

Aviation

# Unmanned Aircraft System Flight Regulations

Rapid Action Revision (RAR) Issue Date: 2 July 2010

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**UNCLASSIFIED**  
**DRONES / ARMY / 000003**

# ***SUMMARY of CHANGE***

AR 95-23

Unmanned Aircraft System Flight Regulations

This rapid action revision, dated 2 July 2010--

- o Authorizes warrant officers to perform payload operator duties on a limited basis (para 2-1g(3)).
- o Lists new authorized duty symbols for logging flying time (paras 2-5a(1) through 2-5a(6)).
- o Provides information on seat position (para 2-5d).
- o Redefines mission approval process (para 2-12b).
- o Establishes currency requirements in accordance with the appropriate aircrew training manual (para 4-15a).
- o Redefines the duties of the aircraft operator (4-19).
- o Changes mission commander to mission coordinator (para 4-21).
- o Adds crew chief duties (para 4-25).
- o Adds ground observer duties (para 4-27).
- o Adds Aviation Resource Management Survey (para 4-29).
- o Adds Army Command, Army Service Component Command, Direct Reporting Unit, and National Guard Bureau Army Aviation Standardization Committees (para 4-30).
- o Adds U.S. Army Aviation Senior Leaders Conference (para 4-31).
- o Adds U.S. Army Aviation Center of Excellence and Fort Rucker (para 4-32).
- o Adds flight data recorder policy and/or procedures (para 5-1f).
- o Adds instrument flight rule requirements (5-2g).
- o Changes weight and balance information (chap 7).
- o Adds Nonstandard Unmanned Aircraft Systems (chap 8).
- o Changes the use of DA Form 7525 to DA Form 5484 (app B).
- o Changes the name of appendix C from Manned Unmanned Teaming to Levels of Interoperability (app C).
- o Establishes regulatory guidance for Small Unmanned Aircraft System operations (app D).

**DRONES / ARMY / 000004**

- o Makes additional rapid action revision changes (chaps 1, 3, and 6).
- o Makes administrative changes (throughout).


Aviation

Unmanned Aircraft System Flight Regulations

By Order of the Secretary of the Army:

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

Official:

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

**History.** This publication is a rapid action revision (RAR). This RAR is effective 2 August 2010. The portions affected by this RAR are listed in the summary of change.

**Summary.** This regulation covers Unmanned Aircraft System operations, unmanned aircraft crewmember training and currency requirements, and flight rules. It also covers Army Unmanned Aircraft System general provisions, training, standardization, and management of Unmanned Aircraft System resources.

**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. It also applies to Department of Defense/Department of the Army civilians and civilian contractors involved in the operation, training, standardization,

and maintenance of such Unmanned Aircraft Systems. The provisions contained herein govern personnel qualification and currency training for those Unmanned Aircraft Systems that specifically require a military occupational specialty. The Unmanned Aircraft Systems designed for use by other than military occupational specialty-qualified unmanned aircraft crewmembers are governed by provisions of appendix D of this regulation. Small and Micro Unmanned Aircraft Systems training, qualification, and currency will be according to the appropriate aircrew training manual. During mobilization, chapters and policies contained in this regulation may be modified by the proponent.

**Proponent and exception authority.** The proponent of this regulation is the Deputy Chief of Staff, G–3/5/7. 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 E).

**Supplementation.** Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from the Deputy Chief of Staff, G–3/5/7 (DAMO–AV), 400 Army Pentagon, Washington DC 20310–0400.

**Suggested improvements.** Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, U.S. Army Aviation Center of Excellence and Fort Rucker (ATZQ–ESL), Fort Rucker, AL 36362–5211.

**Distribution.** This publication is available in electronic media only and is intended for command levels A, B, C, D, and E for the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

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\*This regulation supersedes AR 95–23, dated 14 May 2004. This edition publishes a rapid action revision of AR 95–23.

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### **Glossary**

## Chapter 1 General

### 1-1. Purpose

This regulation establishes procedures, rules, and responsibilities for—

- a. Unmanned Aircraft Systems (UASs), and unmanned aircraft crewmember (UAC) training and standardization.
- b. The UAS Aircrew Training Program (ATP).
- c. The UAS-related flight violations.
- d. Command, control, operations, and use of Department of the Army (DA) UAS.
- e. The DA UAS Standardization Program.
- f. The UAS safety of flight (SOF) messages.
- g. The UAS weight and balance.
- h. Nonstandard aircraft.

### 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 Secretary of the Army or authorized representative (unless otherwise stated in this regulation) has authority for final decisions in Army UAS operations, as established by the National Security Act of 1947; Title 10, United States Code, Section 3062, (10 USC 3062), as amended.

b. The Army Command (ACOM), Army Service Component Command (ASCC), or Direct Reporting Unit (DRU) commander, or the Chief, National Guard Bureau (NGB) will approve requests to engage in public demonstrations and/or static displays.

c. The Chief of Staff, Army will approve Armywide grounding of an entire mission, type, design, and series (MTDS) fleet of UAS. This authority also applies to SOF messages discussed in chapter 6.

d. The Deputy Chief of Staff, G-3/5/7 (DCS, G-3/5/7) has staff responsibility for the Army UAS, including waiver authority.

e. The Deputy Chief of Staff, G-4 (DCS, G-4) will approve—

- (1) The SOFs and aviation safety action (ASA) messages as discussed in chapter 6.
- (2) The UAS weight and balance as discussed in chapter 7.

f. The Commander, U.S. Army Aviation Center of Excellence and Fort Rucker (USAACE&FR) as the preparing agency for this regulation will be responsible for—

(1) The UAS training and standardization literature for all intelligence, surveillance, and reconnaissance related UAS.

(2) The U.S. Army UAS standardization and evaluation programs.

(3) Monitoring all UAS training evaluation and standardization.

(4) Performing UAS readiness management inspections, as appropriate.

g. The Commander, U.S. Army Aviation and Missile Command (AMCOM) will—

(1) Report UAS SOF/ASA conditions and issue SOF/ASAs covered in chapter 6. The UAS SOF/ASA reporting responsibility for those UASs still under procurement action (when system is under contract for procurement but not yet formally fielded to U.S. Army organizations) and/or still under conditional fielding/release to U.S. Army organizations and under the management and/or responsibility of the program executive office for aviation, as exercised through its project manager (PM) for the UAS, will be exercised by program executive office aviation and/or its PM UAS or a designated representative.

(2) Be the technical proponent for weight and balance (chap 7).

h. The Surgeon General will coordinate health hazard assessment and other medical aspects relating to UAS operations, including appropriate references to medical standards pertinent to UAS personnel documented in AR 40-501.

i. The Chief, National Guard Bureau will—

(1) Develop policy, concepts, requirements, and organization for Army National Guard (ARNG) UAS elements to support, and effectively risk manage, their dual (state and/or territory and Federal) missions.

(2) Serve as the major Army commander for managing the ARNG UAS program consistent with DA UAS regulations and authorized exceptions.

(3) Ensure compliance with Federal, DOD, and DA regulatory requirements for the standardization, maintenance, training, operations, and effective risk management of ARNG UAS assets.



(4) Ensure that the adjutant generals of states and/or territories, on behalf of the Chief, National Guard Bureau, effectively command, control, and manage the UAS safety and standardization programs in the state and/or territory.

*j.* The Commanding General (CG), U.S. Army Training and Doctrine Command (TRADOC), in coordination with appropriate HQDA agencies, will develop and recommend the doctrine, concepts, material requirements, and organization of Army UAS elements. The CG, TRADOC will—

(1) Develop training, standardization, and evaluation literature for UAS training programs (chap 4).

(2) Oversee the overall training of weight and balance (chap 7).

*k.* The CG, USAACE&FR, Directorate of Evaluation and Standardization, will monitor UAS training evaluation and standardization, when and if appropriate.

*l.* The commanders of ACOMs, ASCCs, or DRUs will—

(1) Ensure proper maintenance of UAC individual flight records (para 2–7).

(2) Monitor the Army UAS Standardization Program (para 4–28).

(3) Oversee SOF messages (chap 6).

### **1–5. Management control evaluation checklist**

*a.* The regulation that prescribes policy, standards, responsibilities, and accountability for establishing and maintaining effective internal management controls is AR 11–2. It also provides guidelines for the execution of the Army internal management control program.

*b.* Appendix E is the applicable management control evaluation checklist. Managers will use the checklist as daily guidance and will formally complete the checklist as scheduled by the HQDA functional proponents in the annually updated management control plan. The checklist will be used following the guidance specified in AR 11–2. Specifically, the checklist will—

(1) Test whether prescribed controls are present, operational, and effective. Analytical techniques, such as statistical sampling, should be used when appropriate to conserve resources.

(2) Identify areas where additions or reductions to existing controls are needed.

(3) Select corrective actions when deficiencies have been found that can be corrected locally.

(4) Refer deficiencies that cannot be corrected locally to higher command levels for assistance in correcting those deficiencies.

(5) Provide support for the commander’s annual statement on the adequacy of internal controls within the organization.

### **1–6. Deviations**

*a.* Individuals may deviate from provisions of this regulation during emergencies to the extent necessary to meet the emergency.

*b.* Individuals who deviate from the provisions of this regulation, Federal Aviation Administration (FAA) regulations, or host-country regulations must report details of the incident directly to their unit commander. The incident must be reported within 24 hours after it occurs.

*c.* Alleged violations of Federal Aviation Regulation 91 (Title 14, Code of Federal Regulation 91 (14 CFR 91)), host-country regulations, and/or U.S. military aviation regulations will be treated in accordance with paragraph 2–11.

### **1–7. Waivers and delegation of authority**

*a.* Authority to grant waivers is stated in specific paragraphs of this regulation. Authority granted to ACOMs, ASCCs, DRUs, or NGBs per this regulation may be further delegated by the ACOM, ASCC, or DRU commander, or the Chief, NGB except when expressly prohibited. All other commanders may not further delegate waiver authority unless authorized in the specific paragraph.

*b.* When waiver authority is not specified in specific paragraphs, waivers to provisions in chapters 2 through 5 may only be granted by Deputy Chief of Staff, G–3/5/7 (DAMO–AV), 400 Army Pentagon, Washington, DC 20310–0400 and chapters 6 and 7 by Deputy Chief of Staff, G–4, (DALO–AV), 500 Army Pentagon, Washington, DC 20310–0500.

*c.* Waivers required to be processed through the FAA or a host nation should be coordinated and/or processed through the Commander, U.S. Army Aeronautical Services Agency (USAASA), 9325 Gunston Road, Building 1466, Suite N319, Fort Belvoir, VA, as appropriate.

## **Chapter 2**

### **Unmanned Aircraft System Management**

#### **2–1. Personnel authorized to fly and/or operate Army Unmanned Aircraft Systems**

The following personnel may fly and/or operate Army UASs:

*a.* The UACs who—

(1) Are members of the Active Army, Reserve Component, or Army National Guard or are civilian employees of the U.S. Army.

(2) Have complied with qualification, training, evaluation, and currency requirements of this regulation (chap 4) for the UAS to be flown and/or operated.

b. Civilian employees of Government agencies and Government contractors who have—

(1) Appropriate military or civilian certifications or ratings in the system(s).

(2) Written authorization from the owning ACOM, ASCC, DRU, or the NGB or Commander, USAACE&FR.

(3) Necessary compliance with qualification, training, evaluation, and currency requirements of this regulation (chap 4), the provisions of AR 95–20, and the contract and/or statement of work for the UAS to be flown.

(4) At a minimum, a medical flight physical as stated in paragraph 2–1g(1), below, or an FAA equivalent.

c. The UAS crewmembers in other U.S. Services who have—

(1) Complied with qualification, training, evaluation, and currency requirements of their Service or of this regulation (chap 4) for the UAS to be flown.

(2) Written authorization from their Service and the owning ACOM, ASCC, or DRU commander, or the Chief, NGB.

(3) At a minimum, a medical flight physical as stated in paragraph 2–1g(1), below.

d. The UACs of foreign military services who have—

(1) Completed the course of instruction prescribed by an FAA equivalent or their country's aviation organization or service equivalent and have been awarded an appropriate UACs designation.

(2) Complied with qualification, training, evaluation, and currency requirements of their service or of this regulation (chap 4) for the UAS to be flown.

(3) Properly completed a foreign service disclaimer.

(4) Written authorization, including a disclaimer from their government absolving the U.S. Government from liability (unless a disclaimer is included under the provisions of an approved exchange program). The appropriate host ACOM, ASCC, DRU, or the NGB must provide written authorization that will include, as a minimum, the purpose and duration of the authorization.

e. Personnel listed in paragraphs 2–1a(1) and (2), above, who are not qualified or current to operate the UAS to be flown, after receiving training directly supervised by an instructor operator (IO) or standardization instructor operator (SO) who is qualified and current in the UAS to be flown.

f. Individuals receiving UAS crewmember instruction authorized by HQDA or USAACE&FR Directorate of Evaluation and Standardization (DES) designated agencies. These personnel may fly and/or operate Army UAS after training under an approved program of instruction (POI) or ATP.

g. Individuals receiving UAS crewmember instruction authorized by the Deputy Chief of Staff, G–3/5/7, (DAMO–AV), 400 Army Pentagon, Washington, DC 20310–0400. These people may operate the Army UAS when training under an approved POI or ATP with instructors designated by the DES.

(1) All personnel who hold the military occupational specialty (MOS) of an UAS operator must meet the annual medical requirements documented in AR 40–501 regardless of assignment. Personnel stated above will undergo and successfully satisfy the requirements of at least a Class III Flight Duty Medical Examination as stated in AR 40–501. Failure to meet medical standards is grounds for disqualification for flying duties. This will result in reclassification action in accordance with AR 614–200.

(2) Personnel who have completed requirements of appendix C of this regulation.

(3) Warrant officers who hold a U.S. Army occupational specialty of 150U (Tactical Unmanned Aerial Vehicle Operations Technician) and/or officers holding a U.S. Army aeronautical rating that have not completed the HQDA-approved UAS qualification course may perform payload operator duties on a limited basis. Officers performing such duties will—

(a) Fly with an IO, qualified and current on that UAS, present and in a position to gain immediate access to the required controls and/or console.

(b) Pass an emergency procedure and limitations evaluation administered by an IO.

*Note.* Mission and risk approval procedures for these flights, as well as training and evaluation procedures, will be outlined in the unit standing operating procedures (SOPs).

*Note.* Minimum risk approval authority for these missions will be the first O–5 in the chain of command.

## **2–2. Personnel authorized to operate engines of Army Unmanned Aircraft Systems**

Those authorized to operate engines of Army UASs include—

a. Personnel authorized to fly and/or operate Army UASs listed in paragraphs 2–1a(1) and (2), above.

b. Other personnel who meet the requirements of paragraph 3–12, below.

c. Contractor personnel operating per AR 95–20 who are authorized to start and runup Army UASs under the provisions of the contract and procedures in accordance with the appropriate UAS operator’s manual.

### **2–3. Crewmembers prohibited from performing unmanned aircraft crewmember duties**

The following crewmembers are prohibited from performing UAC duties:

- a. The UACs in nonoperational UAC positions.
- b. All UACs attending nonflying courses of instruction of more than 90 days duration. For reinstatement of qualification or currency requirements, refer to guidance in chapter 4, section I.
- c. Those disqualified or temporarily suspended (including medical suspensions) or whose UAC status has been administratively terminated.
- d. Crewmembers in an authorized leave status. Crewmembers in transition leave status may perform aircrew duties, without a waiver, if aircrew duties are required for employment with the Reserve Components, contractors, or other agencies working for the U.S. Government.

### **2–4. Unmanned Aircraft System operator and maintenance checklists**

- a. The publications and forms required by DA Pam 750–8 for all UAS-associated vehicles and ground support equipment and DA Pam 738–751 for UAS and UAS support equipment will be physically present for review by each UAC directly involved in the actual flight of the UAS prior to operation of any UAS.
- b. The UAC operator checklists will be used for all operations—from preflight through postflight—before leaving the UAS. While airborne, the use of the checklist will be accomplished to the extent that the mission requirements and safety will allow. During emergency situations, required checks may be accomplished from memory.
- c. Checklists will be used when making maintenance operational checks, maintenance test flights, and daily inspections.
- d. Only DA-approved and current UAC manuals and checklists will be used.

### **2–5. Logging flying time**

An entry will be made on DA Form 2408–12 (Army Aviator’s Flight Record) for each flight or simulated flight by all UACs indicating duties performed, mission, and flight condition. When recording flight time, use the following symbols:

a. *Duty.* Use the following symbols to record flight time in the UAS and flight simulators when qualified according to chapter 4, section II and for flights in the UAS when designated on the mission brief sheet to perform the duties specified by the symbol. A crewmember may not perform crew duties at multiple stations simultaneously. Crewmembers of UASs instructing or evaluating from a noncrewmember station will use the symbol for the duty being performed. The IO/SO/UT/AC will be used to designate the commander of the aircraft. The AC’s position will only be logged by one crewmember at a time. Use the following symbols to record flight time when performing duties specified by the symbol:

- (1) AC: aircraft commander.
- (2) AO: aircraft operator.
- (3) EO: external operator.
- (4) IO: instructor operator.
- (5) SO: standardization instructor operator.
- (6) UT: unit trainer.

b. *Mission.* Use the following symbols to record flight time when performing duties specified by the symbol:

- (1) A: acceptance test flight.
- (2) C: combat mission directly against the enemy within a designated combat zone.
- (3) F: maintenance test flight.
- (4) S: service missions, other than A, C, F, D, R, T, or X.
- (5) R: relay mission.
- (6) D: imminent danger.
- (7) T: training flight for individual qualification, refresher, mission, or continuation.
- (8) X: experimental test flight.

c. *Flight conditions.* Each crewmember will use only one of the following symbols to identify the condition or mode of flight for any time period:

- (1) D: day (between the hours of official sunrise and sunset).
- (2) N: night (between the hours of official sunset and sunrise).
- (3) S: simulator flight (flights conducted in an approved UAS synthetic flight training simulator and/or institutional mission simulator and/or other Army-approved UAS simulator).
- (4) W: weather. Flight of the air vehicle under instrument meteorological conditions that do not permit visual contact with the horizon or earth surface.

