for airdrop. Use only one form per aircraft when multiple containers will be dropped during one pass.

c. *DD Forms 1748 and 1748-1*. These do not outline or specify the proper inspection sequence for all loads peculiar to special operations. Inspectors must refer to the appropriate rigging manual for the proper inspection procedures. Annotate any deviations to set procedures in the "Remarks" section of DD Form 1748.

## 2-4. Disposition instructions

a. If a malfunction or incident occurs, retain the inspection form for use during the investigation or analysis. Dispose of investigative documents in accordance with the appropriate Service directives listed in paragraph 3-2d.

b. If there are no malfunctions or incidents, dispose of the form according to appropriate Service directives. For the AF, DD 1748-series forms will be maintained and disposed of in accordance with the AF Records and Information Management System (<https://afrims.amc.af.mil>).

## 2-5. Exceptions

a. Door bundle loads rigged for paratroop doors or the aircraft ramp using A7A straps or A21 containers (weighing 500 pounds or less) and manually ejected/released from the aircraft, do not require a before-loading or after-loading



inspection. The JM of the airdrop unit and the aircraft loadmaster will perform an inspection to ensure the bundle is properly rigged for either breakaway or nonbreakaway (in accordance with FM 3–21.220), connection to aircraft equipment, and clear route of exit.

b. All equipment and supplies airdropped from the aircraft ramp will have an inspection as required by this regulation, using procedures approved by the MAJCOM and the USAQMC&S, ADFSD, and be integrated into basic aircrew training.

## **Chapter 3**

### **Malfunction Officer**

#### **3–1. Malfunction officer qualifications and duties**

a. Malfunction officer requirements are as follows:

(1) An Army MO will be a commissioned officer, warrant officer, or NCO, minimum grade of E–5. The MO will be a USAQMC&S trained parachute rigger (MOS 92R, 921A, 92D) who is technically proficient with airdrop, parachute recovery, and both personnel and cargo parachute systems. Depending on the type of airdrop, the MO must be qualified at a minimum for the following operations:

(a) Static line personnel parachutes not including Ram Air Personnel Parachute Systems (RAPPS)—

1. Pack-in-process inspector certified.

2. MO trained and certified.

(b) Ram Air Personnel Parachute Systems (to include static line deployed RAPPS if applicable)—

1. Pack-in-process inspector certified.

2. MO trained and certified.

*Note.* Units may choose to place a second MO at the planned parachute opening point for high altitude high opening (HAHO) operations.

(c) Ram air cargo (RAC) airdrop (precision airdrop)—

1. Pack-in-process inspector certified.

2. Ram air trained and certified.

3. MO trained and certified.

4. RAC trained and certified (if applicable).

*Note.* Units may choose to place a second MO at the planned parachute opening point for HAHO operations.

(d) Cargo airdrop—

1. JAI trained and certified (not required for door bundles).

2. MO trained and certified.

(e) Exception: The MO qualifications may be waived to an MOS 92R1P (E–4 only) when recommended by the parachute rigger warrant officer (MOS 921A) in charge of that organization or other authorized unit supervisors in accordance with AR 750–32, paragraph 2–8d, and approved by the first O–5 in the chain of command. Qualified and authorized E–4 MOs will be limited to single ship missions only. Army National Guard and U.S. Army Reserve personnel meeting the above requirements are considered qualified MOs as civilian technicians.

(f) MOs will be trained and certified in accordance with the POI and lesson plans provided by the USAQMC&S. Individuals will be retrained and recertified annually. Training/certification records will be maintained on file at the unit level.

(g) The organization that provides the parachutes will provide the MO.

(2) For AF unilateral training loads, the AF MO will be a minimum grade of E–4 and hold an AFSC of 1A2X1, 2T2X1, or 1P0X1. The MO must have attended the FADLC or ALICC, attend a JAI refresher course annually, and be designated, in writing, by the unit commander. For ANG units, AFSC 1C2X1 and 1T2X1 personnel may also perform MO duties. For AFSOC, STS, pararescue, and special operations weather team (SOWT) unilateral operations, the DZ controller may be designated as the MO if an AFJAI is not available.

(3) A Navy MO will be a parachute rigger NCO (E–4) or above or a jumpmaster qualified E–5 or above and will be appointed in writing by the commanding officer.

(4) A Marine Corps MO will be a parachute rigger NCO, E–4 or above, or JM qualified, E–5 or above, and must be appointed in writing by the commanding officer and must receive unit-level refresher training annually. The training will include the review of this regulation; MCO3500.20B; FM 3–05.211/MCWP 3–15.6/NAVSEA SS400–AG–MMO–010/AFMAN 11–411(I); FM 3–21.220. The MO will be from the organization that provides the air items.

b. The MO will be present on the DZ during all personnel and equipment drops and will be knowledgeable with the requirements contained in this regulation. The MO will possess the following equipment while performing MO duties:

(1) A communication capability provided by the DZ control party.

(2) Photographic equipment. Pictures of malfunctions greatly assist during investigations and are essential for the proper performance of MO duties. A high-quality video camera will be used during all routine operations to record airdrop activity. A high-quality still camera (single-lens reflex/35mm) with zoom capability is required to take photographs of malfunctions or incidents. A high-quality digital camera with at least five megapixels is preferred so that photographs can be electronically transmitted to the USAQMC&S to aid in malfunction analysis. If necessary, cite this regulation as the authority to requisition cameras for unit MOs.

(3) The forms and clerical supplies necessary to tag equipment and initiate reports.

(4) Binoculars and/or night-vision devices as applicable. Night-vision devices will be supplied by the DZ control party.

(5) An approved wind meter.

(6) A dedicated (4-wheel drive capable) vehicle to move around the DZ.

(7) A global positioning system capable of storing way points (if applicable).

(8) The applicable DZ survey.

### **3-2. Investigating malfunctions and incidents**

*a.* The onsite investigation of personnel parachutes and equipment malfunctions/incidents will receive the highest priority, secondary only to medical aid for the injured. It will supersede all other aspects of the operation, including ground tactical play. Prompt and accurate investigation and reporting could save lives and equipment. Efficient and effective measures must be taken without delay to document the malfunction/incident and complete the onsite investigation. At no time will the onsite investigation interfere with any medical support required. In all situations involving a malfunction or incident, the MO will—

(1) Immediately place the impact area off limits, post guards, and initiate an onsite investigation to determine if possible, the causes of the malfunction/incident using the checklists in the appendix B of this regulation.

(2) Immediately notify the DZ safety team leader (DZSTL)/DZSO and the unit appointed SME.

(3) Determine whether the preliminary investigation reveals suspected or intentional acts of tampering or sabotage.

*(a)* If suspected or intentional acts of tampering or sabotage are present, terminate the investigation. Ensure all evidence—including reports, findings, statements, photographs, videos, and area sketches—is released (as annotated on the evidence log/chain of custody) to the criminal investigator(s).

*(b)* Ensure the military police are immediately notified by the DZSTL or DZSO.

*(c)* Upon arrival of the responding criminal investigation organization (for example, Criminal Investigation Division), brief the status of the investigation and actions taken, to include whether or not a suspected or intentional act of tampering or sabotage exists.

*(d)* If the criminal investigator accepts a recommendation of no tampering or sabotage, retain the evidence.

*(e)* If the decision is made that the physical evidence will be retained, secure it in accordance with AR 195-5 (or Service specific security regulations) and maintain a chain of custody, per DA Form 4137 (Evidence/Property Custody Document) (or Service specific chain of custody regulatory guidance).

*(f)* Secure all physical evidence and other items involved in the malfunction/incident. Some items are extremely perishable and must be protected from the environment and/or from tampering.

*b.* Partial or total malfunctions/incidents during personnel parachute jumps where there are no serious injuries, the MO will—

(1) Ensure requirements in paragraph 3-2*a* have been met.

(2) Investigate the malfunction/incident in accordance with appendix B.

(3) Ensure the scene is thoroughly documented using photographs and sketches.

(4) Ensure items of physical evidence that are collected are released only to the appropriate SME appointed to assist in the investigation and members of an appointed safety investigation review board (SIRB), if applicable.

(5) Ensure the chain of custody (MO and SME) is established and the appropriate security measures for all equipment involved in the parachute malfunction is maintained in accordance with AR 195-5 (or Service specific security regulations).

(6) Carry out any subsequent investigations as required and limit access to the evidence and equipment (MO and designated SME). Determine if the preliminary investigation reveals suspected or intentional acts of tampering or sabotage, and if it does, ensure the DZSTL/DZSO immediately notifies the military police.

(7) Upon arrival of the responding criminal investigation organization, brief the status of the investigation and actions taken. In this instance, the evidence will be released to the investigating organization. The investigative activity will interfere as little as possible with the post jump; however, the criminal investigation will take priority.

*c.* For partial or total malfunctions/incidents during personnel parachute jumps where there are serious injuries or death resulting from a parachute jump, the MO will—

(1) Ensure requirements in paragraph 3-2*a* have been met.

(2) Investigate the malfunction/incident in accordance with appendix B.

(3) Immediately place the impact site off limits and post guards to ensure the integrity of the accident scene. Limit

access to the scene to the MO, the unit SME assisting the MO, the responding criminal investigating organization, the SIRB, and medical personnel. Ensure the security of the scene does not interfere with medical support or delay lifesaving measures.

