

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

Air Transportation

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

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

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SUMMARY of CHANGE

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

This major revision, dated 8 April 2008--

- o Updates the reporting process and procedures for the Navy and the Marine Corps (paras 1-4e, 1-4e(2)).
- o Expands Joint airdrop inspector duties (para 1-4h).
- o Identifies DD Form 1748-series for malfunction officer investigations (para 3-3).
- o Provides checklists for malfunction officer investigations (app B).
- o Deletes reference to OPNAVINST 3504.1 (throughout).

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Effective 8 May 2008

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History. This publication is a major revision.

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 applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. During mobilization, the proponent may modify chapters and policies contained in this regulation.

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-SMT), 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.

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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.

(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), survival equipment specialists (AFSC 2A7X4), 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 2A7X4. 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; and MCWP 3–17.7. 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.

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 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 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)

TM 10-1670-269-23&P (EM 0132)/Air Force TO 14D1-2-462-2/Marine Corps TM 01135B-23&P/1/NAVSEA SS400-AL-MMO-010

Unit and Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Personnel Type: 24-Foot Diameter, Troop, Chest, Reserve (T-10R) (NSN 1670-00-892-4218); Modified Improved Reserve Parachute System (MIRPS) (NSN 1670-01-420-4256)

TM 10-1670-272-23&P (EM 0132)/Air Force TO 14D1-2-463/2/Marine Corps TM 04296C-23&P/1/NAVSEA-SS400-AS-MMI-010

Unit and Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Personnel Type: 35-Foot Diameter, MC1-1B Troop Back Parachute Assembly (NSN 1670-00-598-0751) Parachute, Personnel Type: 35-Foot Diameter, MC1-1E Troop Back Parachute Assembly (NSN 1670-01-499-6573)

TM 10-1670-287-23&P (EM 0132)/Air Force TO 14D1-2-468-2/Marine Corps TM 09011A-23&P/NAVAIR 13-1-38

Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for MC-4 Ram Air Free-Fall Personnel Parachute System (NSN 1670-01-306-2100)

TM 10-1670-292-23&P (EM 0132)/Air Force TO 14D1-2-466-2/Marine Corps TM 04296D-23&P/2/NAVSEA SS400-AU-MMI-010

Unit and Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachutes, Personnel Type: 35-Foot Diameter, MC1-1C Troop Back Parachute Assembly (NSN 1670-01-262-2359) 35-Foot Diameter, MC1-1D Troop Back Parachute Assembly (NSN 1670-01-487-0777)

TM 10-1670-293-23&P (EM 0132)/Air Force TO 14D1-2-467-2/Marine Corps TM 01136C-23&P/2

Unit and Intermediate Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for Parachutes, Personnel Type: 35-Foot Diameter, T-10C Troop Back Parachute Assembly (NSN 1670-01-248-9502) 35-Foot Diameter, T-10D Troop Back Parachute Assembly (NSN 1670-01-248-9502)

TM 10-1670-296-20&P (EM 0132)/Air Force TO 13C7-49-2

Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Ancillary Equipment for Low Velocity Air Drop System (LVADS)

TM 10-1670-299-20&P (EM 0132)/Air Force TO 14D1-2-470-2/NAVAIR 13-1-41

Unit Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Ancillary Equipment for Personnel Troop Parachute System

TM 10-1670-327-23&P (EM 0132)/Air Force TO 14D1-2-472-2/Marine Corps TM 11083A-01/NAVSEA SS400-A1-MMO-010.

Unit and Direct Support (DS) Maintenance Manual (Including Repair Parts and Special Tools List) for MC-6 Personnel Parachute System (NSN 1670-01-527-7537)

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 Ground and Safety Investigation Reporting (Available at <http://www.marines.mil/directiv.nsf/web+orders>.)

MCO 3500.20B

Marine Corps Parachuting and Diving Policy and Program Administration (Available at <http://www.marines.mil/directiv.nsf/web+orders>.)

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

Operational Instructions and Organizational Maintenance w/Illustrated Parts Breakdown, Ram Air Parachute Assembly, MC-5 (Available at smb.hq.mc.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 smb.hq.mc.arde@usmc.mil.)

Marine Corps TM 11168A-OI

Multi Mission Parachute System (Available at smb.hq.mc.arde@usmc.mil.)

Marine Corps TM 70244A-OI

Tactics, Techniques and Procedures Manual for U.S. Marine Corps Military Free Fall Operations (Available at smb.hq.mc.arde@usmc.mil.)

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.)

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>.)

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

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, ATTN: ATSM-ADFSD, 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 (CO₂) 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-ADFSD, 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

ADFSD

Aerial Delivery and Field Services Department

ADRP

aerial delivery review panel

AF

Air Force

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

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

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

Pam

pamphlet

PDB

parachute drop bag

POI

program of instruction

RAC

ram air cargo

RAPPS

ram air personnel parachute system

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)

USACRC

United States Army Combat Readiness Center

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.

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