*d. Seat position.* Seat position will further define duties being performed by the crewmember.

(1) A: will indicate the crewmember who controls and/or monitors the actual flight of the UA from within a ground control station (GCS), launch and recovery site, portable GCS, or similar device.

(2) P: will indicate the crewmember who is responsible for operation of the payload to include weapons and sensors. Payload operators employing weapons systems will be qualified and current according to U.S. Army directives.

*Note.* Crewmembers who are performing the duties as SO/IO or UT while not occupying an actual crew position should enter the seat position for which primary instruction is being conducted.

## **2-6. Computation of flying time**

With the extended flight time capability of some UASs, flying hour computation for the UAS may differ from that of the UAS crewmembers. Flying time starts when a fixed-wing UAS begins to move forward on the takeoff roll (or takeoff launch for rail launch operations) or when a helicopter UAS lifts off the ground. Flying time ends when the air vehicle has landed and the engines are stopped. However, flying hour computation for the individual crewmembers will be logged only for that portion of the in-flight operations during which the UAC is actually performing crew duty functions on the UAS and/or any of its mission and/or sensor systems.

## **2-7. Individual flight records**

*a.* Each crewmember will hand carry between assignments and must present his or her individual flight records folder (IFRF) and individual aircrew training folder (IATF) to the new unit to which assigned or attached for ATP purposes within 14 calendar days after reporting for duty.

*b.* The flight experience and qualification data for each crewmember will be documented in the DA Form 3513 (Individual Flight Records Folder, United States Army) and IATF according to FM 3-04.300 and TC 1-600. The DA Form 759 (Individual Flight Record and Flight Certificate-Army); DA Form 759-1 (Individual Flight Record and Flight Certificate-Army, Aircraft Closeout Summary); DA Form 759-2 (Individual Flight Record and Flight Certificate-Army, Flying Hours Work Sheet); and DA Form 759-3 (Individual Flight Record and Flight Certificate-Army, Flight Pay and Flight Hours Work Sheet) are used to develop data for the permanent record. These forms are filed in the IFRF and become DA's permanent statistical, historical, and personnel flight records. DA Form 7120-R (Commander's Task List), DA Form 7120-1-R (Crew Member Task Performance and Evaluation Requirements), DA Form 7120-2-R (Crew Member Task Performance and Evaluation Requirements Continuation Sheet), DA Form 7120-3-R (Crew Member Task Performance and Evaluation Requirements Remarks and Certification), DA Form 7122-R (Crew Member Training Record), DA Form 4507 (Crew Member Grade Slip), DA Form 4507-1-R (Maneuver/Procedure Grade Slip), DA Form 4507-2-R (Continuation Comment Slip) are used to indicate training and qualification data on crewmembers.

*c.* These records will be prepared and kept on file for—

(1) Crewmembers in operational positions.

(2) Crewmembers in nonoperational positions and those restricted or prohibited by statute from flying Army UASs. These records will be kept in an inactive file either with operational crewmembers files or with military personnel records as specified by ACOM, ASCC, or DRU commander, or the Chief, NGB, or U.S. Special Operations Command (USSOCOM).

(3) Other personnel authorized to take part in flights.

(4) Persons attending qualification training.

*d.* Commanders will maintain, close out, and distribute required individual flight records and individual aircrew training records for persons assigned or attached to their organization in accordance with FM 3-04.300 and TC 1-600 utilizing the Centralized Aviation Flight Records System (CAFRS).

*e.* Upon a UAC's separation and final closeout, the unit flight records custodian will complete a synchronization with the CAFRS Central Database to deactivate the record and move it to the CAFRS Central Database for storage. They will then give the Soldier a copy of the latest DA Form 759 and the remainder of the IFRF along with the IATF.

## **2-8. Local flying rules**

*a.* Installation commanders having Army UASs assigned, attached, or tenant to their commands will prepare and publish local flying rules. Rules will include the use of tactical training and maintenance flight areas, arrival and departure routes, and airspace restrictions as appropriate to control the UAS operations in their local flying areas.

*b.* Installation commanders may set altitudes based on noise abatement, fly-neighborly policies, or other safety considerations. These will be displayed in flight operations and provided to the USAASA for publication in the DOD flight information publication (FLIP). All UACs will become familiar with and adhere to the appropriate published local area traffic pattern altitudes.

*c.* When UASs are authorized to operate in controlled airspace, Army air traffic control (ATC) facilities will use prescribed FAA separation procedures, when provided, for the category and type of flight being conducted. Separate FAA procedures have not been established for UASs nor have UASs been categorized for separation purposes.

- d. Operations outside of special use airspace (SUA) will be conducted in accordance with AR 95–2.
- e. Requests for deviations from FAA Order 7610.4, chapter 12, to operate UASs outside of restricted areas will be processed through the appropriate DA Regional Representative (DARR) for the specific FAA region.

## **2–9. Special use airspace**

- a. Army Regulation 95–2 sets Army policy and procedures for handling SUA matters.
- b. Operations in SUA will be conducted per instructions from the using agency.
- c. In combat zones, airspace use, control, and management will be conducted per Joint Publication 3–52, in accordance with FM 3–52. Air traffic control services will be provided per FM 3–04.120.
- d. Unless approval is granted in advance through the appropriate DARR, all UAS flights and/or operations will be conducted in the appropriate SUA, per AR 95–2. Any UAS flight operations not conducted in SUA must comply with AR 95–2 and FAA Order 7610.4.
- e. Restricted areas established for the purpose of aircraft and/or unmanned aircraft (UA) operations may also be activated for UAS operations with prior coordination with appropriate agencies.

## **2–10. Unmanned Aircraft Systems lighting requirements**

- a. Army UASs will be illuminated to at least the minimum standards required by the country in which the flight operations occur.
- b. Unmanned aircraft anticollision lights will be on when UAS engines are operating, except when there may be other hazards to safety.
- c. Unmanned aircraft position lights will be ON between official sunset and sunrise.
- d. The UAS night lighting requirements will be prescribed in unit standing operating procedures and mission orders.

## **2–11. Flight violations**

Policies and procedures for reporting and investigating alleged flight rules violations are—

a. *Violations.* Any violation of FAA, International Civil Aviation Organization (ICAO), host country, and/or any other pertinent aviation regulation will be reported. Any person witnessing or involved in a flight violation involving civil or military UA, will report the violation as soon as possible.

(1) Violations by military UA will be reported to one of the following:

- (a) The commander of the unit, activity, or installation (if known) to which the air vehicle belongs.
- (b) The DARR of the FAA region in which the alleged violation took place (see AR 95–2 for addresses).
- (c) The Commander, USAASA, Fort Belvoir, VA 22060–5582.
- (d) The U.S. Army Aeronautical Detachment, Europe, if the incident took place in its area of responsibility (see AR 95–2 for addresses).
- (e) The 8th Army Air Traffic Control, U.S. Forces Korea, (U.S. Army Air Traffic Control & Airspace Coordinator’s office), if the incident took place in its area of responsibility (see AR 95–2 for addresses).
- (f) The U.S. Army Criminal Investigation Command, in accordance with AR 195–2, if the violation results in significant property damage and/or destruction, serious injury, or death and is believed to have been caused by criminal acts or negligence.

(2) Violations by civil aircraft should be reported to one of the following:

- (a) The Flight Standards District Office for the FAA region in which the alleged violation took place.
- (b) The FAA Communications Center, Washington, DC 20591.
- (c) The DARR of the FAA region in which the alleged violation took place (see AR 95–2 for addresses).
- (d) The Commander, USAASA, Fort Belvoir, VA 22060–5582.
- (e) The U.S. Army Aeronautical Detachment, Europe, if the incident took place in its area of responsibility (see AR 95–2 for addresses).
- (f) The 8th Army Air Traffic Control, U.S. Forces Korea, (U.S. Army Air Traffic Control & Airspace Coordinator’s office), if the incident took place in its area of responsibility (see AR 95–2 for addresses).

(3) Names of crewmembers of military UA involved in actual or alleged violations will be treated as restricted information and not be released to the public or any agency outside the DOD, except by proper authority. Any person receiving requests for names of crewmembers of Army UA should direct such inquiries to the Commander, USAASA (see para 2–11a(1)(c)).

b. *Information reported.* To report an alleged violation, use a letter or memorandum format. Neither DA Form 2696 (Operational Hazard Report) nor DA Form 4755 (Employee Report of Alleged Unsafe or Unhealthy Working Conditions) is normally used to report flight violations. When reporting an alleged violation, as much information as possible should be given, to include—

- (1) Type and make of aircraft and/or UA.
- (2) Tail number.
- (3) Name of the mission coordinator (MC).

- (4) Unit assigned, if military.
- (5) Location where aircraft and/or UAS is based.
- (6) Description of alleged violation, including—
  - (a) Specific reference to regulations violated.
  - (b) What happened.
  - (c) Time and date the alleged violation occurred.
  - (d) Where the alleged violation occurred.
- (7) Name and phone number of the individual reporting the alleged violation.
- (8) Names, addresses, and phone numbers of additional witnesses, if any.
- (9) Other pertinent information.

*c. Investigation.*

(1) Reports of alleged violations received from the FAA, ICAO, or a host country will be investigated under the provisions of AR 15–6.

(2) Commanders receiving a report of violations from sources other than those listed in paragraph 2–11c (1), above, will first determine if it involves personnel or aircraft and/or UAS under their command and, if necessary, initiate an investigation under AR 15–6.

(3) Based on the outcome of the investigation, commanders will take appropriate administrative, judicial, or nonjudicial action.

(4) Results of investigations conducted per AR 15–6 will be reported through channels to the Commander, USAASA, Fort Belvoir, VA 22060–5582. The report will include the findings of the investigation, the corrective action taken or proposed, any conclusions derived, the type of disciplinary action taken (if any), and any other pertinent information. This report must reach the USAASA within 60 days of the commander receiving notification of the alleged violation unless the immediate commander cannot complete the investigation or the administrative or disciplinary action within this time. In this case, an interim report will be forwarded detailing the reasons for the delay.

(5) Under no circumstances will a report of investigation prepared under the provisions of this regulation be released outside of DOD, except in accordance with the Freedom of Information Act (FOIA) or Privacy Act, as implemented by AR 25–55 and AR 340–21. All requests for information under the FOIA or Privacy Act will be referred to the installation or unit FOIA and/or operations security coordinator for processing in accordance with AR 25–55 or AR 340–21.

## **2–12. Mission approval process**

Commanders in the grade of O–5 (lieutenant colonel) and above will develop and publish policies and procedures for the mission approval process for those UAS units under their command. If the chain of command lacks a commander in the grade of O–5, the ACOM, ASCC, or DRU commander, or the Chief, NGB may adjust this requirement. Adjustment authorities granted throughout this paragraph will not be delegated below the general officer level. Approval authorities and procedures established for tactical and combat operations may differ from those utilized for garrison operations. Unit commanders will establish a training and certification program for mission briefer and mission approval authorities to ensure standardization and understanding of the mission approval and risk management process for personnel defined in paragraph a below.

*a. Definitions.*

(1) *Initial mission approval authority.* Unit commanders or their designated representatives (operations officer and so forth) determine the mission feasibility and either accept or reject the mission for the unit.

(2) *Briefing officer and/or noncommissioned officer.* Briefing officers and/or NCOs will be designated in writing by commanders in the grade of O–5 or above to identify, assess, and mitigate risk. The briefing officers and/or NCOs will be selected based on their level of experience, maturity, judgment, and ability to effectively mitigate risk to the UA and crew. Experience is critical for briefing officers and/or NCOs to identify hazards, assess hazards, and develop control measures for the crew which are key components of the risk management process.

(3) *Final mission approval authority.* Final mission approval authority are members of the chain of command who are responsible for accepting risk and approving all UAS operations within their unit. They approve missions for a specific risk level. Individuals with final mission approval authority may only approve those missions where the assessed risk level is commensurate with their command level. Commanders in the grade of O–5 and above will select final mission approval authorities from the chain of command and designate them in writing along with the level of risk (low, moderate, high, or extremely high) mission they are authorized to approve. At a minimum, battalion commanders and above are the final mission approval authority for moderate-risk missions, brigade commanders and above for high-risk missions, and the first general officer in the chain of command for extremely high-risk missions. Approval authorities are based upon levels of command authority and not rank. For units lacking these positions, the ACOM/ASCC/DRU commander, or the Chief, NGB may adjust them within these guidelines. During bona fide absences, battalion and brigade commanders may authorize their field grade executive officer or S–3 to accept the risk and approve the operation on their behalf provided they are properly trained and notify the commander as soon as possible.

(4) *Risk assessment worksheets.* Unit commanders will develop local risk assessment worksheets (RAWs) to assess aircrew mission planning and risk. The RAW will be constructed using the concepts outlined in FM 5–19. The commander will combine guidance from higher commanders with personal knowledge of the unit and experience to assign levels of risk to particular parameters. Risk levels are used to elevate items of interest to successive levels of command for visibility and acceptance.

(5) *DA Form 5484.* Copies of the DA Form 5484 (Mission Schedule/Brief) will be retained in unit files with the corresponding RAW for at least 30 days.

*b. Mission approval process.* The mission approval process for UAS operations is accomplished in three steps that must be completed prior to mission execution.

(1) *Step one: Initial mission approval.* The initial mission approval authority approves the mission in accordance with the commander's policies and procedures by considering some of the following factors: alignment with the unit's mission essential task list, aircraft required and available, availability of required special mission equipment, trained aircrew availability, other training and mission impacts, tactical and threat considerations, and so on. This step is not a detailed hazard and risk analysis for specific flight operations but rather an assessment of the unit's capability to accomplish the mission. Initial approval may occur at different levels of command depending on how the mission is generated. For example, a mission generated at the brigade level might be accepted by the battalion operations officer while a platoon training mission might be accepted by the company commander.

(2) *Step two: Mission planning and briefing.* This step involves detailed planning, risk assessment, and risk mitigation by the aircrew and review by the briefing officer and/or NCO. Briefing officers are authorized to brief missions regardless of the level of mitigated risk. Self-briefing is not authorized unless approved by the first officer in the grade of O–5 or above in the chain of command. Interaction between crew and briefer is paramount to identify, assess, and mitigate risk for the specific flight or mission. Briefing officers are responsible for ensuring key mission elements are evaluated, briefed, and understood by the MC. Mission briefing officers and/or NCOs will, at a minimum, review and assess the following key areas in the mission planning process:

(a) The flight is in support of an operational unit mission and has been approved by step one.

(b) The crew understands the mission and possesses situational awareness of all tactical, technical, and administrative mission details.

(c) Assigned flight crews have been allocated adequate pre-mission planning time and the mission is adequately planned to include performance planning, Notice to Airmen (NOTAM), and coordination with supported units.

(d) Assigned flight crews are qualified and current for the mission in accordance with this regulation, aircrew information reading file currency, and crew experience appropriate for the mission.

(e) Forecast weather conditions for the mission—including departure, en route, and arrival weather—meet the requirements of this regulation and local directives.

(f) Flight crews meet unit crew endurance requirements.

(g) Procedures in the commander's risk management program are completed and mitigated to the lowest level possible.

(h) Required special mission equipment is operational.

(3) *Step 3: Final mission approval.* Based on the resulting mitigated risk, the appropriate final approval authority reviews the mission's validity, planning, and risk mitigation and authorizes the flight and/or operation in accordance with the commander's policy. The final approval authority indicates authorization for flight by initialing the RAW and the briefing officer initials the DA Form 5484 indicating completion of the briefing. Briefing officers and final approval authorities may give oral approval if necessary. If a crewmember changes or a mission parameter changes which increases the resultant risk, the MC will be rebriefed and reapproved as required.

## **2–13. Noise abatement**

*a.* Noise abatement policies will be disseminated by the Commander, USAASA. Installations will develop and publish local noise abatement programs that minimize aircraft noise footprint on and near the installation and within the local flying area and establish good public relations programs to educate and inform the public.

*b.* The UAC will participate in noise abatement and fly-neighborly programs to minimize annoyance to persons on the ground when missions and safety are not adversely affected.

*c.* When operating in noise sensitive areas, unless required by the mission, all Army aircraft will maintain a minimum of 2,000 feet above the surface of the following: national parks, monuments, recreation areas and scenic river ways administered by the National Parks Service, National Wildlife Refuges, Big Game Refuges, or Wildlife Ranges administered by the U.S. Fish and Wildlife Service, and wilderness and primitive areas administered by the U.S. Forest Service.

*d.* Army aviation activities which normally operate in or adjacent to those areas listed in paragraph c, above, may enter into local agreements with the controlling agency to modify procedures required for mission accomplishment.

## **Chapter 3 Operations and Safety**

### **Section I Use of Army Unmanned Aircraft System**

#### **3-1. General**

Army UAS will be used for official purposes only. The UAS use must comply with paragraph 3-2 and must not be prohibited by paragraph 3-4 of this regulation. The only authorized classes of missions designated for an Army UAS are operational use and, as approved, special use. To ensure that the noncombatant status of civilians and contractors is not jeopardized, commanders shall consult with their servicing judge advocate office for guidance before using civilian or contractor personnel in combat operations or other missions involving direct participation in hostilities.