- (4) Ensure the DZSTL/DZSO notifies military/security police in the event of death.
- (5) Document the scene and collect evidence as required in paragraph 3-2b.
- (6) Immediately initiate an investigation prior to the investigating organization's arrival and ensure that the scene is not altered. If failure to immediately collect items of evidence would result in degradation or destruction, properly document and secure that evidence. If possible, the evidence will not be disturbed until the appropriate SIRB is on the scene.
- (7) Upon arrival of the investigating organization, brief the status of the investigations on actions taken and whether the MO believes that suspected or intentional acts of tampering or sabotage exists. If the criminal investigator accepts a recommendation of no tampering or sabotage, the MO will retain the evidence for the SIRB.
- (8) Terminate the examination and investigation if tampering or sabotage is suspected or determined. The evidence, along with all copies of reports, findings, and statements, to include photographs, will then be released to the criminal investigator. If the decision has been made that the physical evidence will remain with the MO, physical evidence and security will be maintained by the personnel responsible for the chain of custody (MO and SME appointed by the investigating safety board).

*d.* Airdrop load malfunctions/incidents require the MO to—

- (1) Ensure requirements in paragraph 3-2a have been met.
- (2) Investigate the malfunction/incident in accordance with appendix B.
- (3) Ensure the scene is thoroughly documented (photographs, video, and a sketch).

*Note.* The MO and/or unit SME conducts/assists with any subsequent investigation as required.

*e.* Safety investigations may be initiated in accordance with the Joint safety memorandum of understanding among the Army, Air Force, Marine Corps, and Navy. All mishaps that meet the following criteria will be reported and investigated in accordance with DODI 6055.7, AR 385-10, MCO P5102.1B, OPNAVINST 5102.1D, and/or AFI 91-204—

- (1) *Class A:* Fatality, permanent total disability or mishap cost \$1,000,000 or more.
- (2) *Class B:* Permanent partial disability, accidents involving three or more personnel that are hospitalized with inpatient care or mishap cost \$200,000 to \$1,000,000.
- (3) *Class C:* A nonfatal injury that causes any loss of time from work beyond the day or shift on which it occurred or mishap cost \$20,000 to \$200,000.
- (4) *Class D:* No lost time injury but mishap cost \$2,000 to \$200,000.

*Note.* See the above Service regulations and unit safety office for reporting investigation requirements and instructions of all Class A, B, C, and D mishaps.

### **3-3. Reporting malfunctions and incidents**

DD Form 1748-2 (Airdrop Malfunction Report, Joint (Personnel-Cargo)) will be used to report all airdrop malfunctions and incidents. The MO/aircrew initiates this report. A malfunction is defined as “the failure of an airdrop item or component of an airdrop system to function as it was intended or designed,” whether the equipment failed because of human error or emergency procedures used. An airdrop incident is defined as any “procedure that prevented the successful completion of any planned airdrop operation.” Some examples of airdrop incidents include, but are not limited to, towed jumpers (cutaway or retrieved), dual deployments of parachutes, entanglements resulting in reserve parachute deployment, and inadvertent automatic activation device actuations. Any incident or malfunction that happens to a parachutist, airdrop drop load, or container delivery system bundle must be reported. DD Form 1748-2 will be reviewed by a unit SME prior to submission to the USAQMC&S.

*Note.* Injuries related to parachute landing falls will not be reported via DD Form 1748-2 to the USAQMC&S. Services will follow procedures in their appropriate AFI, AR, MCO, or NAVAIR/NAVSEA publications.

## **Chapter 4 Investigations**

### **4-1. Investigations by the malfunction officer**

*a.* Malfunction investigations cover two areas: personnel parachute malfunctions/incidents and airdrop load malfunctions/incidents. The depth of any investigation will vary according to the severity of the malfunction/incident and resulting injuries/loss.

*b.* In cases apparently not involving deliberate misconduct, or not meeting the safety review board definitions for class A or B mishaps or incidents not involving serious injury, the MO will conduct the onsite investigation solely to

determine the cause of the malfunction or incident and actions required to prevent future occurrences. Findings will be submitted through the ACOM/ASCC/DRU or parent unit to the USAQMC&S, ADFSD for further analysis/action.

*c.* In cases apparently involving deliberate misconduct, serious incident, injury, or death, or meets the requirements of a class A or B accident or mishap, an SME will be appointed to assist in the conduct of the follow-on investigation according to service directives and this regulation until such time as one is appointed by the investigative agency. The investigations may include but are not limited to AR 15-6, AR 735-5, the Uniform Code of Military Justice (UCMJ), JAG Instruction 5800.7E, Naval Criminal Investigative Services/Criminal Investigation Division/Office of Special Investigation, and the SIRB. The MO will make investigative notes, insights, reports, and physical evidence available to these investigations. The MO will exercise great care so the government avoids compromising the rights of personnel involved. During the investigation, the MO gathers items, information, and evidence that are sensitive in nature. In cases when the equipment is not able to remain at the malfunction/incident site and the SIRB is not present, the MO will conduct a component-by-component investigation on site. The MO will ensure that after the component-by-component examination is completed, the equipment involved in the malfunction/incident is secured and accessible to only the investigating SME. The MO will turn over all evidence to the SME and the SIRB. The MO will exercise great care to release information to only authorized personnel on a need-to-know basis.

*d.* For the Navy and the United States Marine Corps, during malfunctions or incidents that meet the definition of an on-duty class A or B mishap, the MO will preserve the mishap scene (medical treatment has priority) and ensure all evidence is secured until the appointed SIRB arrives. An SME will be appointed from the Naval Safety Center. The MO will photograph the mishap scene and all angles of components using a still/digital camera and/or video tape. The MO will not disturb the evidence by taking out inversions, turns, tangles, or twists, or taking any of the components apart. The SME assigned to the SIRB will conduct the component-by-component technical/rigger-type inspection and analysis.

#### **4-2. Priority of malfunction and incident investigations**

The investigation of personnel parachute and equipment malfunctions/incidents will receive the highest priority, secondary only to medical aid for the injured. It will supersede all other aspects of the operation, including any tactical exercise planned in conjunction with the airborne operation. Prompt and accurate investigation and reporting could save lives and equipment. Data gathered can help determine whether a system change is necessary to prevent future occurrences. The MO should enlist as many personnel as needed to investigate for possible causes of the malfunctions. These personnel will identify any unusual occurrences to the MO, who will take actions as directed in this regulation.

#### **4-3. General guidance on malfunction and incident investigations**

*a.* The MO will investigate and report all airdrop malfunctions through the appropriate DOD component to the USAQMC&S and conduct the investigation as expeditiously as possible after the malfunction or incident to preclude confusion of facts and loss of data. In all cases, the MO who is on location at the time of the malfunction plays a key role in the overall investigation as a direct source of information. The MO provides his or her onsite and follow-on investigation reports to the investigating agency. See appendix B for guidance on both onsite and follow-on investigations. This appendix is not all inclusive, and a specific investigation can disclose other items that should be checked.

*b.* Air Force, Marine Corps, and Navy units involving class A or B mishaps (see para 3-2e), off DZ drops, aircraft airdrop systems, malfunctions, or aircraft damage will notify the appropriate service military airfield. The aviation unit will not derig the aircraft or reprogram navigation aids used in determining the load release point unless safety of flight is compromised. After landing, the appropriate tactics and maintenance representatives will inspect the aircraft before it is released for subsequent flights. For missions away from home station, the command and control center having operational control of the mission will be notified to determine the recovery airfield where the aircraft can be inspected. If operational requirements prevent recovery and inspection by an appropriate Air Force, Marine Corps, or Navy unit, then the aircrew will submit a detailed report to their unit of assignment to help in analysis of the malfunction or incident. If applicable, notify the owning MAJCOM, nearest command post, or the Command and Control Center.

#### **4-4. Disposition of air items**

All air items involved in a fatality will be secured until released by the Judge Advocate General (JAG) after completion of the investigation and upon submission of all reports required by this regulation. At that time, the appropriate supply officer will prepare supply documentation to remove these items from accountability. The supply officer will attach an unsigned certificate of destruction. This certificate will list the date, time, method of destruction, and witnesses present. Allow 30 days for processing the supply documents before setting the destruction date. When the documentation is approved, the supply officer will destroy the air items on the preset destruction date. FM 4-20-102/Air Force Technical Order (TO) 13C7-5 and applicable NAVAIR or Marine Corps publication series may state that the items should be burned. Other methods may be used but only those that guarantee total destruction. After completing the destruction, the designated destruction officer signs the certificate of destruction and furnishes copies to the appropriate supply activities and to the investigation file. The hand-receipt holder is the destruction officer.

#### **4–5. Airdrop load malfunction categories**

The MO will categorize malfunctions by the phase in which they occur and also restrict the investigations to factors that could have caused or contributed to the malfunction/incident to conserve time and effort. Observing the malfunction/incident can normally determine the phase of the occurrence. Phases are defined as follows:

*a. Extraction phase.* The period of time that begins with the activation of the aerial delivery system and continues until the extraction force transfers to recovery parachute deployment.

*b. Deployment recovery phase.* The period of time that begins with the transfer of force from extraction to recovery parachute deployment and continues until load impact.