#### **3-2. Operational use missions**

Operational use missions include those missions required to accomplish the Army's mission and to maintain the combat readiness of UAS and supported units. These UAS missions are—

- a.* Actual or simulated tactical and/or combat operations.
- b.* Unmanned aircraft crewmember training.
- c.* Intelligence.
- d.* Counternarcotics activities.
- e.* Support to search and rescue.
- f.* Research and development.
- g.* Maintenance flights.
- h.* Flight tests.
- i.* Repositioning or reassignment of aircraft.
- j.* Special use (humanitarian, disaster relief, and deployments).
- k.* Aeronautical research and space and science application.
- l.* Exercise command and/or supervision authority.

#### **3-3. Special use missions**

Unless specified, approval authorities for missions authorized in this paragraph are ACOM, ASCC, or a DRU commander, or the Chief, NGB. They may delegate approval authority not lower than installation commanders, U.S. Army Reserve Command (ARCOM) commanding generals or state adjutants general. In addition to operational missions, Army UAS may be used for the following purposes:

- a.* Aerial demonstrations in support of civil or military official functions.
- b.* Static demonstrations not on a military installation—as performed in support of community relations' activities—will comply with AR 360-1.
- c.* Units assigned an aerial demonstration mission within CONUS will comply with Federal Aviation Regulation 91. Aerial demonstrations not on a military installation will not be conducted until coordinated with the appropriate DARR. The DARRs are listed in AR 95-2, table 6-1, and in TB AVN 1-2144.
- d.* Units assigned an aerial demonstration mission OCONUS will comply with published ACOM, ASCC, DRU, or the NGB, host nation, and ICAO regulations.
- e.* The UAS support of community relations and public information, if approved, in accordance with AR 360-1.

#### **3-4. Prohibited missions**

- a.* Army UAS will not be used to conduct flights for personal use.
- b.* Army UAS operations will not be conducted outside of those areas identified in paragraph 2-9.
- c.* Army UAS will not be operated in a manner outside of the definition of public aircraft (49 USC 40102(a)(37)).

### **Section II Safety**

#### **3-5. Safety functions**

Commanders will implement the mishap prevention program set up by DA Pam 385-90.

#### **3-6. Mishap reports, investigations, and release of information**

- a.* Procedures for investigating and reporting UAS mishaps are prescribed in DA Pam 385-40.
- b.* Policy and procedures for reporting casualties and notifying next of kin of personnel involved in accidents are prescribed in AR 600-8-1.



- c. Requests for UAS mishap reports will be answered per DA Pam 385–40.
- d. Requests for information under the FOIA will be processed per AR 25–55.
- e. For all instances of a UAS Class A accident, the first general officer in the chain of command is required to accept the out brief from the accident investigation team.
- f. Commanders will implement the aviation accident prevention program according to DA Pam 385–90.

### **3–7. Composite risk management**

- a. Commanders will integrate risk management into UAS mission planning and execution at every level. Chapter 6 of the UAS aircrew training manual (ATM) will be used as a guide for implementation of this program.
- b. The risk management process begins at mission conception and continues until mission completion. The process is applied with the goal of eliminating hazards where possible and reducing residual risks to acceptable levels.
- c. When possible, the hazard assessment step of the process should be documented by the mission developer and/or planner. (TC 1–600, chapter 6, explains formalized assessments.) File assessment documentation with the UAS mission briefing in accordance with FM 3–04.300.

### **3–8. Crew endurance management**

- a. Crew endurance is an integral part of the overall composite risk management program. It is used to control risks due to sleep deprivation or fatigue and to prescribe thresholds to trigger command decisions whether to accept those risks.
- b. Commanders will design a crew endurance program tailored to their unit mission and include it in their SOP. The DA Pam 385–90 and the Leaders Guide to Crew Endurance (obtained at <https://cra.army.mil/tools/handbooks/aviation/crewend.pdf>) establish guidance for crew endurance programs.
- c. Commanders should consider the advice of flight surgeons and safety personnel in designing their crew endurance programs.

### **3–9. DA Form 2696**

DA Form 2696 will be used to notify commanders and safety councils of anything affecting the safety of Army UA or related personnel and equipment. The commander will investigate reported hazards and correct unsafe conditions. (See DA Pam 385–90 for instructions on completing DA Form 2696).

### **3–10. Temporary flying restrictions due to exogenous factors**

For the implementation of temporary flying restrictions due to exogenous factors affecting UAC efficiency, commanders will refer to AR 40–8.

### **3–11. Maintenance flights**

- a. Maintenance flights will be conducted per technical manual or appropriate UAS technical manual guidelines.
- b. Maintenance flights for UAS that have been provided to a contractor, as government-furnished equipment, will be flown and/or conducted consistent with the provisions of the contract between the government and the contractor.
- c. The UAS crewmembers performing maintenance flights must be qualified and current.

### **3–12. Maintenance and operations check**

- a. Only authorized personnel will perform maintenance and operational checks on UASs per DA Pam 750–8, DA Pam 738–751, TM 1–1500–328–23 (or current memorandum of agreement for newly acquired systems), and appropriate UAS technical manuals, as applicable.
- b. System qualified personnel who are authorized to start, runup, and taxi UAS or control stations for the purpose of maintenance operational checks and are not qualified per paragraph 2–1a(1) and (2) will—
  - (1) Undergo appropriate normal and emergency procedures training conducted by an instructor operator in the specific MTDS UAS for which the maintenance operational checks are to be performed.
  - (2) Be evaluated semiannually by an instructor operator on all functions they are required to perform.
  - (3) Have written authorization from the commander. This authorization must specify the operations and checks permitted and be posted in their IATF and the maintenance office.

## **Section III**

### **Army Unmanned Aircraft System Performance Records**

#### **3–13. Requests for performance records**

The policy for handling requests from the Services for authority to establish performance records by a military UAS is prescribed in DODI 5410.19. It authorizes periodic official demonstrations of military UAS for the purposes of establishing new performance such as speed and endurance records.

### **3-14. Purpose of performance records**

The following policies apply to the use of Army UASs for the purpose of performance records.

- a.* Only service UASs will become eligible to establish new performance records. These UASs will be eligible 6 months after the first UAS is delivered to an operational unit.
- b.* Service requests to engage in public demonstrations to establish performance records and release information on new performance records will be submitted to OASD (PA), for approval or disapproval, after coordination—
  - (1) By OASD (PA), within DOD.
  - (2) With other appropriate departments of the Government (for example, FAA, Department of Transportation).
  - (3) With the National Aeronautics Association.
- c.* Requests in paragraph b, above, will be accompanied with a description of the specific UAS, full justification of the purpose of the record attempt, flight plans, and information supporting the attempt.
- d.* Requests by ACOMs, ASCCs, DRUs, or NGBs for authority to establish performance records by a military UAS will be submitted to HQDA (DAMO-FDV), Washington, DC 20310-0460, at least 60 days prior to any proposed record establishment attempt.

## **Chapter 4 Training**

### **Section I Training Program and Literature**

#### **4-1. General**

The UAS ATP will be in accordance with the appropriate UAS ATM.

#### **4-2. Waivers to training requirements**

- a.* Unit waivers to primary ATP requirements may be granted only by the following:
  - (1) Commanders of ACOM, ASCC, DRU and USSOCOM.
  - (2) Commander, U.S. Army Reserve Command.
  - (3) Chief, National Guard Bureau.
  - (4) Commanders colonel (O-6) and above and the state Army aviation officer (SAAO) may grant unit waivers and/or extensions to ATP requirements for units under their command, or state and/or territory affected by operational deployments. These commanders may grant unit extensions for up to 180 days from their self-established “start training date” after redeployment.
- b.* Individual waivers to primary UAS ATP requirements may be granted by the first commander, O-6 or above, in the individual’s chain of command.
- c.* Waivers will state the specific requirement that is to be waived.
- d.* The ATP requirements are waived for UACs assigned to units, commands, or installations with no UAS assets available. The UAC will maintain a current flying duty medical examination in accordance with AR 40-501.

#### **4-3. Publications**

Operator’s manuals and checklists are the primary references governing the operation of a specific UAS. Aircrew training manuals, field manuals, technical manuals, and training circulars will be used as required. When differences exist between this regulation and other publications, this regulation has precedence. The DA Form 2028 recommending changes to these publications will be submitted through the UAS unit commander to the proponent of the manual.

#### **4-4. Aircrew information reading files**

Units will establish and maintain UAC training and aircrew information reading file according to DA Pam 385-90 and TC 1-600. Assigned and/or attached UAC personnel will read and remain familiar with these files. Reading files will include but are not limited to the following publications: appropriate operator’s manuals, DA Pam 385-90, AR 40-8, AR 95-2, AR 95-23, TC 1-600, local policy letters, and unit and facility SOPs.

#### **4-5. Aircrew Training Program**

- a.* The UAS ATP standardizes UAC training and evaluations to ensure combat readiness.
- b.* The ATP outlined in the ATM is mandatory for all UACs assigned to operational flying positions in UAS units as specified in ATMs. The ATP includes requirements for hours, tasks, and iterations identified in appropriate ATMs; UAS simulator; readiness level (RL) progression; and the annual proficiency and readiness test (APART). UACs assigned or attached to another Service will meet the training program requirements of that Service. Department of the

Army civilian UACs will be trained and evaluated as specified in writing by the commander as necessary to meet the requirements of their military support job description.

c. The unit commander may excuse an UAC scheduled for retirement or separation from active duty from all ATP requirements. The UAC may be excused beginning no sooner than 6 months before the scheduled retirement or separation date. However, UACs who are excused are prohibited from performing further UAC flight duties.

#### **4-6. Unmanned aircraft crewmember qualification and refresher training**

##### *a. Qualification training.*

(1) Formal training at other DA-designated training bases may be conducted upon receipt of approval by DCS, G-3/5/7, (DAMO-AV). The ARNG specific requests will be routed through Chief, National Guard Bureau, (NGB-AVN-O to DAMO-AV).

(2) Unless otherwise approved by HQDA (DAMO-AV), local transition training will not be conducted when a formal DA qualification course exists. Exceptions may be granted on an as required basis by HQDA (DAMO-AV), in which case training will be in accordance with an appropriate ACOM, ASCC, DRU, or NGB approved POI.

(3) To ensure standardization throughout the Army UAS community, flight training will be conducted using the training and evaluation requirements prescribed in the appropriate UAS ATM.

(4) Training an UAC in an UAS category other than that in which he or she is qualified to fly and/or operate is permitted only in a formal school course.

(5) Those UACs who successfully complete qualification training conducted by the Army or other U.S. military Service will be awarded an additional MOS or additional skill identifier (see AR 611-1).

(6) A statement of completed UAS and/or UAS system qualification (such as, synthetic aperture radar, or Airborne Standoff Minefield Detection System) will be entered into the UAC IATF and IFRF. The personnel officer will include the statement in the member's military personnel records.

(7) Operator and instructor operator qualification training in nonstandard UAS will be conducted according to chapter 8.

*b. Refresher training.* When UACs have not flown within the past 180 days, they will receive refresher training prescribed in the appropriate UAS ATM. When UAS ground crewmembers have not conducted UAS ground crewmember duties within the past 180 days, they will receive refresher training according to the appropriate UAS ATM and technical manuals. The gaining command is responsible for the refresher training (except for crewmembers assigned to overseas commands for duty in an operational UAS flying position).

#### **4-7. Annual proficiency and readiness test**

a. The APART will be conducted and documented in accordance with the appropriate ATM. The APART is given to each RL 1 and Department of the Army civilian UAC within the APART period. For Department of the Army civilian or ARNG UAC, individual components of the APART may be accomplished in any calendar quarter designated by the commander and/or SAAO.

b. The UACs who fail to meet APART standards will be processed in accordance with paragraph 4-10 of this regulation.

#### **4-8. Emergency procedures training**

Training in emergency procedures will be conducted per the appropriate ATM. A qualified IO or SO who is current in that MTDS of UAS will be present and in a position to gain immediate access to the required controls and/or console.

#### **4-9. Hands-on performance test**

Each UAC must successfully complete periodic hands-on performance tests conducted by an IO or SO as applicable, per the appropriate ATM. Hands-on tests are—

*a. Standardization flight evaluation.* The flight consists of flight maneuvers and/or procedures conducted in each primary, additional, and alternate UAS (para 4-15) that a UAC is required to operate. The evaluation is conducted to determine the examinee's ability to perform assigned flight duties. The first commander, O-5 or above, in the chain of command may, on a case-by-case basis, direct use of a compatible UAS flight simulator if circumstances preclude safe, affordable, or timely evaluation in the UAS (except for those EO duties requiring actual takeoff and landing performance evaluation). The Standardization Flight Evaluation was designed to determine an operator's proficiency controlling the UAS and, therefore, cannot be determined without a UAS operator physically being on the controls. The IO/SO must be at the flight controls when performing their individual standardization flight evaluation. The evaluation will—

(1) Be conducted as described in the appropriate ATM.

(2) Be conducted by a designated IO or SO to establish initial qualification in a UAS series and once each year during the APART.

(3) The first commander, O5 or above, in the chain of command may, on a case by case basis, direct use of a

compatible UAS flight simulator if circumstances preclude safe, affordable, or timely evaluation in the UAS (except for those EO duties requiring actual takeoff and landing performance evaluation).

*b. Proficiency flight evaluation.* The evaluation is administered to any UAC in an operational flying position in any UAS-series group (para 4-15) or UAS he or she is required to operate. The evaluation will be conducted—

- (1) At the discretion of the commander.
- (2) At the direction of HQDA.
- (3) By an IO or SO per the appropriate ATM.
- (4) To determine an individual's proficiency and/or currency.
- (5) To determine which phase of training is appropriate for entry into or continuing in the ATP.

*Note.* No-notice evaluations may be written examinations, oral examinations, UAS flight evaluations, or compatible UAS simulator evaluations.

*c. Postmishap flight evaluation.* This flight evaluation is administered to a crewmember to determine his or her ability to perform required duties following a UAS mishap. Crewmembers performing crew duties involved in a Class A or B mishap will be suspended from flight duties until successful completion of an evaluation. The evaluation will be conducted in the same MTDS UAS in which the mishap occurred. Crewmembers performing crew duties involved in a Class C mishap may be suspended from flight duties and required to successfully complete a flight evaluation at the discretion of the commander. An IO or SO will conduct the evaluation in accordance with the appropriate ATM (see AR 40-501 for medical release requirements prior to flight).

*d. Medical flight evaluation.* This flight evaluation measures a crewmember's ability to perform required duties after incurring a medical disability. The evaluation will be administered upon the recommendation of the flight surgeon or appropriate medical authority. The evaluation of flight duties will be conducted by an IO or SO in accordance with the appropriate ATM.

#### **4-10. Failure to meet Aircrew Training Program requirements**

*a.* The commander will investigate when ATP requirements are not met. The commander will complete the investigation within 30 days of notification of the failure. After investigating, the UAS unit commander will—

- (1) Take one of the following actions:
  - (a) Authorize up to one 30-day extension granted by commanders 0-5 and above to complete the requirements.
  - (b) Request a waiver of requirements per paragraph 4-2b.
- (2) Enter restrictions imposed and extensions granted into the UAC's IATF.
- (3) Enter extensions and waivers for the UAC into that operator's IFRF.
- (4) Restrict the UAC from performing AC duties in the UAS until ATP requirements have been successfully completed.

*b.* For primary UAS, if additional time is not granted, or if requirements are not met within the authorized period, the commander will suspend the UAC from further UAC duties. Commanders must then either request a waiver according to paragraph 4-2b or initiate proceedings for MOS reclassification.

*c.* The UAC who fails a hands-on performance test will be restricted from performing the duty for which evaluated. The restriction will apply to all UAS with similar operating and handling characteristics as listed in paragraph 4-16. Restrictions will be listed in the operator's IATF and will remain in effect until successful completion of a reevaluation.

- (1) When the failure is in the UAC's primary UAS, the commander must—
  - (a) Redesignate the individual to the appropriate RL.
  - (b) Authorize additional training if necessary.
  - (c) For AO, payload operator (PO) or EO, reevaluate or impose a temporary suspension from flying duties.
  - (d) For other qualified UACs, reevaluate or remove the individual from UAC duties.
- (2) When the failure is in an UAC's additional or alternate UAS, the commander must—
  - (a) Redesignate the individual to the appropriate RL.
  - (b) Authorize additional training if necessary.
  - (c) Reevaluate, retrain, or restrict the UAC from performing duties in that UAS.

#### **4-11. Unmanned Aircraft System simulator training requirements**

- a.* Annual training requirement minimums will be in accordance with the appropriate ATM.
- b.* The UAS simulators are listed in table 4-1.

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**Table 4-1**  
**UAS synthetic fight training system**

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**Designation:** Hunter Institutional Mission Simulator (IMS), Hunter Ground Control Station (w/embedded simulator)  
**Compatible unmanned aircraft:** RQ-5A/B, MQ-5 Hunter

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**Designation:** Extended Range Multi-Purpose (ERMP) Ground Control Station (w/embedded simulator), ERMP Institutional Mission Simulator (IMS)  
**Compatible unmanned aircraft:** MQ-1C

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**Designation:** Shadow Ground Control Station (w/embedded simulator)  
**Compatible unmanned aircraft:** RQ-7A/B

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**Designation:** Shadow Institutional Mission Simulator (IMS) / Portable IMS  
**Compatible unmanned aircraft:** RQ-7A/B

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#### **4-12. Aeromedical training**

The UAC will receive aeromedical training per TC 3-04.93 and the appropriate ATM.

#### **4-13. Deck landing operations training**

a. If deck landing operations are contemplated and/or anticipated, UAS flight crewmembers must complete deck landing qualification and be current in accordance with the most current Army and/or Air Force Deck Landing Operations Memorandum of Understanding prior to conducting naval deck landing operations.

b. Units may obtain a copy of the most current Army and/or Air Force Deck Landing Operations Memorandum of Understanding by writing to Headquarters, Department of the Army (DAMO-AV), Washington, DC 20310-0460.

#### **4-14. Aircraft survivability equipment and/or electronic warfare training**

The UAS commanders in tactical units with aircraft survivability equipment and/or electronic warfare training capability will establish programs to train crewmembers on the operation and effectiveness of aircraft survivability equipment against electronic threats. The training will be administered and evaluated per the appropriate ATM.

#### **4-15. Currency**

a. Currency requirements will be according to the appropriate ATM.

b. The UAC whose currency has lapsed must complete a proficiency flight evaluation according to the appropriate ATM. Simulators may not be used to reestablish currency.

c. Night currency requirements will be according to the appropriate ATM.

d. In areas where extreme environmental conditions may preclude safe operation of UAS for periods exceeding 120 consecutive days, authorization for use of compatible simulators for maintaining AO currency up to 180 days may be granted by—

- (1) Commanders of ACOMs, ASCCs, DRUs, and USSOCOM.
- (2) Commander, U.S. Army Reserve Command.
- (3) Chief, National Guard Bureau.

#### **4-16. Similar Unmanned Aircraft Systems**

Currency in one series UAS will satisfy the requirement for all UAS within the series or group; separate currency is required for all other UAS. Series UAS with similar operating and handling characteristics are listed in the appropriate aircrew training manual.

### **Section II**

#### **Unmanned Aircraft System Flight Crewmembers**

#### **4-17. Unmanned aircraft crewmembers**

The UAS unit commanders must establish, in writing, formal UAS flight crewmember qualification and selection programs. Programs will contain qualification and selection criteria and evaluation requirements. The UAS instructor operators and safety personnel will aid commanders in the selection process. The UAS crewmembers will be designated, in writing, by their unit commander who will specify the UAS duties and crew stations that the UACs are authorized to occupy in accordance with TC 1-600. Flight crews will be evaluated during the APART period in each flight control crew station at which they are authorized to perform UAC duties.

#### **4-18. Aircraft commander**

The AC acts as the commander of the aircraft. Commanders in the grade of O-5 and above will select the AC based on their experience, maturity, judgment, and ability to effectively mitigate risk to the UAS and designate them by name and in writing. Commanders will establish an AC training and certification program to ensure standardization and understanding for personnel defined in paragraphs 4-17 and 4-18 of this regulation. The AC will be—

- a. Responsible and have final authority for operating, servicing, and securing the UAS they command.
- b. Selected for each flight or series of flights.
- c. Qualified, current, and RL 1 in the MTD UAS to be flown.
- d. Listed in the flight plan or unit operation log.
- e. At a crew station with access to the flight controls.
- f. The UT, IO, or SO—when evaluating or instructing with access to the flight controls—will be the commander of the aircraft. (Access to the controls for the AO can also be achieved from sitting in the back of the shelter; however, for the EO station, the IO must physically be at the EO primary control box.)
- g. Approved according to the mission approval process before each mission. (The UT, IO, or SO—when performing duties from other than the A or P seat—will participate in the mission approval process.)

#### **4-19. Aircraft operator**

- a. The AO, when designated, will be—
  - (1) At a crew station with access to the controls.
  - (2) Qualified and current in the aircraft MTDS.
  - (3) Briefed by the AC.
  - (4) Listed on the flight plan or unit operation log.
- b. Flight trainees undergoing training and personnel performing limited cockpit duties according to paragraph 2-4 of this regulation may perform AO duties when an IO is at one set of controls. The IO must be qualified and current in the MTDS aircraft being flown.
- c. When the operator's manual or mission requires two operators as minimum crew, two operators qualified and current in the MTDS aircraft to be flown are required. When an IO qualified in the MTDS aircraft being flown is at one set of controls, the following additional personnel meet this requirement:
  - (1) Persons undergoing authorized training.
  - (2) Personnel performing limited duties according to paragraph 2-1 of this regulation.
  - (3) Personnel approved by an ACOM, ASCC, or DRU commander, or the Chief, NGB or the Commander, USAACE&FR for flights at USAACE&FR, in writing, when the following conditions have been met:
    - (a) Flight is for demonstrating or determining the capabilities and/or combat effectiveness of the aircraft.
    - (b) Flight will be in visual meteorological condition (VMC).
    - (c) Specific simulated emergency procedures to be conducted will be briefed and approved.
    - (d) Flight has been approved by the commander of the ACOM, ASCC, DRU or Chief, NGB providing the aircraft or the Commander, USAACE&FR for flights at USAACE&FR. If any of the above conditions cannot be complied with, a waiver may be requested according to paragraph 1-7 of this regulation.

#### **4-20. External operator**

The EO is the UAS crewmember responsible for the actual takeoff and landing of UA not incorporating an automatic takeoff and landing system.

#### **4-21. Mission coordinator**

Commanders in the grade of O-5 and above will select the MC based on recent aviation experience, maturity, judgment, their abilities for mission situational awareness, the understanding of the commander's intent and not necessarily upon rank or grade. Commanders will establish the MC training and certification program to ensure standardization and understanding for airspace, weather, risk mitigation, mission approval process, and the system being employed. The designation of MC is an assignment of responsibility and is not a crew duty assignment. The MC will—

- a. Hold a U.S. Army occupational specialty of 150U, a U.S. military aeronautical designation, or personnel authorized to operate Army UAS according to paragraph 2-1 of this regulation.
- b. Be selected for each flight or series of flights.
- c. Participate in the mission approval process along with each AC of each aircraft and may receive the final mission approval for all crews.
- d. Be listed in the unit operation log.
- e. Be responsible for crew briefings including mission changes and updates.
- f. Be briefed by a commander-designated briefing officer and/or NCO before each mission and perform a back brief.

g. Pass a semiannual written exam according to TC 1–600, paragraph 3–15, on the UAS in which the MC duties will be performed.

h. Participate in the unit no-notice program.

#### **4–22. Instructor operator**

a. The IO will train and evaluate UACs in accordance with the appropriate ATM.

b. The IOs must be designated, in writing, by the unit commander and be qualified and current in the UAS to be operated.

c. To become qualified as an IO, the UAC must successfully complete one of the following:

(1) A DA-approved IO course in the aircraft category in which IO duties are to be performed.

(2) An IO equivalency evaluation administered by a standardization operator (SO) selected by USAACE&FR DES in the aircraft category in which IO duties are to be performed. Commanders will coordinate with DES (ATZQ–ES) Fort Rucker prior to submitting request for equivalency evaluation to DAMO–AV.

(3) In the absence of a Department of the Army IO qualification course for the UAS, additional IO qualification procedures will be developed by DES, USAACE&FR for UA IOs who are already qualified per paragraph 4–22c(1) or (2) of this regulation.

d. The UAS with test flight procedures published in an appropriate ATM will be test flown by qualified maintenance IOs.

e. Qualified maintenance IOs must be designated, in writing, by unit commanders. They must be qualified and current in the UAS to be flown and meet standardization requirements of the appropriate ATM.

f. Maintenance qualified IOs must comply with procedures in the appropriate UAS maintenance test flight manual.

g. Contractor maintenance operators will be qualified in accordance with the provisions of AR 95–20.

#### **4–23. Standardization instructor operator**

a. The SO will primarily train and evaluate IOs and other SOs. The SO has technical supervision of the unit standardization program as specified by the unit commander. The SO is the commander's technical advisor; advises the commander on all levels of UAS standardization within the command; and assists the commander to develop, implement, evaluate, and manage the unit's ATP.

b. The IOs will be designated, in writing, as SOs by the unit commander and be qualified and current in the UAS to be flown and/or operated. Commanders may authorize SOs to instruct and evaluate from any designated crew station.

#### **4–24. Unit trainer**

The UAS unit commander may appoint unit trainers (UTs) to conduct specialized training to assist in unit training programs. The UTs are prohibited from conducting emergency maneuvers or emergency procedures training. The UTs are also prohibited from evaluating ATM base and special tasks. Commanders may authorize UTs to instruct from the AO, PO, or, if appropriate, EO stations. They may also authorize UTs to validate successful completion of required training (for example, border and corridor qualifications, local area orientation, and other locally directed requirements). When performing UT duties, the UT must be qualified per the appropriate ATM and current in the UAS being flown and/or operated.

#### **4–25. Crew chief**

The crew chief is a ground crewmember who is required to perform duties that are essential to the flight operations of the UAS. The crew chief is responsible for coordinating actions of all ground crewmembers and will coordinate all actions as directed by the commander of the aircraft. Crew chiefs will be selected based on their level of experience, maturity, judgment, and ability to effectively mitigate risk to the aircraft and ground crewmembers. They will—

a. Meet the requirements of para 4–26c, below.

b. Be selected for each flight and/or series of flights and listed on the DA Form 5484.

c. Be trained to perform crew chief duties according to the unit SOP.

d. Be designated, in writing, by the unit commander.

e. Train and evaluate crew chiefs and other ground crewmembers designated according to paragraph 4–26c, below.

f. Assist the SO with supervision and management of the ground crewmember training program.

#### **4–26. Unmanned Aircraft System ground crewmember**

a. The UAS ground crewmembers (mechanics and technicians) that perform duties on the UAS that are essential to specific phases of the maintenance mission will be—

(1) MOS and ASI qualified to perform UAS and/or aviation maintenance operations.

(2) Trained to perform their duties in accordance with the appropriate technical manuals and unit training SOP.

(3) If required to perform duties as a technical inspector, designated (in writing) by the UAS unit commander.

b. The UAS ground crewmembers that are authorized to start and runup for maintenance operational checks (mechanics and technicians) will—

- (1) Undergo appropriate normal and emergency procedures training conducted by an IO.
- (2) Be MOS and ASI qualified to perform UAS operations.
- (3) Be evaluated semiannually by an IO on all functions they are required to perform.
- (4) Be trained by an IO/SO to perform their duties in accordance with the appropriate technical manuals and unit training SOP.
- (5) Have written authorization from the commander. This authorization must specify the tasks to be performed and will be posted in their IATF.

c. The UAS ground crewmembers (operators, crew chief, mechanics, and technicians) that perform duties on the UAS that are essential to specific phases of the flight mission will—

- (1) Undergo appropriate normal and emergency procedures training conducted by an instructor operator IO/SO.
- (2) Be MOS and ASI qualified to perform UAS operations.
- (3) Be evaluated semiannually by a crew chief or IO on all functions they are required to perform.
- (4) Have written authorization from the commander. This authorization must specify the tasks to be performed and will be posted in their IATF.
- (5) Be trained by an IO/SO or crew chief to perform their duties in accordance with the appropriate ATM, technical manuals, and unit training SOP.

#### **4–27. Unmanned Aircraft System ground observer**

a. The ground observer is trained to assist the AC in the duties associated with collision avoidance, including but not limited to, avoidance of other traffic, clouds, obstructions, and terrain. They are responsible for the visual deconfliction of airspace for UA while operating in the National Airspace System when required. Aids to vision, such as binoculars, field glasses, or telephoto television may be employed as long as their field of view does not adversely affect the surveillance task. The visual limitation will specify both a lateral and vertical distance and shall be regarded as a maximum distance from the observer where a determination of a conflict with another aircraft can be made. This distance is predicated on the observer's normal unaided vision. Corrective lenses, spectacles, and contact lenses may be used. Ground observers will meet the requirements of medical fitness as outlined in AR 40–501, chapter 2; they must also abide by 14 CFR 91.17. For duties as a ground observer, the inability to distinguish and identify without confusion the color of an object, substance, material, or light that is uniformly colored a vivid red or vivid green is disqualifying.

b. Commanders will develop and publish policies and procedures for ground observers within units under their command. Commanders will establish a training and certification program for ground observers to ensure standardization and understanding of the mission and airspace management process for personnel defined in paragraphs (1) through (7), below. When required for operations, the ground observer will attend the mission brief and be in place at the required observer position prior to takeoff and/or launch operations. Ground observer training will include at a minimum, but not limited to—

- (1) Identifying hazards to flight, communicating hazards, and advising the AC on actions to avoid mishaps.
- (2) Establishing two-way communication with the controlling shelter.
- (3) Distinguishing airfield layout and usable runways, populated and/or congested areas, dimensions of airfield airspace, SUA surrounding the home airfield, and points of contact for ATC.
- (4) Determining typical approach and departure patterns for the UAS, as well as airfield traffic patterns.
- (5) Understanding radio calls and procedures, and call signs required for flight operations.
- (6) Knowing UAS and manned aircraft lighting requirements.
- (7) Being familiar with the radio and having observer position orientation.

c. All observers must have an understanding of applicable federal aviation, ICAO, host-nation regulations, and DOD FLIP applicable to the airspace where the UA will operate. Observers must not perform crew duties for more than one UAS at a time. Observers are not allowed to perform concurrent duties both as operator and observer.

d. Ground observers will be evaluated semiannually according to the unit SOP and training program.

### **Section III Standardization**

#### **4–28. Unmanned Aircraft System Standardization Program**

a. The UAS Standardization Program is designed to ensure a high degree of efficiency in accomplishing the combat mission of the UAS force. This will be achieved by command supervision, employment of standard UAC tasks, use of standard publications, and maintaining a disciplined UAC force by administration of frequent tests and flight evaluations.

b. Commanders will—

- (1) Implement standardization policies and procedures.



- (2) Ensure that Army UAS are operated according to standard procedures in ATMs and operator's manuals.
  - (3) Designate instructors, examiners, evaluators, and unit trainers in support of installation standardization committees.
  - (4) Ensure that required training, tests, and flight evaluations have been completed.
  - (5) Review and approve policies of standardization programs.
- c. The UAS unit SOP will be approved by the first O-5 in the chain of command.

#### **4-29. Aviation Resource Management Survey**

a. The Aviation Resource Management Survey (ARMS) program assists the commander in assessing the readiness and resource management of all assigned aviation units. The ARMS evaluates the management of unit aviation programs, provides staff assistance, and identifies internal and systemic issues for resolution. The focus of the ARMS includes all aviation components of the brigades and will be conducted on all UAS units. The ARMS teams may be augmented by subject matter experts (SMEs) from subordinate organizations as necessary to provide additional manpower or supplement nonorganic expertise. Separate UAS platoons that are geographically separated from their parent organization may be surveyed at the discretion of the commander.

b. The ACOM, ASCC, DRU, and NGB may field their own teams or designate another agency to conduct the ARMS for them. The ARMS teams will be composed of SMEs and may be drawn from Active Army, Reserve Component, DA civilian ranks, or contractors. The ARMS teams will be augmented by SMEs from subordinate units to ensure an effective survey.

c. The ACOM, ASCC, DRU, and NGB aviation standardization committees or their designated ARMS agency will maintain an ARMS guide that outlines all applicable functional areas to be surveyed. As a minimum, the areas to be surveyed will include: flight operations, standardization, tactical operations, logistics, maintenance, safety and command support programs, petroleum operations, aviation medicine, training, air field, and air traffic services at non-Installation Management Agency airfields and heliports.

d. An ARMS will be conducted for all Active Army and Reserve Component units every 24 to 36 months or as directed by the ACOM ASCC, DRU, or NGB and should be coordinated with DES for assessment of standardization and proficiency of crewmembers through flight evaluations. Units may be surveyed more frequently based on location, mission, or as an integral part of the commander's validation of unit predeployment readiness or as directed by HQDA, the branch chief, or the ACOM, ASCC, DRU, or NGB.

e. The ARMS findings will be provided to the surveyed units upon completion and an executive summary of the survey results will be forwarded to the unit through command channels. Results will be made available upon request for HQDA and the branch chief. The ARMS findings and trends will be presented during the Aviation Senior Leaders Conference.

#### **4-30. Army Command, Army Service Component Command, Direct Reporting Unit, and National Guard Bureau Army Aviation Standardization Committees**

a. Commanders monitor the implementation of the U.S. Army Aviation Standardization Program. They provide the command with a continuing assessment of the program.

b. The UAS unit commanders will coordinate with the aviation brigade standardization committee. In the absence of an aviation brigade, the UAS unit commander will coordinate with the nearest aviation unit (for example, flight detachment).

c. Aviation standardization committees will be organized to—

- (1) Recommend and review directives, provide guidance, and respond to specific inquiries and requests.
- (2) Coordinate requests for support from subordinate aviation units.
- (3) Prepare and review recommended changes to aviation standardization literature and forward to proponents.
- (4) Develop ARMS checklists for command approval.
- (5) Write and publish supplements to this regulation.
- (6) Meet at the call of the chairman.

*Note.* Funds for travel, per diem, and overtime (if required) will be provided by the member's parent organization.

d. Members will be designated, in writing, by the commander as follows:

- (1) A chairman and secretary.
- (2) Commander of subordinate aviation unit.
- (3) An aviation safety officer, aviation maintenance officer, flight surgeon, aircraft standardization instructor pilot (SP), helicopter SP, instrument flight examiner, maintenance test-flight evaluator, tactical operations officer, master gunner, and air traffic services representative.
- (4) An UA system IO/SO provided by UAS unit commanders.

e. Standardization and training issues that require action by USAACE&FR or presentation at the Aviation Senior Leaders Conference will be addressed to Commander, U.S. Army Aviation Center of Excellence and Fort Rucker

(ATZQ-ES), Fort Rucker, AL 36362-5214. Issues that require action by HQDA will be sent to the Deputy Chief of Staff, G-3/5/7 (DAMO-AV), 400 Army Pentagon, Washington, DC 20310-0400.