*c. Release phase.* This phase necessarily overlaps the deployment recovery phase, but concerns only the functioning of the release assembly. It commences when the timer mechanism should actuate and continues until load impact when the parachute release should occur.

### **Chapter 5 Report Requirements**

#### **5–1. General reporting requirements**

All malfunctions, incidents or damage to air dropped equipment and/or aircraft will be reported through the command channels of the owning unit immediately.

*a. a.* Air Force units will immediately report all airdrop malfunctions or incidents involving injury or death, damage to equipment, and off DZ drops to the command having operational control of the aircraft. Augmenting crews from a separate command will notify their respective commands in addition to the initial report that will be submitted to the controlling command. Air Force aircraft participating in an operation without an Air Force chain of command will notify their respective command headquarters of the incident, with followup reports, as required.

*b.* For Army and Air Force, all parachute and aerial delivery operations malfunctions/incidents for all standard and nonstandard equipment will be reported in accordance with this regulation. Web-based reporting will be used to report all malfunctions and incidents at [www.quartermaster.army.mil/adfsd](http://www.quartermaster.army.mil/adfsd). In rare cases when the Web-based reporting system cannot be used, paper copies of DD Form 1748-2 may be faxed to Defense Switched Network (DSN) 687-3084 or (804) 734-3084. All reports will be reported to the Air Drop Manual and Malfunction Office, USAQMC&S, ADFSD, 710 A. Ave, Fort Lee, VA 23801.

*c.* For Navy and Marine Corps, all parachute and aerial delivery operations malfunctions/incidents for all standard and nonstandard equipment will be reported to the Naval Safety Center. Reporting will be conducted by downloading the malfunction/incident report format from the Naval Safety Center Web site ([www.safetycenter.navy.mil/ashore/tactical/parachuting/reporting.htm](http://www.safetycenter.navy.mil/ashore/tactical/parachuting/reporting.htm)). Report format can be located with the Ashore, Parachuting Division section of the Web site. A copy of the completed form will then be e-mailed or faxed to the Parachute Safety Analyst (C44) at DSN 564-6044 or commercial (757) 444-6044. The Parachute Safety Analyst will complete the required final reporting to Fort Lee, VA, as outlined in paragraph 5-1b. In addition, Navy commands will immediately advise the following activities of any malfunction or incident: Chief of Naval Operations (N85/851/857), Program Executive Office Littoral and Mine Warfare (PMS NSW), and Commander, Naval Air Warfare Center Weapons Division, China Lake, CA (Code 466200D).

*d.* The aircrew will initiate the report for malfunctions/incidents occurring during the extraction or deployment phase of any airdrop or during the exit phase for jumpers where aircrew procedures or aircraft aerial delivery equipment are contributing factors.

*e.* The MO or Service DZSO will initiate the report for malfunctions/incidents occurring during the deployment or recovery phase of any airdrop load or jumper. Malfunction/incidents believed to have been caused by aircrew procedures, that is, low altitudes or DZ offset; coordinate with the aircrew for the most accurate information.

#### **5–2. Product quality deficiency reports**

*a.* The airdrop support unit commander providing the air items that malfunctioned prepares a product quality deficiency report (PQDR) using Standard Form (SF) 368 (Product Quality Deficiency Report), if it is determined that the equipment failed because of a manufacture defect.

*b.* Army units should submit PQDRs via the Web at <https://aeps.ria.army.mil/aepspublic.cfm>.

*c.* Navy units are to complete SF 368 and forward to Naval Air Warfare Center Weapons Division, Human Systems Department, 1900 North Knox Road, Stop 6206, China Lake, CA 93555-6106 (Code 466200D).

*d.* Marine Corps units are to complete the online PQDR on the Logistics Command Web site (<https://pub-sala.usmc.mil>). Once the online form has been completed and submitted, an e-mail is sent to Marine Corps Systems Command, Parachute Projects Officer and Logistics Specialist (PM 131), and the Naval Safety Center, Parachute Safety Analyst, for further tracking and validation.

e. Air Force units, regardless of who manages the item, will submit PQDRs and deficiency reports using the Deficiency Report Entry And Mail Submitter, version I or II.

### **5-3. Electronic or telephone reports**

a. If a serious injury or death results from a malfunction/incident, class A or B mishap, an initial report via e-mail will be sent to the Director, USAQMC&S, ADFSD, 710 A. Avenue, Fort Lee, VA 23801 within 12 hours of the malfunction to atsmadfsd@lee.army.mil. If e-mail capability is not available, phone DSN 687-3178/4794 or (804) 734-3178/4794 (commercial) to report by telephone. Initial report will include sufficient facts, insights, and tentative ideas on the cause and mechanics of the malfunction in order for the Commander, USAQMC&S, to request grounding of the affected equipment, if required.

b. The Navy and Marine Corps will report and notify the Naval Safety Center via telephone (DSN 564-3520 ext 7121/7159/7160 or commercial 757-444-3520 ext 7121/7159/7160) within 8 hours of the malfunction/incident. The Naval Safety Center will report the malfunction/incident to the USAQMC&S, ADFSD as outlined in paragraph 5-3a.

c. The Air Force will submit reports using the following guidance from AFI 10-206—

(1) At a home station (within the local area), notify unit command post/ANG Operations Center. Unit command post will prepare the appropriate report and forward copies through MAJCOM A3 function and HQ AMC/A3DT.

(2) At a U.S. military installation other than home station, notify the command post at the installation.

(3) At a non-U.S. military installation, contact MAJCOM command and control agency.

(4) For operational reporting (OPREP)-3 BEELINE, report equipment or personnel airdrops or dropped objects from an Air Force aircraft that result in—

(a) Injury or death to personnel, damage to private or public property, or significant damage to military equipment.

(b) Impact off a DZ and on/off a reservation.

(c) Public media attention.

(5) For OPREP-3 HOMELINE, report airdrop incidents of personnel and equipment that—

(a) Result in damage to military equipment.

(b) Impact off a DZ and on/off a reservation.

(c) Impact off a DZ located apart from a designated reservation unless any of the items in (1) above, apply.

(6) BEELINE and HOMELINE reports will include as a minimum, the following information:

(a) Date and time (local and Zulu) of malfunction/incident.

(b) Name, location and axis of DZ.

(c) United States Air Force mission number.

(d) Organization of the airlift unit and transported force.

(e) Telephone number of individuals who may have detailed information.

(f) Mission commander and unit of assignment.

(g) Type of aircraft and formation position (if applicable).

(h) Estimated distance and clock position from the point of impact.

(i) Estimated distance and clock position outside the DZ limits.

(j) Weather at the time of the airdrop.

(k) Altitude, mean effective and surface winds.

(l) Narrative description of occurrences (describe type and amount of equipment or number of personnel extracted or dropped).

(m) Description of damage to equipment, property, or injuries to personnel.

(n) Statement as to disposition of dropped cargo or personnel.

(o) Statement if Air Force aircraft equipment or procedures are suspected as a factor.

(p) Statement of Air Force personnel questioned or asked to participate in the investigation.

(q) Name, rank, duty title (or position), and telephone number of person submitting the report. Note: The majority of DZs are located within large designated restricted areas often termed “reservations.” However, there are some DZs that are not located within or associated with a reservation.

(7) Malfunctions/incidents involving special tactics, including malfunctions/incidents not resulting in serious injury or death will be reported to 720 STG/DO, either by telephone through command center or by message within 24 hours (12 hours for death or serious injury).

### **5-4. Lost time report**

a. Preparation of a service peculiar injury or lost time report is the parachutist’s parent unit responsibility. Upon request, the MO will provide information for the description of the accident.

b. The Navy and Marine Corps will also submit reports in accordance with Office of the Chief of Naval Operations Instructions (OPNAVINST) 5102-1D and Marine Corps Order (MCO) P5102.1B via the unit’s safety officer.

## **5-5. DD Form 1748-2 (Joint Airdrop Malfunction Report (Personnel-Cargo))**

### *a. Malfunction/incident reporting procedures.*

(1) All DOD components involved in the airdrop of personnel, supplies, and equipment will report, using a DD Form 1748-2, all malfunctions/incidents of personnel parachutes and airdrop loads rigged by their assigned units and dropped or extracted from aircraft. Any time the airdrop process does not achieve the planned objective; it can be considered a malfunction/incident. The airdrop process consists of four separate areas: aircrew procedures, aircraft aerial delivery equipment, airdrop equipment, and other substantiating areas. When a planned airdrop is not completed, identification of the appropriate area is essential in developing trends analysis and corrective action.

(2) For the Air Force, all Joint Airborne/Air Transportability Training (JA/ATT) and/or joint airdrop missions not completed because of one of the above areas will be reported through control channels to HQ AMC/A3DT.

### *b. Exemption to reporting requirements.* There are no exemptions.

### *c. Disposition instructions.*

(1) A copy of the completed report, along with a copy of the DD Form 1748 series form (if applicable) will be forwarded through appropriate channels to the Director, ADFSD (ATSM-ADFSD), 710 A Avenue, Fort Lee, VA 23801-1502, within 5 workdays after the malfunction/incident occurs.