#### **4-31. U.S. Army Aviation Senior Leaders Conference**

*a. Mission.* Army aviation commanders meet annually to recommend general policy for implementing the U.S. Army Aviation Standardization Program. They review issues affecting the capability of commanders to perform missions with aviation assets.

*b. Composition.* The conference chairman is the Commander, USAACE&FR. Membership consists of aviation unit commanders (O-6 and above); ACOM, ASCC, DRU, and NGB aviation officers; and other persons designated by the chairman.

*c. Direction and control.*

(1) Commanders will meet in a formal session at least annually at the call of the chairman. Approved conference minutes will be forwarded to members for further distribution to subordinate aviation units.

(2) The chairman will carry out functions relating to the standardization program on a continuing basis and will monitor tasking requirements resulting from the commander's conference. Activities are subject to review by the full membership at the next regular meeting.

*Note.* Funds for travel, per diem, and overtime, if needed, will be provided by the member's parent organization.

*d. Correspondence.* Issues to be presented at the annual conference will be addressed to Commander, U.S. Army Aviation Center of Excellence and Fort Rucker (ATZQ-TD), Fort Rucker, AL 36362-5214. Other standardization and training issues requiring resolution throughout the year should be sent to Commander, U.S. Army Aviation Center of Excellence and Fort Rucker (ATZQ-ES), Fort Rucker, AL 36362-5214.

#### **4-32. U.S. Army Aviation Center of Excellence and Fort Rucker**

The Aviation Branch is the proponent agency for the U.S. Army Aviation Standardization Program. In addition to the responsibilities listed in paragraph 1-4f, the USAACE&FR will—

*a.* Act as reviewing agency for Army UAS training, standardization, and technical publications to ensure that they are standardized, accurate, and do not duplicate each other according to AR 34-4. This is accomplished by the DES (ATZQ-ESL) Fort Rucker, through continuous review and coordination with users and proponents.

*b.* Act as approval authority for all aviation POI, initial key personnel training, new equipment training, and associated training materials to include lesson plans and media. Submit to the Aviation Branch proponent, Director of Training and Doctrine (ATZQ-TD), Fort Rucker, Alabama 36362, and e-mail TD@conus.army.mil.

*c.* In coordination with ACOM, ASCC, DRU, and NGB ARMS teams, conduct ARMS for aviation training. Frequency for the conduct of these programs is 24 to 36 months. This includes flight evaluations conducted by DES to assess standardization and proficiency for crewmembers throughout the Army as directed by the branch chief or HQDA.

*d.* In coordination with ACOM, ASCC, DRU, and NGB, conduct active assistance and evaluation programs for UAS training. Frequency for the conduct of these programs is 18 to 24 months. This includes evaluations conducted by DES (ATZQ-ES), Fort Rucker, to assess standardization and proficiency of UAC throughout the Army as directed by HQDA.

*e.* Advise HQDA and ACOM, ASCC, DRU, and NGB of the status of UAS standardization activities. The DES will also provide information about implementing UAS standardization policies and procedures Armywide.

## **Chapter 5 Flight Procedures and Rules**

### **5-1. General**

*a.* Army personnel engaged in the operation of Army UAS will comply with applicable—

- (1) Federal aviation regulations, laws, and rules.
- (2) The ICAO regulations.
- (3) Host-country regulations, laws, and rules.
- (4) Military regulations.
- (5) Nonaviation federal and state laws applicable to Army aviation operations.
- (6) The DOD FLIP.
- (7) Aircraft operator's manuals and checklists.

*b.* The DOD FLIP does not provide procedure charts for all airfields that have instrument approach procedures. Required procedure charts may be added to the DOD FLIP by direct contact with the USAASA, 9325 Gunston Road,

Suite N319, Fort Belvoir, VA 22060–5582, or the U.S. Army Aeronautical Services Detachment–Europe. Use of commercial or host-country products must be approved by either USAASA or an overseas U.S. Army Aeronautical Services Detachment as a supplement to DOD FLIP, according to AR 95–2.

c. Smoking and/or open flames are prohibited in, or within 50 feet of, Army aircraft.

d. Procedures for packaging, handling, and air transportation of dangerous materials are described in AR 95–27 and FM 38–701. Aircrews assigned to move dangerous materials in Army aircraft will comply with the requirements listed in these publications.

e. Aircraft must be grounded during refueling, arming, and loading or unloading of flammable or explosive cargo. Aircraft will be grounded for maintenance according to the appropriate maintenance publication.

f. Flight data recorders.

(1) Cockpit voice recorders (CVRs), flight data recorders (FDRs), and digital source collectors (DSCs) that are installed on aircraft and in control stations and/or shelters should be operational for all flights. However, a nonoperational CVR, FDR, or DSC should not result in mission cancellation. Information collected by these devices may be classified or sensitive in nature and should be protected as such.

(2) The commander will contact the U.S. Army Combat Readiness Center to ascertain appropriate recovery actions whenever an Army aircraft equipped with CVR/FDR/DSC (to include weapons video systems) is involved in a mishap or destroyed as a result of enemy action.

## 5–2. Preflight

Before beginning a flight, UACs will acquaint themselves with the UAS mission, procedures, and rules.

a. *Planning.* The operator will evaluate aircraft performance, departure, en route and approach data, NOTAM, and appropriate FLIP or DOD publications.

b. *Fuel requirements.* At takeoff, the aircraft must have enough fuel to reach the destination and alternate airport (if required) and have a planned fuel reserve of—

(1) Vertical takeoff and landing.

(a) Visual flight rules (VFR) – 20 minutes at cruise.

(b) Instrument flight rules (IFR) – 30 minutes at cruise.

(2) Fixed wing.

(a) VFR (day) – 30 minutes at cruise.

(b) VFR (night) or IFR – 45 minutes at cruise.

*Note.* If the appropriate technical manual for an aircraft requires a higher value, or if cruise fuel requirement cannot be determined, technical manual requirements will be applied.

c. *Flight weather planning.* Operators will obtain departure, en route, destination, and alternate (if used) weather information before takeoff.

(1) *Flight into icing conditions.* Aircraft will not be flown into known or forecast severe icing conditions. If a flight is to be made into known or forecast moderate icing conditions, the aircraft must be equipped with adequate operational deicing or anti-icing equipment.

(2) *Flight into turbulence.* Aircraft will not be intentionally flown into known or forecast extreme turbulence or into known severe turbulence. Aircraft will not be intentionally flown into forecast severe turbulence unless the ACOM, ASSC, or DRU commander, or the Chief, NGB has established clearance procedures and—

(a) Weather information is based on area forecasts.

(b) Flights will be made in areas where encountering severe turbulence is unlikely.

(c) Flights are for essential training or essential missions only.

(d) Flight approval authorities are specified.

(e) Flights are terminated or depart turbulence if severe turbulence is encountered.

(3) *Flight into thunderstorms.* Aircraft will not be intentionally flown into thunderstorms.

(4) *VFR flight.* Destination weather must be forecast to be equal to or greater than VFR minimums at estimated time of arrival (ETA) through one hour after ETA. When there are intermittent weather conditions, predominant weather will apply.

(5) *IFR flight.* Destination weather must be forecast, at ETA through 1 hour after ETA, to be not less than—

(a) Ceiling 400 feet above the decision point as listed in the operator's manual.

(b) Visibility 1 mile (1.61 kilometers).

*Note.* When there are intermittent weather conditions, predominant weather will apply.

(6) *Area forecast.* If there is no weather reporting service, the aviator may use the area forecast.

(7) *Weather briefing.* Local commanders will establish policies specifying when DD Form 175–1 (Flight Weather Briefing) is required to be filed with DD Form 175 (Military Flight Plan) and the minimum entries required on parts I

through V of locally briefed DD 175-1 forms. Weather information for DD Form 175-1 will be obtained from a military weather facility. If a military forecaster is not available, the AC will obtain a weather forecast according to DOD FLIP. Automated or computer-based systems may be used to obtain weather information if the system is approved by USAASA and the commander establishes a program to ensure UAC are thoroughly familiar with the system in use. For all IFR and VFR cross-country flights, the weather forecast will be void 1 hour and 30 minutes from the time the forecast is received provided the aircraft has not departed. Weather forecast may be extended after coordination with a weather facility.

*d. Flight plan.* Aircraft will not be flown unless a flight plan (military or civil) has been filed or an operation log completed. When FAA Form 7233-1 (Flight Plan), DD Form 1801 (DOD International Flight Plan), or DD Form 175 are used, they will be filed according to DOD FLIP. The FAA Form 7233-1 can be obtained from the USAASA, 9325 Gunston Road, Suite N319, Fort Belvoir, VA 22060-5582. Local commanders will establish policies specifying the flight plan or operation log to be used.

(1) All Army UA that are instrumented for IFR flight and are flown by an instrument-rated operator will operate on IFR flight plans except when—

- (a) Flight is primarily for VFR training.
- (b) Time will not permit mission completion under IFR.
- (c) Mission can only be accomplished under VFR.
- (d) Excessive ATC departure, en route, or terminal area delays are encountered.

*Note.* Hazardous weather conditions must be avoided.

(2) After departing a nonmilitary airfield, the AC will advise flight service station or other competent authority of the departure time.

(3) Locally produced operation logs may be used for local flights.

*e. Alternate airfield planning.* An alternate airfield is required when filing IFR to a destination under any of the following conditions:

(1) The predominant weather at the destination is forecast, at ETA through 1 hour after ETA, to be less than—

- (a) Ceiling 400 feet above the decision point as listed in the operator's manual.
- (b) Visibility 1 mile (1.61 kilometers).

(2) An alternate is not required if descent from en route minimum altitude for IFR operation, approach, and landing can be made in VFR conditions.

*f. Alternate airfield selection.* An alternate airfield may be selected when the worst weather condition for that airfield is forecast for ETA through 1 hour after ETA to be equal to or greater than ceiling 400 feet above the decision point as listed in the operator's manual and visibility 1 mile (1.61 kilometers) or VFR minimums and descent from en route minimum altitude for IFR operation, approach, and landing can be made in VFR conditions.

*g. Equipment requirements.* Aircraft and Global Positioning System (GPS) that have been certified for IFR flight according to airworthiness release using GPS for approaches may execute these approaches under IFR conditions.

*h. Weight and balance.* The AC will ensure—

(1) The accuracy of computations on the DD Form 365-4 (Weight and Balance Clearance Form F-Transport/Tactical).

(2) The DD Form 365-4 is on file and accessible to the flight crew for the aircraft to be flown.

(3) The weight and center of gravity will remain within allowable limits for the entire flight. Several DD Forms 365-4 completed for other loadings also may be used to satisfy this requirement. In this case, the actual loading being verified must clearly be within the extremes of the loading shown on the DD Forms 365-4 used for verification.

### **5-3. Departure procedures**

*a.* All operators will comply with published nonstandard IFR takeoff minimums and published UA departure procedures. Runway visual range may be used when takeoff is made from the runway for which runway visual range is reported.

*b.* Special VFR flights within and departures from Class B, C, D, and E airspace are according to the Airspace Control Authority.

### **5-4. En route procedures**

*a. Instrument meteorological conditions.* During instrument meteorological conditions (IMC) flight, all instruments and communication equipment in the GCS will be kept in the "on" position and immediately available for use.

*b. Over-the-top flights.* Aircraft will not be flown above a cloud or fog layer under VFR for more than 30 minutes unless—

- (1) The UA and crew are authorized to conduct IMC flight.
- (2) All instrument flight rules and requirements can be met for the remaining flight.

*c. Communications*

- (1) *IFR*. Reports and radio phraseology will conform to DOD FLIP.
- (2) *VFR*. Operators will monitor appropriate frequencies and make position reports as required.
- d. Over flying sensitive areas*. Operators shall avoid over flight of national security areas and wildlife conservation areas below 2,000 feet above ground level (AGL). Exceptions will be according to instructions in DOD FLIP.

#### **5-5. Arrival procedures**

- a. Approach*. An approach may be initiated, regardless of ceiling and visibility.
- b. Missed approach*. The procedures as directed by ATC will be flown. Additional approaches may be flown provided fuel, including reserve, is adequate. An ATC clearance must be requested and approved before proceeding to another airfield. A change of flight plan will be made according to FLIP if time permits.
- c. Traffic patterns*.
  - (1) Fixed-wing aircraft will be flown at 1,500 feet above the surface of the airport unless deviation is required to maintain proper cloud clearance. Exceptions will be as prescribed in FLIP or as directed by ATC.
  - (2) Helicopter traffic patterns at Army heliports and airfields are normally flown at 700 feet AGL. At other airports, helicopters and vertical takeoff and landing aircraft will avoid the flow of airplane traffic.
- d. Landing*. An aircraft will not be flown to the designated minimum safe altitude established for that system by the operator's manual, local SOP for the airfield of intended landing, or as directed by ATC unless the following exist:
  - (1) The approach threshold of the runway, or the approach lights or other markings, identifiable with the approach end of the runway or landing area, must be visible through onboard optical systems to the operator.
  - (2) The aircraft must be in a position from which a safe approach to the runway or landing area can be made.
- e. Closing flight plans*. When the flight terminates, the AC will ensure that the flight plan is closed as shown in DOD FLIP.

#### **5-6. Emergency recovery procedures**

Emergency recovery procedures will be developed as a contingency plan for IMC. Recovery procedures will be developed using approved DOD and/or U.S. Government procedures in the area of operations and will be coordinated with the servicing ATC. In locations without approved DOD and/or U.S. Government procedures, an emergency recovery procedure will be developed and coordinated with the servicing ATC. Pending approval, these recovery procedures will only be used in VMC or during an actual emergency. The risk associated with the recovery procedure will be mitigated through the mission approval process and further defined in unit SOP. Manual entry of waypoint data is permissible when using emergency GPS procedures. Flight in IMC which violates FAA, host country, or ICAO regulations will be considered deviations according to paragraph 1-6 of this regulation and will be treated according to paragraph 2-11 of this regulation.

#### **5-7. Use of airports, heliports, and other landing areas**

- a*. The UACs may operate Army UAS at airports and heliports classified as military, Federal Government, or public only if the facility is suitable for operations and necessary SUA (see para 2-9) provisions have been implemented (AR 95-2).
- b*. Commanders may authorize the use of other temporary landing areas off military reservations and Government-leased training areas. They must first obtain approval of the landowner or the approving authority and comply with the landing area requirements of the state or host country. Commanders will consult with the appropriate DARR or host nation aviation agency (AR 95-2).
- c*. The installation or field training exercise commander will set policies on the use of UAS landing sites on military reservations and field training areas.
- d*. In the event of emergency conditions necessitating landing at other than approved landing facilities, UACs should be aware that they may be charged for use of private facilities on public airports.

### **Chapter 6**

#### **Safety of Flight Messages and Aviation Safety Action Messages**

##### **6-1. General**

- a*. The SOF messages pertain to any defect or hazardous condition, actual or potential, where a high risk safety condition or select medium risk safety conditions exist as determined in accordance with AR 385-10.
- b*. The ASAs pertain to any defect or hazardous condition, actual or potential, where a low risk safety condition or select medium risk safety conditions exist as determined in accordance with AR 385-10. The ASAs convey maintenance, technical or general information, which will not require risk-mitigating actions, performed before the next flight and/or ground operations.

c. For specific information on SOFs, ASAs, SOF funding, and the safety message process, see AR 750–6.

## **6–2. Exception to provisions of safety message**

a. The ACOM, ASCC, or DRU commander, or the Chief, NGB may authorize temporary exception from safety message requirements. Exceptions may only occur when combat operations or matter of life or death in civil disasters or other emergencies are so urgent that they override the consequences of continued UA operation.

b. Requests for waivers are submitted through the requesting unit’s ACOM, ASCC, or DRU to the Commander, AMCOM (AMSAM–SF–A, Safety Office). To expedite processing of waiver requests, contact the safety POC in the message for assistance.

c. The Commander, AMCOM, will staff request for waivers for messages that affect fleetwide groundings and those referred for Army safety action team coordination through DCS, G–4 before approval.

d. The Commander, AMCOM, is the approval authority for waivers to provisions of safety messages.

## **Chapter 7 Weight and Balance**

### **7–1. Overview**

The UA platforms shall be within weight and balance limitations (as specified in the appropriate UAS operator’s manual) for the entire duration of a flight. This chapter provides a weight and balance control system for operation of the Army UA.

a. The CG, U.S. Army Materiel Command (AMC) will supervise the direction of overall command activities involving UA weight and balance.

b. The CG, TRADOC shall monitor the overall training of UA weight and balance (para 1–4j(2)). The CG, TRADOC will—

(1) Train operational unit weight and balance technicians in the following procedures:

(a) Weighing UA.

(b) Computing weight and balance.

(c) Maintaining weight and balance records for Army UA.

(2) Train Army UAS operators and noncrewmembers in computing weight and balance.

(3) Train Army personnel to provide UA weight and balance services at support maintenance facilities.

c. The CG, AMCOM is the technical proponent for all U.S. Army UA weight and balance. The CG, AMCOM will—

(1) Establish UA weight and balance requirements and procedures in coordination with other Army agencies.

(2) Assist HQDA and AMC in the development of UA weight and balance policy.

(3) Prepare and make technical data available on UA weight and balance.

(4) Procure and deliver weight and balance data for Army UA.

(5) Make engineering services available to assist service activities in solving UA weight and balance problems.

(6) Provide technical assistance to contracting authorities in the certification of civilian contractor qualifications for weight and balance.

d. Commanders of installations and units that operate, maintain, repair, or modify Army UA will—

(1) Ensure effective application of these policies and procedures.

(2) Develop command directives to implement these policies and procedures.

(3) Appoint, in writing, qualified weight and balance technicians.

### **7–2. Aircraft weight and balance classifications**

a. To qualify as an Army weight and balance technician, an individual must satisfactorily complete the 15-series career management field basic NCO course or a comparable Army weight and balance course approved by TRADOC. Civilian contractor qualifications shall be verified by the contracting authority. The AMCOM may approve equivalent training for civilian contractors that fulfills the intent of this paragraph.

b. If a weight and balance technician trained in accordance with paragraph a, above, is not available in the unit, commanders may delegate the task.

c. Weight and balance technicians will—

(1) Prepare and maintain up-to-date and accurate individual UA weight and balance files as described in paragraph 7–4, below, for all UA under their jurisdiction.

(2) Perform the required review of individual UA weight and balance files as described in paragraph 7–6, below, for all UA under their jurisdiction.

(3) Comply with UA weight and balance provisions of applicable modification work orders or technical manuals pertaining to UA modifications.

(4) Provide training and assistance in the use of UA weight and balance data and load adjuster devices, when applicable.

(5) Assure UA under their jurisdiction are weighed according to paragraph 7-7, below.

### **7-3. Unmanned aircraft weight and balance classifications**

Army UA weight and balance classifications are stated in the appropriate operator's manual and are defined as follows:

*a.* Class 1a UA: recommended weight or center-of-gravity limits cannot be exceeded by loading arrangements normally employed in tactical operations and, therefore, need no loading control.

*b.* Class 1b UA: weight or center-of-gravity limits sometimes can be exceeded by loading arrangements normally used in tactical operations. Therefore, limited loading control is needed.

*c.* Class 2 UA: weight or center-of-gravity limits can be readily exceeded by loading arrangements normally used in tactical operations. Therefore, a high degree of loading control is needed. Also, all UA where weight and balance class is not stated in the operator's manual shall be considered Class 2.

### **7-4. Unmanned aircraft weight and balance file**

*a.* A weight and balance file is required for all Class 1b UA and Class 2 UA. This file shall contain all of the UA's weight and balance data. The UA designation and serial number shall be noted on the file folder. Each UA shall have its own file that shall be maintained in the historical files as well as a copy of the DD Form 365-4 in the logbook at the launch and recovery site during all UA launch and recovery operations.

*b.* The file shall include the following forms and charts which shall be completed and retained in accordance with instructions of TM 55-1500-342-23.

(1) DD Form 365 (Record of Weight and Balance Personnel).

(2) DD Form 365-1 (Chart A - Basic Weight Checklist Record).

(3) DD Form 365-2 (Form B - Aircraft Weighing Record).

(4) DD Form 365-3 (Chart C - Basic Weight and Balance Record).

(5) Chart E (Loading Data and Special Weighing Instructions). The original Chart E placed in the weight and balance file by the UA manufacturer shall be retained in the file until a revised Chart E is presented in the UAS maintenance manual. Following publication of the Chart E in the maintenance manual, the Chart E in the UA file shall no longer be required and shall be destroyed locally.

(6) DD Form 365-4. Sufficiently completed DD Forms 365-4 shall be in the file, enabling the AO to determine proper UA loading for any normal anticipated unit mission and verify that the weight and center of gravity shall remain within allowable limits for the entire flight.

*c.* Electronic computer data sheets may be used instead of any of the DD Form 365-series when information is identical to that required on the DD 365-series. Any computer data sheets which meet this requirement may be used. The Army standard automated system (Automated Weight and Balance System, Version 9.2 or later) fulfills these requirements. The system program may be obtained from Commander, U.S. Army Research, Development, and Engineering Command (AMSRD-AMR-AE-A) (Mass Properties), Bldg 4488, Redstone Arsenal, Huntsville, AL 35898-5000. For nonstandard Army UA, the commercial equivalents of basic weight checklists, loading data, and weighting instructions may be substituted for the DD Forms 365-series and Chart E. All of the above forms are available through normal publications supply channels.

### **7-5. Removal, addition, or relocation of unmanned aircraft equipment**

When the UAS equipment that is part of UA's basic weight is added to, removed from, or relocated within the UA because of maintenance or specific mission requirements, flight in this changed configuration shall not be accomplished unless the weight and balance change is documented by one of the following methods:

*a.* Treating the additions, removals, or relocations as a permanent change by making entries on the DD Form 365-3 and establishing a new basic weight and moment. Also, if the change in basic weight or moment is beyond the limits stated in TM 55-1500-342-23, prepare new DD Forms 365-4 that reflect the new basic weight and moment to replace those in the weight and balance file.

*b.* If the changes are of a temporary nature, make entries in accordance with The Army Maintenance Management System-UAS for a period not to exceed 90 days. Temporary equipment changes shall be considered changes in aircraft loading. These changes shall be entered in the "Corrections" table of the DD Form 365-4 with adjustments to the totals according to TM 55-1500-342-23.

### **7-6. Reviewing the weight and balance file**

*a.* Review of the weight and balance file is required for all Class 1b UA and Class 2 UA. All DD Forms 365-4 in the UA weight and balance file shall be checked for accuracy in accordance with the criteria established in TM

55-1500-342-23 at least every 90 days. New forms must be prepared if changes are required. If no changes are required, the DD Forms 365-4 shall be redated and initialed in the date block to certify their currency.

b. In addition, all weight and balance records shall, as a minimum, be reviewed every 12 months. The date due window shall follow TM 1-1500-328-23 requirements for recurring special inspections. This review must include a weight and balance inventory of the UA and the following statement entered on the DD Form 365-3: "Annual review and inventory completed." The date and adjusted basic weight and moment shall accompany this entry.

### **7-7. Unmanned aircraft weighing**

a. Each Class 1b UA and Class 2 UA shall be weighed when—

- (1) Overhaul or major airframe repairs have been accomplished.
- (2) Modifications of 1 percent or greater of the UA's basic weight have been applied.
- (3) Any modifications or component replacements (including painting) have been made for which the weight and center of gravity cannot be accurately computed.
- (4) Weight and center-of-gravity data records are suspected to be in error.
- (5) The period since the previous weighing reaches 36 months for a Class 1b UA and 24 months for a Class 2 UA. The date due reweigh window shall follow TM 1-1500-328-23 requirements for a recurring special inspection.

b. The weight records (365-series forms) supplied with a new UA may be used instead of an initial weighing.

c. If these weighing requirements are not met, the UA status shall change to RED "X" until they are met.

d. Any maintenance facility providing weighing service shall ensure that all UA weighing equipment under its jurisdiction has been tested and certified for accuracy according to specified technical manuals and at the intervals required.

e. Ninety-day weighing deferment:

(1) The unit commander may request a 90-day deferment from weighing UA when all means have been exhausted while operating in a combat theater.

(2) Send the commander's deferment request with a copy of the UA weight and balance file to the following approving authority: Commander, U.S. Army Research, Development, and Engineering Command (AMSRD-AMR-AE-A) (Mass Properties), Building 4488, Redstone Arsenal, AL 35898-5000 or e-mail aeromechanics@amrdec.army.mil.

## **Chapter 8 Nonstandard Unmanned Aircraft Systems**

### **Section I Acquisition and Use**

#### **8-1. General**

This chapter details classification, acquisition, and use of nonstandard UASs.

a. The UASs classified as nonstandard by the Army are normally acquired from other Services or federal agencies or were previously standardized but no longer adhere to established criteria. These UASs are used to fill operational requirements instead of standard Army UASs. Army standard UASs reconfigured or altered for special use (for example, testing, special mission, and modification) are not normally classified as nonstandard UASs within the context of this regulation.

b. Acquisition and use of nonstandard UASs within the Army will occur when sufficient standard UASs are not available to accomplish specific missions or operations. All other UASs in the Army inventory are standard UASs. Selected trainers, prototype, test bed, and UASs procured in such a low density that treating them as standard UASs would present a burden to the system may be accounted for as nonstandard UASs.

#### **8-2. Policy**

The following is DA policy concerning nonstandard UASs:

a. Requests for nonstandard UASs will be approved only against a DA-approved UAS authorization when standard Army UASs are not available. Nonstandard UASs will be replaced when standard Army UASs become available. When requests for nonstandard UASs have been approved by DA, the AMCOM will take the necessary acquisition action. Requests for nonstandard UASs will be forwarded through the ACOM, ASCC, DRU, and NGB to Commander, U.S. Army Aviation and Missile Command, (AMSAM-I-L), Redstone Arsenal, Huntsville, AL 35898 for processing to DA.

b. Requests for authorization to obtain nonstandard UAS will be transmitted through channels to Deputy Chief of Staff, G-4 (DALO-AV), 500 Army Pentagon, Washington DC 20310-0500 and include—

- (1) The MTDS of the UASs desired or type and requirements of missions to be fulfilled.



- (2) Terms of the request (transfer or loan) and if nonreimbursable or reimbursable.
- (3) Budget program funds to be used for support of the UASs and affirmation that funds will be made available in current and subsequent fiscal year funding programs.
- (4) Any modification requirements, including minimum required equipment.
- (5) Full justification based on essentiality of the UASs to accomplish missions of the requesting command or activity.
  - c. All operating costs, less depot maintenance and procuring spare parts associated with the acquisition of nonstandard UASs, will be done by the gaining command. The AMC, United States Army Reserve, and ARNG are responsible for programming and budgeting for depot maintenance of nonstandard UASs. Modification of nonstandard UASs (in a nondevelopmental program) will normally be funded by the Army Procurement Appropriation (for acquisition of modification kits) and by the Active Army's depot maintenance program (for the installation of the kits.)
  - d. Requests for disposition instructions for nonstandard UASs will be forwarded through command channels to DA. Serviceable and unserviceable economically repairable UASs will be reassigned against other requirements or disposed of according to AR 750-1 and TB 43-0002-3. Commands and activities relinquishing these UASs will not normally be provided a replacement nonstandard UASs. The UASs considered uneconomically repairable will be reported to DA according to TB 43-0002-3. Redistribution of nonstandard UASs is not authorized unless approved by DA.
  - e. Commands and activities acquiring nonstandard UASs will be required to provide support from their own operating funds. Repair parts that are available in the DOD supply system may be procured through normal Army supply channels or through cross-service agreements with other military Services. All other repair parts will be procured locally. All nonstandard UASs maintenance requirements that are beyond the capability of the owning or supporting commands and activities will be accomplished by contract. (This paragraph is not applicable to UASs maintained under the existing contractor logistics support contract administered by AMCOM.)
  - f. Commanders having nonstandard UASs will be responsible for assuring continued UAS airworthiness through scheduled maintenance programs that meet all DOD or, as required, FAA published standards. The UASs obtained through the confiscated or excess aircraft program will be maintained according to FAA standards only. Commercial operator's manuals, service letters, and bulletins published by the UAS manufacturer and FAA Airworthiness Directives (ADs) service bulletins will be ordered and maintained by the unit. When an AD note is issued by the FAA that is required to be completed prior to further flight, AMCOM will issue corresponding SOF messages according to chapter 6 of this regulation. Compliance with emergency AD notes will be reported directly to Commander, U.S. Army Aviation and Missile Command (AMSAM-SF-A), Redstone Arsenal, Huntsville, AL 35898.
  - g. When upgrade modifications are made to a confiscated or excess nonstandard UASs with a military equivalent, the modification will conform as closely as possible to its standard military counterpart provided a FAA-type certificate or supplemental type certificate exists for that modification and AMCOM approval is obtained. Equivalent nonstandard UASs may be included with their standard counterpart when a Product Improvement Program is applied to the standard UASs.
  - h. Expenditures in funds and man-hours for alterations or reconfiguration will be held to a minimum. Initial requests to alter or reconfigure nonstandard UASs when first delivered will be compiled into a single package and submitted through command channels to AMCOM for approval; they will contain detailed justification including scope of work to be performed. Subsequent requests will be treated in the same manner. Alteration or reconfiguration of loaned nonstandard UASs must be consistent with any requirements in the specific loan agreement regarding restoration of the UAS to its original configuration.
  - i. All nonstandard UASs will be reported on DA Form 1352 (Army Aircraft Inventory, Status and Flying Time) according to AR 700-138. Maintenance forms authorized by DA Pam 738-751 will be used as prescribed in the published Logistical Support Plan. Other forms may be used for local management purposes as desired.
  - j. A DA flying hour program will not be published for nonstandard UASs. Commanders will establish an annual Fiscal Year Flying Hour Program based on requirements and capability to support such a program. Utilization criteria prescribed in AR 71-32 will be the basis for justifying retention of nonstandard UASs.
  - k. When more than one command owns a type of nonstandard UAS, DCS, G-3/5/7 (DAMO-AV) will designate a proponent. The proponent will ensure compliance with the requirements outlined in this paragraph and ensure standardization of publications and training for the platform.

### **8-3. Logistical support**

The AMCOM will retain responsibility and designate a central point of contact for logistical support guidance, SOF matters, and technical guidance, including configuration control.

## **Section II**

### **Training and Standardization**

#### **8-4. Waiver authority**

Nonstandard UAS training and standardization requests for waivers to paragraphs 8-5 through 8-9 will be forwarded through the appropriate ACOM, ASCC, DRU, or NGB to DAMO-AV for approval.

#### **8-5. Technical publications**

*a.* Technical literature for specific nonstandard UASs will be made available through normal publications channels to the units using the UASs. Operator's manuals, checklists, maintenance manuals, and related publications for nonstandard UASs will be obtained from the existing factory stocks or from the military Service supplying the UASs.

*b.* The using unit will update these publications with changes from the manufacturer or the military Service supplying the UASs. They will also prepare new or revised technical literature for nonstandard UASs not supported by official publications. These publications will be coordinated with AMCOM where possible and submitted through the ACOM, ASCC, DRU, and NGB to Deputy Chief of Staff, G-3/5/7, (DAMO-AV), 400 Army Pentagon, Washington, DC 20310-0400 for approval.

#### **8-6. Training and standardization publications**

*a.* Training and aviation flight standardization literature for specific nonstandard UASs will be made available through normal publications supply channels to the units using the UAS. If possible, the training and aviation flight standardization program will apply to the operation of nonstandard UASs. The policy in this paragraph applies except when established procedures cannot be followed because of extremely low UAS density or short duration of UAS use (less than 6 months).

*b.* The POI and flight training guide (FTG) will be submitted through the ACOM, ASCC, DRU, and NGB to U.S. Army Aviation Center of Excellence and Fort Rucker (ATZQ-TD) (Directorate of Training and Doctrine (DOTD)), Fort Rucker, AL 36362-5211 or e-mail ATZQ-TD@rucker.army.mil, for approval before they can be used. The ATMs will be submitted through the ACOM, ASCC, DRU, and NGB to U.S. Army Aviation Center of Excellence and Fort Rucker (ATZQ-ES) (DES), Fort Rucker, AL 36362-5211, for review and then submitted to Deputy Chief of Staff, G-3/5/7, (DAMO-AV), 400 Army Pentagon, Washington, DC 20310-0400 for approval.

#### **8-7. Qualification training**

The ACOM, ASCC, DRU, and NGB aviation standardization committee will develop nonstandard UAS training in accordance with AR 350-1. The POI and FTG will be submitted through the ACOM, ASCC, DRU, and NGB to U.S. Army Aviation Center of Excellence and Fort Rucker (ATZQ-TD) (DOTD), Fort Rucker, AL 36362-5211 for approval before training begins.

#### **8-8. Flight evaluations**

When the IO or SO is not available to administer flight evaluations in nonstandard UASs, the installation or area aviation standardization committee will request support. The ACOM, ASCC, DRU, and NGB aviation standardization committee, other installation area committees, or the Commander, USAACE&FR may provide support. If support cannot be provided, the area commander, whose installation aviation standardization committee has jurisdiction, may authorize the flight evaluation to be made in a UAS of similar design, operation, and flight characteristics. The commander may request a waiver of the evaluation requirements.

#### **8-9. Qualification requirements for instructor operators**

*a.* The ACOM, ASCC, DRU, and NGB aviation standardization committee—in coordination with the Commander, USAACE&FR (ATZQ-ES)—help establish the content of IO training in nonstandard UASs for which no IO training program exists in the ATMs. The proposed POI and FTG will be submitted through the ACOM, ASCC, DRU, and NGB to U.S. Army Aviation Center of Excellence and Fort Rucker (ATZQ-TD) (DOTD), Fort Rucker, AL 36362-5211 or e-mail ATZQ-D@rucker.army.mil for approval before training begins.

*b.* When an SO is not available to administer a flight evaluation in the UAS in which an IO designation is sought, the evaluation may be conducted in another UAS in the same category. The examinee must be qualified and current in the UAS used for the evaluation.

## **Appendix A References**

### **Section I Required Publications**

#### **AR 15-6**

Procedures for Investigating Officers and Boards of Officers (Cited in para 2-11c.)

#### **AR 25-55**

The Department of the Army Freedom of Information Act Program (Cited in paras 2-11c, 3-6d.)

#### **AR 34-4**

Army Standardization Policy (Cited in para 4-32a.)

#### **AR 40-8**

Temporary Flying Restrictions Due to Exogenous Factors (Cited in paras 3-10, 4-4.)