(2) Final investigation reports follow these instructions:

(a) If a fatality occurs as a result of a malfunction/incident, one copy of the final investigation report and DD Form 1748-2 will be forwarded to the address in paragraph 5-5c(1) within 10 calendar days after completion of the investigation. This copy is in addition to the requirements in paragraph 5-3. Army units will forward a copy of the DD Form 1748-2 to the units ACOM/ASCC/DRU.

(b) For Navy and Marine Corps, the final investigation report with all endorsements will be maintained and archived at the Naval Safety Center. Request for information may be submitted via the appropriate chain of command to the Naval Safety Center.

(3) Air Force units will submit a copy of the report to the appropriate MAJCOM with an information copy to the Numbered Air Force, if applicable, or to their respective command authority. For malfunctions/incidents involving two or more separate commands, a copy will be sent to each command.

(4) Air Force units having a malfunction/incident involving aircraft equipment will submit a copy of the malfunction report to the wing/operations and Logistics Group function and the MAJCOM headquarters responsible for that particular MDS. MAJCOM representatives will coordinate with their respective headquarters A4/LG (logistics staff) to resolve recurring equipment problems. Report malfunctions/incidents that involve the systems listed below. These reports are critical for trend analysis:

(a) Restraint rail system, to include locks.

(b) Ramp and door system, troop doors, air deflector door, and logic failure resulting in no-drop.

(c) Extraction parachute release mechanism, parachute deployment mechanism, and tow-plate release mechanism.

(d) Containerized delivery system components, including static line retrievers.

(5) For Navy and Marine Corps, all malfunctions and incidents will be reported to the Naval Safety Center by downloading the malfunction/Incident report format from the Naval Safety Center Web site ([www.safetycenter.navy.mil](http://www.safetycenter.navy.mil)). Report format may be found with the Ashore, Parachuting Division section of the Web site. A copy of the completed form will be e-mailed or faxed to the Parachute Safety Analyst (C44) at DSN 564-6044 or commercial (757) 444-6044. Naval Safety Center parachute safety analysts will review submitted malfunction/incident forms and complete the required final reporting to Fort Lee, VA, as outlined in paragraph 5-1c. The Naval Safety Center will notify Marine Corps Systems Command (Parachute Projects Officer) and Naval Air Warfare Center Weapons Division, Human Systems Department, Code 466200D, China Lake, CA.

(6) The Naval Safety Center, coordinating with the Navy and Marine Corps Commands in 5-5c(5) will analyze all submitted reports. The Naval Safety Center will immediately notify via Naval message all Navy and Marine Premeditated Personnel Parachute and cargo airdrop equipment commands of potential safety hazards and identified trends.

## **5-6. DD Form 1748-3 (Joint Airdrop Summary Report)**

### *a. Reporting procedures.*

(1) All DOD components involved in the airdrop of personnel, supplies, and equipment, must report all monthly airdrop activities via the USAQMC&S Web site ([www.quartermaster.army.mil/adfsd](http://www.quartermaster.army.mil/adfsd)). Reports of subordinate units should be consolidated before submission.

(2) Army units will furnish an information copy of the DD Form 1748-3 to the units ACOM/ASCC/DRU.

(3) Air Force units will consolidate the number of actual unilateral training loads rigged and dropped, as well as those downloaded after completion of the inspection and submit them by the tenth day of the following month using the Fort Lee Web site ([www.quartermaster.army.mil/adfsd](http://www.quartermaster.army.mil/adfsd)).

(4) Air Force units will develop a metric on all scheduled JA/ATT, Special Assignment Airdrop Mission, or any scheduled airdrop mission other than unilateral training. The metric will include all successfully completed missions with the number of uncompleted airdrops due to, but not exclusively, maintenance, weather, mission aborts, and so on.

(5) The Naval Safety Center, Parachute Safety Analyst will submit a monthly airdrop summary report as final reporting to USAQMC&S, ADFSD, Ft Lee, VA as outlined in paragraph 5–6a(1).

*b. Disposition instructions.* Forward one copy of the completed reports through appropriate channels to the Director, ADFSD (ATSM–ADFSD), 710 A Avenue, Fort Lee, VA 23801-1502. Submit reports by the tenth day of the following month. Negative reports are required.

## **Chapter 6**

### **Air Forces Joint Airdrop Inspectors**

#### **6–1.**

*a. Air Force.* The AFJAI must be an airdrop-qualified and current loadmaster (1A2X1), SRA (E-4) or higher, with at least 1 year of airdrop experience. Prior experience with airdrop as a 2T2X1 or 1P0X1 may count toward the 1 year of experience. Individuals must have completed the USAQMC&S Air Drop Load Inspector Certification Course (ALICC) and be designated in writing by the group commander. Completion of the FADLC is highly encouraged prior to attending ALICC. Exceptions are listed in paragraphs 6–1a(2) and (3).

(1) AFJAI qualification is not aircraft specific. Individuals who have successfully completed the USAQMC&S ALICC are authorized to perform AFJAI duties (before- and after-load) on any aircraft. Individuals tasked to perform AFJAI duties on unfamiliar aircraft should make every attempt to familiarize themselves with the aircraft aerial delivery system or unique rigging procedures. This information is found in the specific aircraft TO 1C-XXX-9 series and in applicable field manuals/technical orders and technical manuals/technical orders.

(2) Loadmasters who are not currently qualified in their respective model aircraft because of extended duties not including flying, professional schools, or other circumstances beyond their control may continue to perform JAI functions with concurrence of unit commander for up to 6 months from time of disqualification. Extensions beyond 6 months require MAJCOM approval. Submit waiver requests along with detailed circumstance to the following:

(a) For Air Combat Command, send requests to HQ Air Combat Command/A3.

(b) For Air Education and Training Command, send requests to HQ Air Education Training Command (AETC)/A3.

(c) For the Air Force Special Operations Command (AFSOC), send requests to AFSOC/A3TW.

(d) For AMC/ANG, send requests to HQ AMC/A3DT.

(e) For Pacific Air Forces, send requests to HQ Pacific Air Force, DOTV.

(f) For United States Air Forces in Europe (USAFE), send requests to HQ USAFE/DOV.

(g) Air Force Reserve Command.

(3) AMC loadmasters assigned to nonflying duty positions where JAI duties are still required are exempt from being qualified in their respective model aircraft with HQ AMC/A3D concurrence. The positions include—

(a) HQ AMC/A3DT OL–E, Air Force Liaison, USAQMC&S, Fort Lee, VA.

(b) AMC Test and Evaluation, OL–A, Soldiers Systems Center, Natick, MA.

(c) AMC Test and Evaluation, OL–B, Yuma Proving Grounds, AZ.

(d) AMC Test and Evaluation, OL–D, Fort Bragg, NC.

(e) AMC Test and Evaluation, Operations Superintendent, McGuire Air Force Base, NJ.

(4) For ANG and AFRC unilateral airdrop loads, 2T2X1 individuals who have successfully completed the USAQMC&S Fabrication of Aerial Delivery Loads Course and ALICC may perform AFJAI duties during the before-load inspection only. A qualified 1A2X1 AFJAI must complete the after-load inspection. 2T2X1 individuals may conduct the before load inspection in support of 109 AW Polar Container Delivery System operations only.

*b. Marine Corps.* C–130 squadrons conducting airdrop operations should make every effort to attend the ALICC, taught at Fort Lee, VA in order to properly conduct the JAI on loads being rigged and provided for airdrop by the Army, Navy, and Air Force. Because of the unique requirements of Marine Corps C–130 squadrons, reliance upon the Marine Corps Aerial Delivery Platoons are necessary in order to complete the JAI of Marine Corps loads rigged for airdrop.

#### **6–2. Assignment**

*a.* Active duty AFJAIs are mobility resources susceptible to worldwide tasking to support DOD-sponsored airdrop operations. Therefore, active duty AFJAIs must be assigned to a unit separate from an active duty flying unit. They are normally assigned to an Aerial Delivery Support Flight or Operational Support Squadron. Individuals assigned to special support units may perform before and after loading inspections to meet their specific missions. Individuals assigned to the functions listed below are authorized to perform these inspections provided they meet all certification requirements or are exempt by paragraph 6–1a(3):

(1) The U.S. Air Force Liaison noncommissioned officer and the ALICC instructor loadmaster assigned to the USAQMC&S, ADFSD, Fort Lee, VA.

(2) Loadmasters assigned to an AETC formal school, certified according to paragraph 6–1 and designated according



to paragraph 6-2a, may perform AFJAI duties in lieu of the Air Force JAI for loads generated in support of the formal school.

- (3) Loadmasters assigned to AMC test and evaluation.
- (4) Loadmasters assigned to 18th Flight Test Squadron, AFSOC.
- (5) Loadmasters assigned to Air Force Flight Test Center, Edwards Air Force Base.
- (6) Loadmasters assigned to Joint Special Operations Command.
- (7) Combat Aviation Advisory Forces, Hurlburt Field, FL, in support of CAAF missions.
- (8) 34th Combat Training Squadron, Little Rock Air Force Base, AR, in support of JRTC missions.

b. The waiver authority for 6-2a above, is the individual's MAJCOM tactics function.

c. Air Reserve Component unit commanders will determine the required number of AFJAI qualified loadmasters. ANG and AFRC AFJAIs will be drawn from the most experienced, highly qualified airdrop loadmasters within the unit. Note: With operations group commander's approval, JAI qualified loadmasters may be scheduled to perform aircrew and JAI duties simultaneously on separate aircraft. This does not apply to units that have dedicated AFJAI support. Under no circumstance will loadmasters JAI their own airdrop load, except as identified in paragraph 2-2c(4).

d. For Navy and Marine Corps JAIs, unit commanders will determine where personnel are assigned. Additionally, the JAI will be assigned in writing by the commanding officer of the unit maintaining the cargo airdrop mission capability.