#### **AR 40-501**

Standards of Medical Fitness (Cited in paras 1-4h, 2-1g(1), 4-2d, 4-9c, 4-27c.)

#### **AR 95-2**

Airspace, Airfield/Heliports, Flight Activities, Air Traffic Control, and Navigational Aids (Cited in paras 2-8d, 2-9d, 2-11, 3-3c, 4-4, 5-7.)

#### **AR 95-20/DCMA INST 8210.1/AFI 10-220/NAVAIRINST 3710.1F/COMDTINST M13020.3**

Contractor's Flight and Ground Operations (Cited in paras 2-1b(3), 2-2c.)

#### **AR 195-2**

Criminal Investigation Activities (Cited in para 2-11a.)

#### **AR 340-21**

The Army Privacy Program (Cited in para 2-11c.)

#### **AR 360-1**

The Army Public Affairs Program (Cited in paras 3-3b, 3-3e.)

#### **AR 611-1**

Military Occupational Classification Structure Development and Implementation (Cited in para 4-6a.)

#### **DA Pam 738-751**

Functional Users Manual for the Army Maintenance Management System-Aviation (TAMMS-A) (Cited in paras 2-4a, 3-12a, 8-2i.)

#### **DA Pam 750-8**

The Army Maintenance Management System (TAMMS) User's Manual (Cited in paras 2-4a, 3-12a.)

#### **FAA Order 7610.4**

Special Operations (Cited in paras 2-8e, 2-9d) (Available at [http://www.faa.gov/regulations\\_policies](http://www.faa.gov/regulations_policies).)

#### **FM 3-04.120**

Air Traffic Services Operations (Cited in para 2-9c.)

#### **FM 3-04.300**

Airfield and Flight Operations Procedures (Cited in paras 2-7b, 3-7c.)

#### **FM 3-52**

Army Airspace Command and Control in a Combat Zone (Cited in para 2-9c.)

**JP 3-52**

Joint Doctrine for Airspace Control in the Combat Zone (Cited in para 2-9c) (Available at <http://www.dtic.mil/doctrine/index.html>.)

**TB AVN 1-2144**

Army Aviation Flight Information Bulletin (Cited in para 3-3c.)

**TM 55-1500-342-23**

Army Aviation Engineering Manual for Weight and Balance (Cited in paras 7-4b, 7-5a, 7-5b, 7-6a.)

**Section II**

**Related Publications**

A related publication is a source of additional information. The user does not have to read it to understand this regulation.

**AR 10-25**

United States Army Logistics Integration Agency (USALIA)

**AR 11-2**

Managers' Internal Control Program

**AR 70-62**

Airworthiness Qualification of Aircraft Systems

**AR 71-32**

Force Development and Documentation-Consolidated Policies

**AR 95-1**

Flight Regulations

**AR 95-23**

Unmanned Aircraft System Flight Regulations

**AR 95-27**

Operational Procedures for Aircraft Carrying Hazardous Materials

**AR 140-1**

Mission, Organization, and Training

**AR 335-15**

Management Information Control System

**AR 350-1**

Army Training and Leader Development

**AR 385-10**

The Army Safety Program

**AR 570-4**

Manpower Management

**AR 614-200**

Enlisted Assignments and Utilization Management

**AR 700-138**

Army Logistics Readiness and Sustainability

**AR 750-1**

Army Materiel Maintenance Policy

**AR 750-6**

Army Equipment Safety and Maintenance Notification System

**CTA 50-909**

Field and Garrison Furnishings and Equipment (Available at <https://webtaads.belvoir.army.mil/usafmsa>.)

**CTA 50-970**

Expendable/Durable Items (Available at <https://webtaads.belvoir.army.mil/usafmsa>.)

**DA Pam 385-40**

Army Accident Investigations and Reporting

**DA Pam 385-90**

Army Aviation Accident Prevention Program

**DA Pam 611-21**

Military Occupation Classification and Structure

**DODI 5410.19**

Public Affairs Community Relations Policy Implementation (Available at <http://www.dtic.mil/whs/directives>.)

**FAR 1**

Definitions and Abbreviations (Available at [http://www.faa.gov/regulations\\_policies](http://www.faa.gov/regulations_policies).)

**FAR 91**

General Operating and flight Rules (Available at [http://www.faa.gov/regulations\\_policies](http://www.faa.gov/regulations_policies).)

**FM 5-19**

Composite Risk Management

**FM 38-701**

Packaging of Materiel for Packing

**Freedom of Information Act**

(Available at <http://www.fcc.gov/foia>.)

**Leaders Guide to Crew Endurance**

(Available at <https://crc.army.mil/tools/handbooks/aviation/crewend.pdf>.)

**SB 8-75**

Series Army Medical Department Supply Information (Available at <http://www.usamma.army.mil/SupplyBulletinMain.cfm>.)

**TB 43-0002-3**

Maintenance Expenditure Limits for Army Aircraft (Available at <https://www.logsa.army.mil/etms/online.htm>.)

**TC 1-600**

Unmanned Aircraft Systems Commander's Guide and Aircrew Training Manual

**TC 1-611**

Small Unmanned Aircraft System Aircrew Training Manual

**TC 3-04.93**

Aeromedical Training for Flight Personnel

**TM 1-1500-204-23-1**

General Aircraft Maintenance (General Maintenance And Practices), Volume 1 (Available at <https://www.logsa.army.mil/etms/online.htm>.)

**TM 1-1500-328-23**

Aeronautical Equipment Maintenance Management Policies and Procedures (Available at <https://www.logsa.army.mil/etms/online.htm>.)

**TM 10-1670-201-23**

General Maintenance of Parachutes and Other Airdrop Equipment (Available at <https://www.logsa.army.mil/etms/online.htm>.)

**TM 38-250**

Preparing Hazardous Materials for Military Air Shipments (Available at <https://www.logsa.army.mil/etms/online.htm>.)

**14 CFR 91**

General Operating and Flight Rules (Available at <http://ecfr.gpoaccess.gov>.)

**14 CFR 91.17**

Alcohol or Drugs (Available at <http://ecfr.gpoaccess.gov>.)

**14 CFR 91.215(b)(2)**

ATC transponder and altitude reporting equipment and use (Available at <http://ecfr.gpoaccess.gov>.)

**10 USC 3062**

Policy; composition; organized peace establishment (Available at <http://www.gpoaccess.gov/uscode/index.html>.)

**49 USC 40102(a)(37)**

Definitions (Available at <http://www.gpoaccess.gov/uscode/index.html>.)

**Section III**

**Prescribed Forms**

This section contains no entries.

**Section IV**

**Referenced Forms**

**DA Form 11-2**

Management Control Evaluation Certification Statement (Available through normal forms supply channels.)

**DA Form 759**

Individual Flight Record and Flight Certificate – Army

**DA Form 759-1**

Individual Flight Record and Flight Certificate – Army, Aircraft Closeout Summary

**DA Form 759-2**

Individual Flight Record and Flight Certificate – Army, Flying Hours Work Sheet

**DA Form 759-3**

Individual Flight Record and Flight Certificate – Army, Flight Pay and flight Hours Work Sheet

**DA Form 1352**

Army Aircraft Inventory, Status and Flying Time

**DA Form 2028**

Recommended Changes to Publications and Blank Forms

**DA Form 2408-12**

Army Aviator's Flight Record

**DA Form 2696-R**

Operational Hazard Report

**DA Form 3513**

Individual Flight Records Folder, United States Army (Available through normal forms supply channels.)

**DA Form 4507**

Crew Member Grade Slip

**DA Form 4507-1-R**

Maneuver/Procedure Grade Slip

**DA Form 4507-2-R**

Continuation Comment Slip (LRA)

**DA Form 4755**

Employee Report of Alleged Unsafe or Unhealthy Working Conditions

**DA Form 5484**

Mission Schedule/Brief

**DA Form 7120-R**

Commander's Task List

**DA Form 7120-1-R**

Crew Member Task Performance and Evaluation Requirements

**DA Form 7120-2-R**

Crew Member Task Performance and Evaluation Requirements Continuation Sheet

**DA Form 7120-3-R**

Crew Member Task Performance and Evaluation Requirements Remarks and Certification (LRA)

**DA Form 7122-R**

Crew Member Training Record (LRA)

**DD Form 175**

Military Flight Plan

**DD Form 365**

Record of Weight and Balance Personnel

**DD Form 365-1**

Chart A - Basic Weight Checklist Record

**DD Form 365-2**

Form B - Aircraft Weighing Record

**DD Form 365-3**

Chart C - Basic Weight and Balance Record

**DD Form 365-4**

Weight and Balance Clearance Form F-Transport/Tactical

**FAA Form 7233-1**

Flight Plan (Can be obtained from the USAASA, 9325 Gunston Road, Suite N319, Fort Belvoir, VA 22060-5582)

**Appendix B**

**Instructions for Completing DA Form 5484**

The briefer is responsible for ensuring that all key mission elements noted on the mission schedule/brief have been briefed according to paragraph 2-12 of this regulation and for documenting completion of the briefing on the mission schedule/brief. Mission briefings may be in the form of an air mission coordinator's brief, a detailed operations order,

or locally developed briefing formats as long as all the minimum mandatory items are covered. The mission brief may be accomplished by telephonic or other means provided all key elements are addressed and recorded by both parties to the brief on the front side.

*Note.* Mandatory for all flights.

## **B-1. Page 1**

### *a. Front side.*

- (1) \*Item 1: Date.
  - (2) \*Item 2: AC number—Enter aircraft tail number.
  - (3) \*Item 3: PC(AC)—Enter the name of the AC and seat designation.
  - (4) \*Item 4: PI(AO)—Enter the name of the AO and seat designation.
  - (5) \*Item 5: Crewmembers—Enter the names of the crew chief and external pilot.
  - (6) \*Item 6: FC—Enter the authorized flight condition codes for the mission as described in paragraph 2-5 of this regulation.
  - (7) \*Item 7: Mission—Enter the assigned mission number and/or title (that is, 3-02-01/air assault, maintenance test flight, APART, and so forth).
  - (8) \*Item 8: ETD/ETE—Enter the estimated time of departure and the estimated time en route.
  - (9) \*Item 9: PC(AC)—Aircraft commander's initials. (Initials are the AC's acknowledgment that he or she has been briefed by the qualified briefing officer and/or NCO on key elements of the mission).
  - (10) \*Item 10: Initials of a qualified briefing officer and/or NCO. (Initials of the briefing officer and/or CO along with AC indicates that step two of the briefing process has been completed according to paragraph 2-12b(2).
  - (11) \*Item 11: RAV—Risk assessment value, calculated risk level for mission based on unit risk management program.
  - (12) Item 12: MS—Mission status, to be completed by the PC at the end of the mission using the following codes:
    - (a) MC—Mission completed as briefed.
    - (b) NC—Mission not completed as briefed; see remarks on the back of the schedule.
    - (c) CX—Canceled.
  - (13) Remarks—\*Enter the name of the MC. Enter additional information for local use as desired; continue on the back if required.
- b. Back side.* The back side of the mission schedule will be used to document necessary mission status remarks. (Example: 23 APR 09, MSN 04-09-04, mission canceled by S-3, 1/20 Arty, initials M.S.)

## **B-2. Configuration of briefing**

The mission schedule/brief will be used to document the completion of required briefings. As a minimum, it will be maintained on file for the time period specified in this regulation.

## **B-3. Use**

The mission schedule/brief is provided for the commander's use. Unit-developed forms may be used as long as all mandatory items are covered.

## **B-4. Regulations, standing operating procedures, and policies**

Information contained on the mission schedule/brief does not relieve the UAC from the requirement to know and adhere to applicable regulations, SOPs, and policies.

## **B-5. Command relationships**

Supporting and supported unit commanders will coordinate and designate command relationships to execute mission briefings when aircrews are separated from their parent unit.

## **Appendix C**

### **Levels of Interoperability**

#### **C-1. Purpose**

The provisions contained in this appendix cover levels of interoperability (LOI). It is intended to govern the operation of UAS by Army aviation crewmembers that have a 2000-series task requiring LOI operations.



## **C-2. Personnel authorized to perform manned unmanned operations**

*a.* The following criteria qualify personnel to fly and/or operate UASs from another airborne platform.

(1) Manned unmanned team members that have completed an Army-approved LOI POI on the UAS-MTDS and/or Army aircraft combination being utilized.

(2) Are assigned to an organization that is assigned a LOI teaming mission which is reflected as 2000-series tasks in the crewmembers IATF.

*b.* The UAS crewmembers in other U.S. Services that have—

(1) Complied with qualification, training, evaluation, and currency requirements of their Service or of this regulation for the UAS to be flown.

(2) Written authorization from their Service and the owning ACOM, ASCC, or DRU commander.

(3) At a minimum, a current flight physical as stated in paragraph 2-1 of this regulation.

*c.* Civilian employees of Government agencies and Government contractors who have—

(1) Appropriate military or civilian certifications or ratings in the system(s).

(2) Written authorization from the owning ACOM, ASCC, or DRU or Commander, USAACE&FR for units undergoing training at Fort Huachuca or Fort Rucker.

(3) Necessary compliance with qualification, training, and evaluation requirements of this regulation, and the contract and/or statement of work for the UAS to be flown.

## **C-3. Currency**

Manned unmanned team members that have performed 1 hour of LOI teaming, from the aircraft and/or UAS MTDS combination or approved simulator, at the respective levels of control, in the last 180 days.

## **C-4. Levels of interoperability unmanned aircraft system control levels**

*a. Level I.* Reception of the secondary product. The LOI team members must be familiar with the operation of the remote video terminal or comparable device. No currency requirements.

*b. Level II.* Direct data receipt. The LOI team members must have received training approved by the battalion commander on the data receipt terminal being utilized. No currency requirements.

*c. Level III.* Payload control, direct data receipt. The LOI team members must meet the requirements of Level II control and have completed an Army approved POI on the sensor package being manipulated from their aerial platform and meet the currency requirements listed in paragraph C-3, above.

*d. Level IV.* Flight control, payload control, direct data receipt, weapons system operations. The LOI team members exercising Level IV control must meet the requirements of Level III control and have completed an Army approved POI on the UAS being utilized. This POI will include training on any payload installed on the UAS and any weapons being fired to include laser designation systems.

*e. Level V.* Level V UAS control is only authorized by LOI team members when performing an emergency procedure.

## **C-5. Flight and training records**

*a.* The IATF will contain a task list with the 2000-series tasks the LOI team member is authorized to perform.

*b.* The flying experience and qualification data for each LOI team member will be documented in the DA IFRF and IATF.

## **Appendix D**

### **Small Unmanned Aircraft System Utilization**

#### **D-1. Purpose**

The purpose of this appendix is to establish regulatory guidance for Small Unmanned Aircraft Systems (SUASs) operations. The UASs designed for use by other than MOS-qualified UAC (for example, small and micro UASs such as the micro air vehicle and the Raven) are to be governed by provisions of this regulation and appendix D. Small and micro UASs training, qualification, and currency will be according to the appropriate ATM. All SUAS operator personnel will receive familiarization training in airspace structure and airspace management and/or coordination and will comply with paragraph 2-9 of this regulation. Only this appendix and specifically sighted references of this regulation are intended to control SUAS operations.

#### **D-2. Army Small Unmanned Aircraft Systems personnel**

The following personnel may fly and/or operate Army SUASs:

*a.* The UACs who—

(1) Are members of the Active Army, U.S. Army Reserve, or Army National Guard or are civilian employees of the U.S. Army.

(2) Have complied with qualification, training, evaluation, and currency requirements of this appendix for the UAS to be flown and/or operated.

b. Civilian employees of Government agencies and Government contractors who have—

(1) Appropriate military or civilian certifications or ratings in the system(s).

(2) Written authorization from the owning ACOM, ASCC, DRU, NGB, or Commander, USAACE&FR.

(3) Necessary compliance with qualification, training approved by USAACE&FR DOTD, evaluation, and currency requirements of appendix D of this regulation, the provisions of AR 95-20, and the contract and/or statement of work for the UAS to be flown.

c. The UACs in other U.S. Services and/or USSOCOM who have—

(1) Complied with qualification, training approved by USAACE&FR DOTD, evaluation, and currency requirements of their Service or of appendix D of this regulation for the UAS to be flown.

(2) Obtained written authorization from their Service and the senior MC (no lower than O-5).

d. The UACs of foreign military services who have—

(1) Complied with qualification, training approved by USAACE&FR DOTD, evaluation, and currency requirements of their service or of appendix D of this regulation for the UAS to be flown.

(2) Properly completed a foreign service disclaimer.

(3) Obtained written authorization, including a disclaimer from their government absolving the U.S. Government from liability (unless a disclaimer is included under the provisions of an approved exchange program). The appropriate host ACOM, ASCC, DRU, or NGB must provide written authorization that will include, as a minimum, the purpose and duration of the authorization.

### **D-3. Small Unmanned Aircraft System Training Program**

The SUAS Aircrew Training Program will be establish and operated according to TC 1-611.

### **D-4. Currency**

a. To be considered current, a SUAS operator must—

(1) Perform a launch, recovery, and a 15-minute flight of the SUAS (or utilization of a compatible simulator) every 30 consecutive days.

(2) Perform in a launch, recovery, and a 15-minute flight of the SUAS every 150 consecutive days.

b. Tracking of actual flight time for a flying hour requirement is impractical and is not required. Individual flight records folders are not required; however, documentation of flight operations (sorties) for the purpose of tracking currency is required. Commanders will establish procedures for maintenance of personal flight logs. A qualified sortie is a launch and recovery and 15-minute flight operations of the SUAS.

c. The SUAS operator whose currency has lapsed must complete a proficiency flight evaluation according to the appropriate ATM. Simulators may not be used to reestablish currency.

d. Waivers to currency may only be granted by Deputy Chief of Staff, G-3/5/7 (DAMO-AV), 400 Army Pentagon, Washington, DC 20310-0400.