### **6-3. Joint airdrop inspection of foreign airdrop/equipment loads on U.S. aircraft and U.S. loads on foreign aircraft**

a. U.S. rigged loads airdropped from foreign aircraft will be inspected by a qualified U.S. AFJAI. AFJAIs should attempt to become familiar with unique aircraft aerial delivery systems or dissimilar rigging procedures. Special consideration should be exercised when requesting to inspect a foreign aircraft as some foreign aircrew may be sensitive to these requests.

b. Foreign rigged loads dropped from U.S. aircraft will meet all U.S. rigging procedures and will be inspected by qualified AFJAI. Special consideration will be exercised when requesting to inspect a foreign aircraft as some foreign aircrew may be sensitive to these requests.

### **6-4. Requirements for revalidation**

As a minimum, active JAIs must accomplish annual revalidation training each calendar year using the requirements listed below. Units will train additional specific equipment as required. JAI and MO refresher training will be documented using local procedures.

a. *Publications.* A minimum 2-hour review of applicable publications is required. JAIs must be able to explain the use of publications required for the JAIs to perform their duties and be familiar with—

- (1) Field manuals/technical orders.
- (2) Specific service publications.
- (3) Specific MAJCOM/ACOM/ASCC/DRU publications.
- (4) Specific unit publications.
- (5) For the Air Force, flight crew information files and flight crew bulletins.

b. *Forms.* JAIs must be able to use the following:

(1) DD Forms 1748 (Airdrop Inspection Record, Joint (Platforms)) and 1748-1 (Airdrop Inspection Record, Joint (Containers)).

(2) DD Form 1748-2 (Airdrop Malfunction Report).

(3) DD Form 1748-3 (Joint Airdrop Summary Report).

c. *Aerial delivery equipment and limitations.*

(1) Platforms, low-velocity air drop.

(a) Extraction lines/systems/parachutes.

(b) Deployment lines.

(c) Recovery parachutes.

(d) Releases.

(e) Suspension slings.

(f) Platforms, lashings and other general airdrop equipment items.

(g) Hazardous material.

(h) Sequential platform rigging.

(2) Container delivery system.

(a) Skid boards and skid board ties.

(b) Slings and containers.

(c) Recovery parachutes and releases.

- (d) Other related equipment.
- (3) Special operations loads.
  - (a) Combat rubber raiding craft.
  - (b) Rigged alternate method Zodiac.
  - (c) Rigging motorcycles/quads for airdrop.
  - (d) Door bundles.
- (4) Aircraft differences.

## **Appendix A References**

### **Section I Required Publications**

**AR 195-5**  
Evidence Procedures (Cited in para 3-2.)

### **Section II Related Publications**

A related publication is a source of additional information. The user does not have to read it to understand this publication. Army technical manuals are available at <https://www.logsa.army.mil/etms>. Air Force publications are available at <http://www.e-publishing.af.mil>.

**AR 15-6**  
Procedures for Investigating Officers and Boards of Officers

**AR 385-10**  
The Army Safety Program

**AR 750-32**  
Airdrop, Parachute Recovery, and Aircraft Personnel Escape Systems

**DA Pam 385-40**  
Army Accident Investigation and Reporting

**DOD 4500.9-R/AFJI 24-108 (J)**  
Defense Transportation Regulation

**DODI 6055.7**  
Accident Investigation, Reporting, and Record Keeping

**FM 3-05.211/MCWP 3-15.6/NAVSEA SS400-AG-MMO-010/AFMAN 11-411 (I)**  
Special Forces Military Free-Fall Operations

**FM 4-20.41**  
Aerial Delivery Distribution in the Theater of Operations

**FM 4-20.102**  
Airdrop of Supplies and Equipment: Rigging Airdrop Platforms/TO 13C7-1-5, Rigging Platforms

**FM 3-21.220/MCWP 3-15.7/AFMAN 11-420/NAVSEA SS400-AF-MMO-010**  
Static Line Parachuting Techniques and Tactics

**TM 5-4220-201-12**  
Operator's and Organizational Maintenance Manual: Life Preserver, Underarm, Parachutist, Type B-7, CO2, Inflated (FSN 4220-657-2197)

**TO 1C-XXX-9 series**  
Loading Instructions

**JAG Instruction 5800.7E**  
Manual of the Staff Judge Advocate General (Available at [www.jag.navy.mil/JAGTools/JAGINSTRUCTIONS.htm](http://www.jag.navy.mil/JAGTools/JAGINSTRUCTIONS.htm).)

**NAVAIR 13-1-21**  
Organizational Maintenance w/Illustrated Parts Breakdown, Ram Air Parachute Assembly, MT2XX/SL (Available at <https://nll2.ahf.nmci.navy.mil> (restricted site), stock no. 0813 LP 1058523, or at [NLLhelpdesk@navy.mil](mailto:NLLhelpdesk@navy.mil).)

**OPNAVINST 3501.225B**

Navy Premeditated Personnel Parachuting (P3) Program (Available at <http://doni.daps.dla.mil/OPNAV.aspx>.)

**OPNAVINST 5102.1D**

Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual (Available at <http://doni.daps.dla.mil/OPNAV.aspx>.)

**AFI 11-410**

Personnel Parachute Operations

**AFI 91-204**

Safety Investigations and Reports

**AFPD 13-2**

Air Traffic Control, Airspace, Airfield, and Range Management

**MCO P5102.1B**

Navy and Marine Corps Mishap and Safety Investigations, Reporting, and Recordkeeping Manual (Available at <http://www.usmc.miol/news/publications/Pages/orders.aspx>)

**MCO 3500.20B**

Marine Corps Parachuting and Diving Policy and Program Administration (Available at <http://www.usmc.miol/news/publications/Pages/orders.aspx>)

**Marine Corps TM 09770A-12&P/1A**

Operational Instructions and Organizational Maintenance w/Illustrated Parts Breakdown, Ram Air Parachute Assembly, MC-5 (Available at the following e-mail address [SMB.HQMC.ARDE@USMC.MIL](mailto:SMB.HQMC.ARDE@USMC.MIL).)

**Marine Corps TM 10443-12&P**

Operational Instructions and Organizational Maintenance w/Illustrated Parts Breakdown, Ram Air Parachute Assembly Tandem Offset Resupply Delivery System (TORDS) (Available at the following e-mail address [SMB.HQMC.ARDE@USMC.MIL](mailto:SMB.HQMC.ARDE@USMC.MIL))

**Marine Corps TM 11168A-OI**

Multi Mission Parachute System (Available at [SMB.HQMC.ARDE@USMC.MIL](mailto:SMB.HQMC.ARDE@USMC.MIL))

**Marine Corps TM 70244A-OI**

Tactics, Techniques and Procedures Manual for U.S. Marine Corps Military Free Fall Operations (Available at the following e-mail address [SMB.HQMC.ARDE@USMC.MIL](mailto:SMB.HQMC.ARDE@USMC.MIL))

**TM 10-1670 series**

Maintenance Manuals

**UCMJ**

Congressional Code of Military Criminal Law applicable to all military members worldwide (Available at <http://www.army.mil/references/UCMJ>.)

**Section III****Prescribed Forms**

Unless otherwise indicated, DA forms are available on the APD Web site (<http://www.apd.army.mil>); DD forms are available on the OSD Web site (<http://www.dtic.mil/whs/directives/infomgt/forms/formsprogram.htm>).

**DD Form 1748**

Airdrop Inspection Record, Joint (Platforms) (Prescribed in para 2-3.)

**DD Form 1748-1**

Airdrop Inspection Record, Joint (Containers) (DRAS) (Prescribed in para 2-3.)

**DD Form 1748-2**

Airdrop Malfunction Report, Joint (Personnel-Cargo) (Prescribed in para 2-4.)

**DD Form 1748-3**

Airdrop Summary Report, Joint (Prescribed in para 5-3.)

**Section IV**

**Referenced Forms**

**DA Form 2028**

Recommended Changes to Publications and Blank Forms

**DA Form 4137**

Evidence/Property Custody Document

**SF 368**

Product Quality Deficiency Report

**AF 847**

Recommended Changes to Publications and Blank Forms

## Appendix B Management Control Evaluation Checklists

### Section I Checklist for Malfunction Officer Onsite Investigations

#### B-1. Function

This checklist provides a guide for the conduct of onsite malfunction investigations.

#### B-2. Purpose

The purpose of this checklist is to assist MOs in evaluating their key management controls. It is not intended to cover all controls. A variety of circumstances which may surround malfunctions prevent an all-inclusive checklist.

#### B-3. Instructions

MOs are expected to use prudent judgment when collecting and analyzing information.

#### B-4. Investigation procedures

##### *a. Onsite actions, no serious injuries.*

- (1) Immediately notify the DZSTL, the SME, and secure and guard the impact site.
- (2) Photograph all equipment and obvious defects. Include damage caused by impact.
- (3) Obtain the names and units of any involved personnel and witnesses and obtain statements.
- (4) Sketch the impact site. Show equipment relationships and the exact location of the impact site on or in relation to the DZ.
- (5) Gather and secure all clothing, equipment, air items, and personal property involved in the malfunction. Properly identify and tag items to include time, date, location, type of incident, name, and unit of persons involved. Maintain chain of custody for equipment.
- (6) Examine equipment component by component.
- (7) Conduct a TM 10-1670 series/technical/rigger-type inspection in an appropriate area according to the TM covering the specific air item and/or TO 14D1-2 series/NAVAIR/NAVSEA series.
- (8) Ensure all air items and evidence are retained until the investigating authority releases them.
- (9) Release equipment not required for further investigations.
- (10) Conduct a complete onsite investigation of the malfunction according to this regulation.

##### *b. Onsite actions, parachutist injury or death.*

- (1) Immediately notify the DZSTL, the SME, and place the impact site off limits. Post a guard as required so the site remains undisturbed. Allow medical personnel access to the injured jumper.
- (2) Photograph/video the parachutist, impact site, and any obvious defects in the equipment. Include any damage caused by the impact.
- (3) Record where the parachute harness or component was cut by medical personnel. Trained medical personnel dictate the method of removal of the parachute harness. If possible, the MO dictates the location of the cut in order to preserve potential evidence. In any event, the MO shall closely observe the cutting of the harness if required for removal from the parachutist. If possible, do not cut the harness and try not to disturb any evidence.
- (4) Immediately impound the parachute log record book and limit access to this document ONLY to the appointed investigative officers.
- (5) Request medical personnel secure and preserve all clothing and equipment that is removed from the impact site with the parachutist.
- (6) Conduct a detailed component-by-component examination of all equipment after the parachutist has been evacuated.
- (7) Take statements from the preceding parachutist, the subsequent parachutists, jumpmasters, any ground observers, and other parachutists or aircraft personnel able to provide significant facts.
- (8) Record the name and unit of any personnel who observed the incident even if they can provide no new facts to the investigation.
- (9) Secure a copy of the jump manifest and reconstruct the jump stick from personnel present, if required. Gather all air items and personal equipment, except weapons, unless the weapon is part of or the possible cause of the malfunction.
- (10) Sketch the entire impact site in relation to the DZ and mark the impact point of the parachutist and equipment.
- (11) Ensure the aircraft involved is notified as soon as possible. This enables the aircrew to inspect, upon landing, for any defects or damage that may have contributed to or caused the malfunction. Request segregation and identification of parachute deployment bags from those of other aircraft.

(12) Obtain the deployment bag serial number from the parachute log record book. Retrieve and secure the deployment bag with the parachute assembly until the investigation is complete.

(13) Ensure equipment is tagged and the parachutes are loosely rolled and bagged when the onsite investigation is complete. Do not remove any entanglements (if applicable). Secure and release equipment only to investigating SME.

(14) Evacuate all equipment to an area where it is subjected to a TM 10–1670 series/technical rigger-type inspection according to this regulation and the TM covering the specific air item and/or TO 14D1–2 series/NAVAIR/NAVSEA series.

*c. Onsite actions, airdrop load malfunction.*

(1) Immediately notify the DZSTL, the SME, and move to and secure the impact site as soon as possible.

(2) Determine if the load contained hazardous material, ammunition, explosives, or petroleum, oil, and lubricant (POL). If any are found, direct personnel in the vicinity of the load to evacuate the area (move back at least 500 meters).

(3) Request technical assistance as required, such as qualified explosive ordnance disposal or petroleum, oils, lubricants technicians.

## **B–5. Supersession**

This checklist replaces the checklist for malfunction officer onsite investigations previously published in AR 59–4 dated 1 May 1998.

## **B–6. Comments**

Help make this a better tool for evaluating management controls. Submit comments to the Director, ADFSD (ATSM–ADFS), 710 Adams Avenue, Fort Lee, VA 23801–1502.

## **Section II**

### **Checklist for Personnel Parachute Malfunction and Incident Investigations**

## **B–7. Function**

This checklist identifies actions required for investigating personnel parachute malfunctions.

## **B–8. Purpose**

The purpose of this checklist is to assist MOs in evaluating key management controls for personnel parachute malfunctions and incidents. The variety of circumstances which may surround malfunctions and incidents prevent an all-inclusive checklist.

## **B–9. Instructions**

Malfunction officers will investigate malfunctions according to the type of personnel parachute system involved, static line or military free fall. All individual equipment and parachutist activities will be investigated for every malfunction/incident occurrence. Malfunction officers are expected to use prudent judgment when collecting and analyzing information.

## **B–10. Investigation procedures**

*a. Static line system malfunction and incident investigation.* Check for static line system malfunction.

*b. Main parachute (static line deployed).*

(1) Compare the log record book with the canopy and deployment bag serial numbers.

(2) Check the condition of the harness, to include the quick-fit ejector snaps, canopy release assemblies/unit, the #2 medium and #3 small ring, for Serviceability and proper operation.

(3) Check the method and sequence of attachment of items of equipment on the main lift web D-rings/equipment rings.

(4) Check the condition of the risers, to include the #1 large ring, steering line guide channels, guide ring, and toggles on the steerable parachute.

(5) Check the parachute connector links for missing or loose screws/knurl nuts.

(6) Check all suspension and control lines, to include control line bridles and cascade lines for breaks, frays, or burned areas.

(7) Check the anti-inversion net for damage.

(8) Check the main canopy gores for holes, tears, broken stitches, or burned areas.

(9) Check the bridle loop for tears, burns, or broken stitches.

(10) Check the condition of the deployment bag, to include the static line, snap hook, main curved pin and main curved pin cover.

(11) Check the condition of the pack tray, to include the waistband, waistband adjuster panel, horizontal and diagonal back strap retainers, and horizontal and diagonal back straps keepers.

*c. Reserve parachute, not activated.*

(1) Check the parachute log record book and compare it with the canopy serial number (after the reserve is activated).

(2) Check the butterfly connector snaps for damage and proper operation.

(3) Check the pack tray for holes, damage, or tears.

(4) Check the pack opening spring bands for proper routing and condition.

(5) Check the rip cord grip pocket/tuck flaps, cones, and grommets for damage.

(6) Check the soft loop(s) for frays, burns, or worn areas.

(7) Check the curved pins for bends, dents, rough spots, rust, corrosion, or deformation.

(8) Check the curved pin lanyard for Serviceability and attachment to the rip cord handle.

(9) Check the orientation of the rip cord handle (directional arrow) and/or grip to ensure the correct rip cord grip was used (T-10R versus MIRPS) and for the steel swage ball on the end of the cable and straightness of the pins.

(10) Check the rip cord pocket/tuck flaps for debris.

(11) Conduct the rip cord pull test and rip cord test according to TM 10-1670-269-23&P covering the specific air item and TO 14D1-2-462-2/MC TM 01135B-23&P/1/NAVSEA SS400-AL-MMO-010.

(12) Activate the reserve parachute.

*d. Reserve parachute, activated.*

(1) Check the parachute log record book and compare it with the canopy serial number.

(2) Check the butterfly connector snaps for damage and proper operation.

(3) Check the pack tray for holes, damage or tears.

(4) Check the pack opening spring bands for proper routing and condition.

(5) Check the rip cord grip pocket/tuck flaps, cones, and grommets for damage.

(6) Check the soft loop(s) for frays, burns, or worn areas.

(7) Check the suspension lines for breaks, frays, or burned areas.

(8) Check the canopy for holes, tears, or burned areas.

(9) Check the pilot parachute for proper attachment.

(10) Check the pilot parachute for holes, tears, or burned areas.

(11) Check line stowage free bag for holes, tears, or burned areas.

(12) Check curved pins for damage.

(13) Check bridle line for tears or burned areas.

(14) Check canopy staging flaps for tears, holes, or burned areas.

(15) Locate and test/inspect the deployment assistance device and or the ejector spring and the rip cord grip, if possible.

*e. Ram Air parachute system malfunction investigation.* Check for free fall system malfunction.

*f. Main canopy (Ram Air).*

(1) Check the parachute log record book and compare it with the canopy serial number.

(2) Check the rip cord grip assembly if the canopy did not activate. Verify proper routing and installation, to include condition of pins and cones (soft or hard). Check the automatic activation device to determine if it was armed and set properly.

(3) Check the risers if the canopy was activated. This check shall include canopy release assemblies and control toggles and guides. If a Ram Air canopy was used, check the proper setting of the brakes.

(4) Check the parachute connector links for proper installation or loose or missing components.

(5) Check all suspension and control lines for breaks, frays, or burned areas.

(6) Check the condition of the slider on Ram Air canopies.

(7) Check the main canopy for holes, tears, broken stitching, or burned areas.

(8) Check the condition of the stabilizer panels.

(9) Check the condition of the bridle line, deployment bag, and pilot parachute.

*g. Reserve (Ram Air).*

(1) Check and compare the parachute log record book with the canopy serial number.