*Note.* Currency is not considered an element of the ATP.

### **D-5. Semiannual proficiency and readiness test**

The semiannual proficiency and readiness test (S-APART) measures an operator's proficiency and readiness. It consists of a written examination and a hands-on performance test evaluated by a master trainer (MT) who is current and qualified in the system to be evaluated. Mission qualified (MQ) operators must pass each component of the test during their S-APART periods. The S-APART periods are the 2 month periods ending on the last day of the operator's first semiannual training period and the 2 month period ending on the last day of the operator's birth month. While deployed to designated combat or imminent danger areas, the first commander (O-5 or above in the individual's chain of command) should consider reducing this evaluation requirement to once annually. At the end of the training year, the commander must certify that each operator has completed all S-APART requirements. This action serves to recertify the operator in his or her designated duty position(s). An operator designated MQ at any time within this 2-month period must complete all S-APART requirements. Operators receive credit for the operator's written examination and hands-on performance test during mission preparation if they complete the tests within the 2 month S-APART period. Those operators participating in mission preparation programs are not subject to the S-APART unless they were removed from MQ because of training deficiency. Operators removed from MQ status because of a training deficiency are subject to the S-APART.

### **D-6. Waivers to requirements**

a. Unit waivers to primary SUAS ATP requirements may be granted only by commanders of divisions or higher.

b. Commanders (O-6) and above and the SAAO may grant unit waivers and/or extensions to ATP requirements for units under their command affected by operational deployments. These commanders may grant unit extensions for up to 180 days from their self-established “start training date” after redeployment.

c. Individual waivers to primary SUAS ATP requirements may be granted by the first commander (O-5 or above) in the individual’s chain of command.

#### **D-7. Airspace usage**

a. The SUAS operation will be conducted in accordance with paragraph 2-9 of this regulation and applicable FAA orders published with regard to UAS and SUAS operations. If the use of a ground observer is required, the provisions of paragraph 4-27 of this regulation will apply.

b. Where the appropriate qualifications listed above are met, the FAA agrees to provide access to the National Airspace System for DOD UAS outside restricted areas and warning areas as follows:

(1) All categories of DOD UAS operations conducted wholly within Class D airspace that has as associated DOD-controlled, non-Joint-use airfield provided (see note below) operations are not conducted over populated areas or within airspace covered in 14 CFR 91.215(b)(2).

(2) The DOD UASs that weigh 20 pounds or less, under the following conditions:

(a) Operations are conducted within Class G airspace, below 1,200 feet AGL (not applicable to airspace identified by 14 CFR 91.215(b)(2)) over military bases, reservations, or land protected by purchase, lease, or other restriction.

(b) The UAS remains within clear visual range of the pilot or a certified observer in ready contact with the pilot to ensure separation from other aircraft.

*Note.* The DOD will ensure that the UAS remains more than 5 miles from any civil use airport or heliport. The DOD components operating under this paragraph will notify the FAA of the proposed operation in advance and publish NOTAMs as required to alert nonparticipating aircraft of the operation. For nonrecurring operations, notification will be accomplished, and NOTAM published, no later than 24 hours in advance. For recurring operations (for example, training) standing “blanket” notifications and/or standing NOTAMs should not be used.

#### **D-8. Minimum crew requirements**

Unless the operator’s manual specifically states otherwise, the minimum crew to operate a SUAS will be one TRADOC-approved school trained operator and an untrained assistant.

#### **D-9. Certification of operators and master trainers**

The MT will not be authorized to certify new operators at their home station. The SUAS operator and master trainer qualification courses will be conducted only at TRADOC-approved locations or under PM-conducted new equipment training.

a. To become qualified as an MT, a UAC must successfully complete one of the following:

(1) A DA-approved MT course.

(2) An MT equivalency evaluation administered by an MT selected by USAACE&FR DES, in the SUAS in which MT duties are to be performed. Commanders will coordinate with DES (ATZQ-ES), Fort Rucker, prior to submitting request for equivalency evaluation to DAMO-AV.

b. Upon completion of the TRADOC-approved master trainer qualification course or DES equivalency, O-5 commanders with organic SUAS assets have the authority to appoint MTs. Master trainers must be current, qualified, and mission qualified in the system in which they will be performing their duties. This policy applies to any UAS and/or SUAS whether a fielded system, equipped system, or still in the testing portion of the acquisition process.

## **Appendix E Management Control Evaluation Checklist**

### **E-1. Function**

The function covered by this checklist is the administration of the management control process.

### **E-2. Purpose**

The purpose of this checklist is to assist assessable unit managers and management control administrators in evaluating the key management controls outlined below. It is not intended to cover all controls.

### **E-3. Instructions**

Answers must be based on the actual testing of key management controls (document analysis, direct observation, sampling, simulation, and so on). Answers that indicate deficiencies must be explained and corrective action indicated

in supporting documentation. These key management controls must be evaluated at least once every 5 years. Certification that this evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **E-4. Test questions**

*a. HQDA only.*

(1) Are standardized aviation safety, standardization, and utilization regulations and procedures published by a DA proponent?

(2) Is safety-of-flight information prepared and sent to the field in a timely manner?

*b. User.*

(1) Are airports, heliports, and landing areas approved for flight operations?

(2) Are local flying rules in agreement with Federal, DOD, and DA policies?

(3) Are applicable safety regulations and special-use airspace operation guidance followed?

(4) Are violations of safety and special-use airspace guidance reported and investigated by appropriate personnel per Federal, DOD, and DA guidance?

(5) Are Army UAS unmanned aircrafts used for official purposes prescribed in AR 95-23?

(6) Are Aircrew Training Program carried out per applicable Army guidance to include flying hours and synthetic flight training?

(7) Are personnel who do not meet proficiency requirements restricted from flight duty?

(8) Is UAS life support equipment available and maintained in accordance with applicable guidance?

(9) Has the airspace been approved for UAS operations?

*c. Reserve Component.* Are additional flight training periods managed in accordance with applicable policies and regulations?

#### **E-5. Supersession**

This checklist replaces the checklist for administration of the management control process published in AR 95-23, dated 14 May 2004.

#### **E-6. Comments**

Help to make this a better tool for evaluation management controls. Submit comments to Headquarters, Department of the Army, (DAMO-RQ), 400 Army Pentagon, Washington D.C. 20310-0400.

## **Glossary**

### **Section I Abbreviations**

**AC**

aircraft commander

**ACOM**

Army Command

**AD**

Airworthiness Directive

**AGL**

above ground level

**AMC**

U.S. Army Materiel Command

**AMCOM**

U.S. Army Aviation and Missile Command

**AO**

aircraft operator

**APART**

annual proficiency and readiness test

**AR**

Army regulation

**ARMS**

Aviation Resource Management Survey

**ARNG**

Army National Guard

**ASA**

aviation safety action

**ASCC**

Army Service Component Command

**ATC**

air traffic control

**ATM**

aircrew training manual

**ATP**

Aircrew Training Program

**CAFRS**

Centralized Aviation Flight Records System

**CFR**

Code of Federal Regulations

**CG**

commanding general

**CVR**

cockpit voice recorder

**DA**

Department of the Army

**DA Pam**

Department of the Army pamphlet

**DARR**

Department of the Army Regional Representative

**DCS, G-3/5/7**

Deputy Chief of Staff, G-3/5/7

**DCS, G-4**

Deputy Chief of Staff, G-4

**DES**

Directorate of Evaluation and Standardization

**DOD**

Department of Defense

**DOTD**

Directorate of Training and Doctrine

**DRU**

Direct Reporting Unit

**DSC**

digital source collector

**EO**

external operator

**ETA**

estimated time of arrival

**FAA**

Federal Aviation Administration

**FAR**

Federal aviation regulation

**FDR**

flight data recorder

**FLIP**

flight information publication

**FM**

field manual

**FOIA**

Freedom of Information Act

**FR**

Fort Rucker

**FTG**

flight training guide

**GCS**

ground control station

**GPS**

Global Positioning System

**HQDA**

Headquarters, Department of the Army

**IATF**

individual aircrew training folder

**ICAO**

International Civil Aviation Organization

**IFR**

instrument flight rules

**IFRF**

individual flight records folder

**IKTP**

initial key personnel training

**IMC**

instrument meteorological conditions

**IO**

instructor operator

**MC**

mission coordinator

**MOPP**

mission-oriented protective posture

**MOS**

military occupational specialty

**MQ**

mission qualified

**MT**

master trainer

**MTDS**

mission, type, design, and series

**NCO**

noncommissioned officer

**NGB**

National Guard Bureau

**NOTAM**

Notice to Airman

**O-5**

lieutenant colonel

**O-6**

colonel

**PO**

payload operator

**POI**

program of instruction

**PM**

project manager

**RAW**

risk assessment worksheet

**RL**

readiness level

**S-3**

operations officer

**SAAO**

state Army aviation officer

**SB**

supply bulletin

**SME**

subject matter expert

**SOF**

safety of flight

**SOP**

standing operating procedure

**SO**

standardization instructor operator

**SP**

standardization instructor pilot

**S-PART**

semiannual proficiency and readiness test

**SUA**

special use airspace

**SUAS**

Small Unmanned Aircraft System

**TB**

technical bulletin

**TM**

technical manual



**TRADOC**

U.S. Army Training and Doctrine Command

**UA**

unmanned aircraft

**UAC**

unmanned aircraft crewmember

**UAS**

Unmanned Aircraft System

**U.S.**

United States

**USAACE&FR**

U.S. Army Aviation Center of Excellence and Fort Rucker

**USAASA**

U.S. Army Aeronautical Services Agency

**USSOCOM**

U.S. Special Operations Command

**UT**

unit trainer

**VFR**

visual flight rules

**VMC**

visual meteorological condition

**Section II****Terms****Aeronautical information manual**

A manual that provides the aviation community with basic flight information and ATC procedures for use in the National Airspace System of the United States. It also contains items of interest to operators and aircrewmembers concerning health and medical facts, factors affecting flight safety, a operator and/or controller glossary of terms used in the Air Traffic Control System, and information on safety, accident, and hazard reporting.

**Air traffic**

Aircraft and/or air vehicles operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

**Aircrew training manual (ATM)**

A publication that contains Army training requirements for Army flight crewmembers and programs for qualification, refresher, mission, and continuation training in support of the Aircrew Training Program (ATP), including unmanned aerial vehicle system crewmembers training programs.

**Aircrew Training Program (ATP)**

Army aviation aircrew standardized training and evaluation program.

**Army aircraft and/or unmanned aircraft**

Aircraft and/or unmanned aircraft under the jurisdiction of the Department of the Army.

**Army aviation standardization**

The use of uniform tested procedures and techniques to attain a high level of readiness and professionalism in the operation and employment of Army aircraft and/or unmanned aircraft. This is achieved through standardized publications and training literature, a disciplined instructor operator force, tests, flight checks, and command supervision. Standardization includes aviator cockpit, performance, aircrew teamwork, tactics, maintenance, and safety. For UASs,

standardization includes external operator and/or external air vehicle crewmember performance, air vehicle crewmember and/or air vehicle operator, and mission payload operator performance, aircrew teamwork, tactics, maintenance, and safety.

#### **Army safety action team**

Standing committee that meets on call to address HQDA-level Safety of Flight and Safety of Use issues, provide coordinated recommendations to the Office of the Chief of Staff, Army, and expedite corrective actions to maximize readiness, safety and training. See AR 385–10 for specific objectives, membership, and procedures.

#### **Aviation safety action messages (ASAM)**

Electrically transmitted messages that convey maintenance, technical or general interest information where a low to medium risk safety condition has been determined per AR 385–10. The ASAMs are of a lower priority than SOF messages.

#### **Catastrophic failure**

Any failure that leads to the loss of the UAS(s).

#### **Command and/or staff aviation officer**

A special staff aviator designated by the commander to provide advice or manage aviation assets, aviation standardization, and aviation safety.

#### **Controlled airspace**

A generic term that covers the different classification of airspace (Class A, Class B, Class C, Class D, and Class E airspace) and defined dimensions within which air traffic control service is provided to instrumented flight rules flights and to VFR flights in accordance with the airspace classification (see the Aeronautical Information Manual).

#### **Crewmember**

Includes all flight and ground crewmembers, and others who perform aircrew duties as listed in this regulation.

#### **Cross-country flight**

A flight extending beyond the local flying area or within the local flying area which is planned to terminate at a place other than the place of origin.

#### **External operator (EO)**

The UAS crewmember who, in the absence of full automatic takeoff and landing systems, visually controls the UAS flight path, generally during takeoff and/or landing.

#### **Flight crew station**

A station in an air vehicle that a flight crewmember occupies to perform his or her flight duty, for example, operator stations specified in operator's manuals. For UAS, a station associated with the in-flight operation of a UAS at which flight controls may be used to control air vehicle flight; for example, air vehicle operator, external operator, or mission payload operator stations specified in the operator's manual.

#### **Flight crewmember**

Any instructor pilot, flight examiner, pilot, copilot, flight engineer and/or mechanic, flight navigator, weapon systems operator, bombardier navigator, radar intercept operator, sensory system operator, boom operator, crew chief, loadmaster, remotely operated aircraft operator, UAS operator, defensive and/or offensive system operator, and other flight manual handbook identified crewmember when assigned to their respective crew positions to conduct a military flight or any flight under the contract. For UAS, a AO, EO, IO, MC, PO or SO assigned to duty during the in-flight operation of an aircraft.

#### **Flight surgeon**

A medical officer that is a graduate of an approved military course of aviation medicine. References to flight surgeons include aeromedical physician's assistant.

#### **Ground crewmember**

The status assigned to Soldiers who have duties directly related to the preparation, launch, recovery and/or maintenance of UAS and/or their mission payload systems but not the in-flight mission.

#### **Installation**

For Army Aviation Standardization Program purposes, continental United States Active Army posts, camps, or stations;

ARNG states; Army Reserve commands; overseas corps, divisions, independent regiments, groups, and brigades. For other than standardization purposes includes U.S. Army Reserve facilities.

**Instructor operator (IO)**

A UAS crewmember who conducts training and evaluation of UACs and UAS unit trainers in designated UAS and promotes safety among aircrewmembers. Training and evaluation include air vehicle operation, qualification, unit employment, visual flight, and crew performance.

**Maintenance**

The inspection, overhaul, repair, preservation, and/or the replacement of parts, but excludes preventive maintenance.

**Maintenance and operations check**

Systems check made on the ground through engine runup and taxiing. Checks made using auxiliary power or testing equipment to simulate, insofar as possible, actual conditions under which the system is to operate. These checks are made to ensure that air vehicle systems or components disturbed during an inspection or maintenance have been repaired or adjusted satisfactorily.

**Mission coordinator (MC)**

The designated individual tasked with the overall responsibility for the operation and safety of the UAS mission.

**National Airspace System**

All of the airspace above the surface of the earth over the United States and its possessions.

**Night**

The time between the end of evening nautical twilight and the beginning of morning nautical twilight converted to local time.

**Operational flying**

Flying performed by qualified personnel primarily for mission support or training, while serving in assignments in which basic flying skills normally are kept current while performing assigned duties. All flying by qualified members of the Reserve Component not on extended active duty is operational flying.

**Remotely operated aircraft**

The FAA terminology for unmanned aircraft vehicle systems

**Restricted area**

Airspace designated in FAR 1 within which the flight of aircraft and/or air vehicles, while not prohibited, is subject to restriction(s).

**Safety of flight (SOF) messages**

Electrically transmitted messages pertaining to any defect or hazardous condition, actual or potential, that can cause personal injury, death, or damage to aircraft and/or air vehicles, components or repair parts where a medium to high risk safety condition has been determined per AR 385-10.

**Special use airspace (SUA)**

Airspace designated by the FAA with specific vertical and lateral limits, established for the purpose of containing hazardous activities or activity that could be hazardous to nonparticipating aircraft and/or air vehicles. Limitation on nonparticipating aircraft and/or air vehicles may range from absolute exclusion to complete freedom of use within certain areas, depending upon activity being conducted.

**Standardization instructor operator**

A qualified instructor operator designated by the commander, in writing, to supervise unit standardization programs. Primarily trains and evaluates other SOs and IOs.

**Traffic pattern**

The traffic flow that is prescribed for aircraft and/or air vehicles landing at, taxiing on, or taking off from an airport or airfield.

**Training mission**

Missions flown for flight qualification, refresher, or proficiency and/or currency training; ATP requirements, and authorized training exercises.

**Unit trainer (UT)**

A UAS crewmember designated to instruct in areas of special training to assist in unit training programs and achieve established training standards.

**Unmanned aircraft crewmember (UAC)**

Flight and/or ground individuals who perform duties controlling the flight of an unmanned aerial vehicle or the operation of its mission equipment as well as preparation, launch, recovery and/or maintenance that is essential to the operation of the UAS.

**Unmanned aircraft operator (AO)**

The AO controls and/or monitors the actual flight of the UAS from within a GCS, launch and recovery site, portable GCS, or similar device.

**Unmanned Aircraft System**

Unmanned Aircraft System, includes platform, sensors, communication gear, launcher, landing system, ground control station.

**UAS control station**

A flight deck without external flight environment clues (no direct visual contact with the UAS) used for control of UAS.

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

This section contains no entries.

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