(2) Check for proper installation or attachment to the main harness.

(3) Check the rip cord grip assembly if the canopy did not activate. Verify proper routing and installation, to include the condition of the pins and cones (soft or hard). Check the automatic activation device to determine if it was armed and set properly.

(4) Check the condition of risers if the canopy did not activate. Inspect the control line guides and toggles, if applicable.

(5) Check the proper brake setting on Ram Air canopies.

(6) Check the parachute connector links for proper installation and missing components.



- (7) Check all suspension and control lines for breaks, frays, or burned areas.
  - (8) Check the condition of the slider on Ram Air canopies.
  - (9) Check the canopy and stabilizers for holes, tears, broken stitching, or burned areas.
  - (10) Check the condition of the bridle line and pilot parachute.
  - (11) Check the condition of the deployment bag/system.
- h. Harness assembly (Ram Air).*
- (1) Check the condition and setting of the automatic activation device (AAD) to include proper routing of the power cable housing.
  - (2) Check the condition of the harness, to include the quick ejector snaps and the canopy release assemblies and the rip cord assemblies.
  - (3) Check the condition of the oxygen system, to include the mask, hose, connector, and oxygen bottles. Secure the oxygen bottle and determine the amount of remaining oxygen.
  - (4) Check the type of equipment attached to the harness D-rings.
- i. Individual equipment investigation. Check individual equipment.*
- j. M-1950 weapons container.*
- (1) Check to see if the quick-release snap has been properly installed.
  - (2) Check to see if the lowering line (if used) has been properly installed and stowed.
  - (3) Verify that container length is between 33-1/2 and 50-1/2 inches.
  - (4) Check to see if the upper tie down tape or lower tie down strap has been tied and or cut.
- k. Modified M-1950 weapons containers (squad automatic weapon (SAW), 60mm, antitank 4 jump pack (AT4JP), Stinger mission jump pack (SMJP)).*
- (1) Verify the items of equipment rigged in the modified M-1950 weapons case are rigged in accordance with the applicable FM/TM or local standard operation procedures.
  - (2) Verify that the parachutist jumping the container meets the prerequisites for the item of equipment jumped (height, weight, and so on) in accordance with applicable FM/TM or local standard operation procedures.
- l. Parachutist drop bag (PDB).*
- (1) Ensure the PDB was properly rigged and attached in accordance with FM 3-21.220/MCWP 3-15.7/AFMAN 11-420/NAVSEA SS400-AF-MMO-010.
  - (2) Ensure the PDB and all of its component parts are Serviceable in accordance with TM 10-1670-299-20&P/TO 14D1-2-470-2/NAVAIR 13-1-41.
- m. All-purpose weapons and equipment container system.*
- (1) Ensure the AIRPAC was properly rigged and attached in accordance with FM 3-21.220/MCWP 3-15.7/AFMAN 11-420/NAVSEA SS400-AF-MMO-010.
  - (2) Ensure the AIRPAC and all of its component parts are Serviceable in accordance with TM 10-1670-299-20&P/TO 14D1-2-470-2/NAVAIR 13-1-41.
- n. H-harness and airborne light individual container, equipment pack with or without frame.*
- (1) Was H-harness and lowering line properly installed?
  - (2) Were the 18-inch attaching straps properly routed and installed?
  - (3) Was the airborne light individual container, equipment pack heavier than 35 pounds?
- o. Harness single point release (HSPR) and airborne light individual container, equipment pack with or without frame.*
- (1) Was the HSPR and hook pile tape (HPT) lowering line Serviceable, properly routed, and installed?
  - (2) Was the release handle assembly secured in place with the HPT?
  - (3) Were the adjustable D-ring straps properly routed and installed?
  - (4) Were the adjustable leg straps properly routed and attached (male/female portion)?
  - (5) Was the lowering line adapter web properly installed and in use?
  - (6) Was the HPT lowering line Serviceable and modified?
- p. Container, weapons, and individual equipment.*
- (1) Check to see if the bag and the lowering strap were properly rigged and installed.
  - (2) Check to see if the leg strap was secured or cut.
  - (3) Check the push-pull actuator assembly to ensure it functions properly.
  - (4) Verify that the container is not heavier than 95 pounds.
  - (5) Verify that the container is not rigged oversize (greater than 12 inches by 12 inches by 36 inches).
- q. Dragon missile jump pack.*
- (1) Check to see if the missile and individual weapon are properly rigged in or on the pack.
  - (2) Check the HPT lowering line for Serviceability and proper routing/attachment.
  - (3) Verify that the attaching adapter was properly rigged on the parachutist.

- (4) Verify whether the leg straps were secured or cut.
- (5) Inquire whether the parachutist was within height limitations and if he or she had experience in jumping the dragon missile jump pack.
  - r. Flotation devices (life preservers).*
    - (1) Verify whether they were properly worn.
    - (2) Check for proper functioning.
    - (3) Check whether there was corrosion or worn areas on the carbon dioxide (CO<sub>2</sub>) inflation valve or if the activator cord was unServiceable.
    - (4) Check the flotation devices to ensure the proper maintenance intervals are maintained in accordance with the applicable publication.
    - (5) Check to verify whether the combat equipment was worn in accordance with FM 3–21.220/MCWP 3–15.7/AFMAN 11–420/NAVSEA SS400–AF–MMO–010.
      - s. All-purpose lightweight individual carrying equipment pack HSPR.*
        - (1) Check the routing of the attaching loops.
        - (2) Verify the proper routing of the release handle cable.
        - (3) Verify that the handle retainer lanyard is not misrouted.
        - (4) Verify proper routing and attachment of the HPT lowering line.
        - (5) Verify that the leg straps are attached.
      - t. Parachutist activities.*
        - (1) What was parachutist’s mental attitude in the aircraft? Was he or she relaxed or tense?
        - (2) Were his or her activities sure and coordinated?
        - (3) Were all JM commands performed in a sure and positive manner?
        - (4) Were the clothing and equipment used authorized and properly secured to the parachutist during his or her exit?
        - (5) Did the parachutist make a satisfactory exit?
        - (6) Was the parachutist stable and in control (free fall)?
        - (7) How did the parachutist react to the malfunction?
        - (8) Reconstruct/determine the jumper’s total rigged weight.

**B–11. Supersession**

This checklist replaces the checklist for personnel parachute malfunction and incident investigations previously published in AR 59–4 dated 1 May 1998.

**B–12. Comments**

Help make this a better tool for evaluating management controls. Submit comments to the Director, ADFSD, ATTN: ATSM–ADFS, 710 Adams Avenue, Fort Lee, VA 23801–1502.

**Section III  
Checklist for Airdrop Load Malfunction Investigations**

**B–13. Function**

This checklist identifies actions required for investigating airdrop malfunctions and incidents during Joint and unilateral operations.

**B–14. Purpose**

The purpose of this checklist is to assist MOs when investigating airdrop load malfunctions and incidents. The variety of circumstances which may surround malfunctions/incidents prevent an all-inclusive checklist. MOs are expected to use prudent judgment when collecting and analyzing information.

**B–15. Instructions**

MOs will investigate malfunctions according to the type of airdrop method or system involved; LVAD, high-velocity airdrop (door or ramp) platform or CDS for every malfunction/incident occurrence. Investigating officers are expected to use prudent judgment when collecting and analyzing information. Some loads have hazardous material rigged on/in the load. Derig other airdrop loads in the danger area. Use minimum essential personnel after a 30-minute cool-off period with approval of the EOD and petroleum, oil, lubricants technicians before approaching these types of loads. Inform the DZ control party of the malfunction and incidents. If the malfunction or incidents occurs during the extraction phase, request notification of the aircraft so it can be inspected.

**B–16. Investigation questions and procedures**

- a. Low-velocity airdrop load malfunction investigation.* Check for low-velocity airdrop loads.

- b. Extraction phase.* Check all extraction procedures.
- c. Failure of the extraction parachute to deploy or inflate.*
- (1) Did the aircraft extraction parachute release mechanism function properly?
  - (2) Were bag closing ties correctly made and pendulum lines properly installed?
  - (3) Was the parachute safety loop free from the bent V-ring?
- d. Failure or delay in the load extraction.*
- (1) Did the extraction parachute appear to fully inflate?
  - (2) Was positive aft restraint removed?
  - (3) Was the correct number of detents and restraints settings used for the load?
  - (4) Was the correct extraction line used and connected?
  - (5) Was the platform damaged (answer only when a load did not exit)?
- e. Failure to transfer the extraction force to deployment.* Check extraction force deployment procedures.
- f. Extraction force transfer coupling (EFTC) extraction systems.*
- (1) Were actuators installed in the correct platform rail position (check the arm and foot to indent clearances)?
  - (2) Were actuator arm safety pins removed and correctly stowed?
  - (3) Was the EFTC cable secured or attached to the actuator and latch assembly with cable clevis pins installed?
  - (4) Was the EFTC cable the correct length and properly routed?
- g. Deployment-recovery phase.* Check deployment recovery procedures.
- h. Failure of recovery parachutes to deploy.*
- (1) Was the deployment line attached to the extraction system and the parachutes?
  - (2) Was the deployment line misrouted?
  - (3) Were the parachute restraint and release straps properly attached?
  - (4) What was the condition of the release knives?
- i. Static and or release line systems (Dual Row Airdrop System, Enhanced Container Delivery System, and door bundles).*
- (1) Was the static line properly rigged and connected to the anchor cable?
  - (2) Was the static line properly rigged and connected to the parachute?
  - (3) Was the release line rigged and connected correctly?
- j. Failure of the suspension system.*
- (1) Did the load suspension points fail?
  - (2) Did the suspension slings or attaching hardware fail?
  - (3) Were the correct slings used?
  - (4) Were the slings correctly attached to the parachute release and the load or platform?
  - (5) Were slings correctly routed to the suspension points?
  - (6) Was protective padding used where it was needed?
- k. Failure of recovery parachute(s) to fully inflate.*
- (1) Were reefing line cutters armed and cotter pins removed?
  - (2) Did the cutters fire?
  - (3) Did the cutters cut the reefing line?
  - (4) Was the reefing line the proper length?
  - (5) Was the reefing line entangled in the reefing rings or suspension lines?
  - (6) Were the canopy, suspension lines, and connector link ties correctly made?
- l. Release phase.* Check release procedures.
- m. Midair release (check hydraulic releases in accordance with FM 4-20.102).*
- (1) At what point did the midair separation occur?
  - (2) Did the release activate prior to the load stabilizing?
  - (3) Were the releases attached to the parachutes and the load?
  - (4) Were the releases properly rigged?
  - (5) Was the timer Serviceable when tested after the drop? What deficiencies were noted (specify part, M-1 or M-2 release)?
- n. Failure to disconnect.* For M-1 or M-2 parachute releases—
- (1) Did a no-load condition occur on impact?
  - (2) Did the release upper-suspension link rotate to the release position?
  - (3) Was the arming wire lanyard the correct length and was the arming wire pulled from the timer?
  - (4) Did the timer keys retract and the timer fall in the guide block?
  - (5) Was the timer Serviceable when it was tested after the drop?

*o. Container delivery system malfunction investigation.*

(1) For failure of the containers to exit the aircraft—

(a) Was the release gate properly rigged?

(b) Was the knife sharp and attached?

(c) Did the aircraft release system function properly?

(d) What was the condition of the rollers and skid board if the containers were jammed in the aircraft?

(2) For failure of the recovery parachutes to deploy and inflate—

(a) Were the parachute static lines attached to the anchor cables and were the anchor cable stops installed at the prescribed location?

(b) Were the parachutes attached to the containers?

(c) Were the pilot chutes attached to the cargo parachutes?

(d) Were the bag closing ties made with prescribed materials?

(e) Were the canopy and suspension line ties properly installed with prescribed material?

*p. Onsite actions: AF unilateral equipment airdrops.*

(1) Conduct a technical/rigger-type inspection of the equipment and load.

(2) Recover and release equipment not required for further investigations.

(3) Remove/roll and isolate equipment requiring further investigation and return to the home unit for additional analysis as necessary.

(4) Notify MAJCOM and the AF liaison at the USAQMC&S if during the investigation the malfunction warrants immediate attention to the entire airdrop community.

(5) Submit a followup report.

**B-17. Supersession**

This checklist replaces the checklist for airdrop load malfunction investigations previously published in AR 59-4 dated 1 May 1998.

**B-18. Comments**

Help make this a better tool for evaluating management controls. Submit comments to the Director, ADFSD, ATTN: ATSM-ADFSD, 710 Adams Avenue, Fort Lee, VA 23801-1502.

## **Glossary**

### **Section I Abbreviations**

**AAD**

automatic activation device

**ACOM**

Army Command

**ADFS**

Aerial Delivery and Field Services Department

**ADRP**

aerial delivery review panel

**AETC**

Air Education Training Command

**AF**

Air Force

**AFRC**

Air Force Reserve Command

**AFSC**

Air Force specialty code

**AFSOC**

Air Force Special Operations Command

**ALICC**

Air Drop Load Inspector Certification Course

**AMC**

Air Mobility Command

**ANG**

Air National Guard

**AR**

Army regulation

**ASCC**

Army Service Component Command

**DA**

Department of the Army

**DOD**

Department of Defense

**DODI**

Department of Defense Instruction

**DRU**

Direct Reporting Unit

**DSN**

defense switched network

**DZ**

drop zone

**DZSO**

drop zone safety officer

**DZSTL**

drop zone safety team leader

**EFTC**

extraction force transfer coupling

**FADLC**

Fabrication of Aerial Delivery Loads Course

**FM**

field manual

**HAHO**

high altitude high opening

**HPT**

hook pile tape

**HQ**

headquarters

**HSPR**

harness single point release

**JA/ATT**

Joint Airborne/Air Transportability Training

**JAI**

Joint airdrop inspection/inspector

**JM**

jumpmaster

**MAJCOM**

major command (Air Force)

**MCO**

Marine Corps order

**MO**

malfunction officer

**MOS**

military occupational specialty

**NAVAIR**

Naval Air Systems Command

**NAVSEA**

Naval Sea Systems Command

**NCO**

noncommissioned officer

**OPNAVINST**

Chief of Naval Operations instruction

**OPNAVIST**

Office of the Chief of Naval Operations

**OPREP**

operational reporting

**Pam**

pamphlet

**PDB**

parachute drop bag

**POI**

program of instruction

**PQDR**

product quality deficiency report

**RAC**

ram air cargo

**RAPPS**

ram air personnel parachute system

**SF**

standard form

**SIRB**

safety Investigation Review Board

**SME**

subject matter expert

**SOP**

standard operation procedure

**SOWT**

special operations weather team

**STS**

special tactics squadron

**TM**

technical manual

**TO**

Technical Order (Air Force)

**UCMJ**

Uniform Code of Military Justice

**USACRC**

United States Army Combat Readiness Center

**USAFE**

U.S. Air Forces in Europe

## **USAQMC&S**

United States Army Quartermaster Center & School

### **Section II Terms**

#### **Air Force aerial delivery support function**

Operation that provides personnel and equipment for the fabrication and delivery of airdrop loads to the aircraft and performs recovery and management of airdrop loads according to applicable publications.

#### **Air Force Joint airdrop inspector (AFJAI)**

A loadmaster (for the Air Force), or Rigger (for the Marine Corps) that has successfully completed the ALICC conducted by the USAQMC&S at Fort Lee, VA, and is qualified to inspect an airdrop load during the before-load and after-load inspection.

#### **Air item**

Special items of equipment such as parachutes, airdrop containers, platforms, slings, tie downs, and related air items to use for the airdrop of personnel, supplies, and equipment.

#### **Airdrop equipment**

Same as air item.

#### **Airdrop incident**

Procedure which prevented the successful completion of any planned airdrop operation.

#### **Airdrop malfunction**

The failure of an airdrop item or component of an airdrop system to function as it was intended or designed.

#### **Airdrop support unit**

The activity that prepares the transported force for airdrop.

#### **Airdrop system**

A system designed to facilitate the premeditated airdrop of personnel, supplies, and equipment from an aircraft in flight. It consists of parachutes, airdrop containers, platforms, and related air items.

#### **Airlift unit**

An airlift unit is organized, equipped, and trained to airdrop personnel, supplies, and equipment.

#### **Chain of custody**

A chronological written record of people who have had custody of evidence from the initial acquisition until final disposition.

#### **Follow-on investigation**

Normally conducted by a board appointed under the appropriate regulation of the Service involved.

#### **Joint airdrop inspection (JAI)**

The inspection activity of two or more Services working together. This inspection is conducted prior to aircraft loading and after loading and rigging is completed. Inspectors must be certified according to paragraph 2-1 of this regulation.

#### **Joint operation or airdrop**

Airdrop activities involving resources from more than one Service.

#### **Malfunction, partial**

The failure of an airdrop system to function properly to the point that the load or parachutist is subject to damage or injury.

#### **Malfunction, total**

The complete failure of the airdrop system to function as designed.



**Malfunction officer**

Designated by the commander of the airdrop support unit to observe airdrop operations and investigate airdrop malfunctions.

**Onsite investigation**

Performed by the MO to collect data used to determine the cause of the malfunction.

**Parachute rigger**

For the purpose of this regulation, an all-inclusive term for Army, Air Force, Navy, and Marine Corps personnel whose primary military occupational specialties are that of a parachute rigger as outlined by Service specific criteria.

**Serious injury**

When a jumper is unconscious or when conscious and complaining of torso, back, neck, or head injuries or having mutilated limbs, compound fractures, or lacerations with excessive bleeding as determined by medical personnel.

**Technical/rigger-type inspection**

A complete and thorough inspection of an airdrop item that includes associated parts and components. This inspection is conducted in accordance with the TM 10-1670 series covering the specific air item and TO 14D1-2 series/NAVAIR 13-1-38, and MC TM 04296D-23&P/2.

**Transported force**

The activity the airlift unit is moving.

**Unilateral operation or airdrop**

An airdrop involving the resources of a single Service.

**Unit subject matter expert**

The appointed unit Airdrop Systems Technician (MOS 921A) or other authorized supervisor (MOS 92R) in accordance with AR 750-32. May assist the MO throughout the investigation process.

**Section III****Special Abbreviations and Terms**

This section contains no entries.

**UNCLASSIFIED**

**PIN 000828-000**