BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE MANUAL 11-2C-145A, VOLUME 2

19 DECEMBER 2019

Flying Operations

C-145A EVALUATION CRITERIA

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at **www.e-publishing.af.mil** for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AFSOC/A3V

Certified by: AF/A3T
(Maj Gen James A. Jacobson)

Supersedes: AFI11-2C-145AV2, 23 April 2015

Pages: 47

This manual implements Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure.* It establishes evaluation criteria for initial (INIT) and periodic aircrew qualification for all units operating C-145A Aircraft. It is used in conjunction with AFI 11-202, V2, *Aircrew Standardization/Evaluation Program*. This manual applies to all civilian employees and uniformed members of the Regular Air Force and Air Force Reserve. It does not apply to the Air National Guard. The applicable System of Records Notice F011 AF XO A, Aviation Resource Management System (ARMS) is available at: **http://dpclo.defense.gov/Privacy/SORNs.aspx**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force. This publication may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirement in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain

of command to the appropriate Tier waiver approval authority. Requests for waiver of non-tiered compliance items may be submitted through the chain of command to the Publication OPR or, alternatively, Commanders may waive non-tiered compliance items, in accordance with AFI 33-360, paragraph 1.9.3.1.

SUMMARY OF CHANGES

This document has been substantially revised and needs to be completely reviewed. Major changes include: deleting former **paragraphs 1.4.1** and **1.6** and their subparagraphs, evaluation procedures replaced with a Roles and Responsibilities section, go-around added to **paragraph 4.4.1**, **Paragraph 4.3** multi-qualification verbiage deleted from **paragraph 4.3** and **Paragraph 5.1**

Chapter 1—GENERAL INFORMATION **4**

1.1. General. 4

1.2. Applicability. 4

1.3. Key words and definitions. 4

1.4. Waivers. 4

1.5. Supplements. 4

1.6. Roles and Responsibilities. 4

1.7. Grading Instructions. 5

1.8. Evaluation Requirements. 6

1.9. Unsatisfactory Performance. 6

1.10. Additional Training. 6

1.11. Rechecks. 7

1.12. Special Qualifications. 7

1.13. Flight Evaluation Worksheets. 7

1.14. Multiple Qualification. 7

Chapter 2—ALL EVALUATIONS **8**

2.1. General. 8

2.2. Requirements. 8

Table 2.1. General Grading Areas (All crew positions and all evaluations)..... 9

2.3. General Grading Criteria..... 9

Chapter 3—INSTRUCTOR EVALUATIONS **16**

3.1. General. 16

3.2. Requirements. 16

3.3. Instrument. 16

3.4. Qualification. 16

3.5. Mission. 16

Table 3.1. Instructor Evaluation Grading Areas (All Crew Positions). 17

3.6. Instructor Grading Criteria. 17

Chapter 4—PILOT/COPILOT EVALUATIONS **20**

4.1. General. 20

4.2. Requirements. 20

4.3. Instrument (INSTM). 20

4.4. Qualification. 20

4.5. Mission. 20

Table 4.1. Pilot/Copilot INSTM/QUAL Grading Areas. 21

Table 4.2. Pilot MSN Grading Areas. 22

Table 4.3. General Criteria. 23

4.6. Grading Criteria. 23

Chapter 5—LOADMASTER EVALUATIONS **36**

5.1. General. 36

5.2. Requirements. 36

5.3. Qualification. 36

5.4. Mission. 36

Table 5.1. Loadmaster QUAL/MSN Grading Areas. 36

5.5. Grading Criteria. 38

Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION **45**

Chapter 1

GENERAL INFORMATION

1.1. General. This publication establishes requirements and grading criteria for ground and flight phases of initial, requalification, and periodic flight evaluations. Aircrew evaluations will be conducted IAW this publication and AFI 11-202V2, *Aircrew Standardization/Evaluation Program*, and Major Command (MAJCOM) supplements thereto. **(T-2).** Specific areas for evaluation are prescribed to ensure an accurate assessment of the proficiency and capabilities of aircrews. Flight examiners will use this Air Force Manual (AFMAN) when conducting aircrew evaluations; instructors will use this AFMAN when preparing aircrews for qualification. **(T-2).**

1.2. Applicability. This instruction applies to all individuals performing duties on C-145A aircraft.

1.3. Key words and definitions.

1.3.1. "Must," "Will," and "Shall" indicate a mandatory requirement.

1.3.2. "Should" is normally used to indicate a preferred, but not mandatory, method of accomplishment.

1.3.3. "May" indicates an acceptable or suggested means of accomplishment.

1.3.4. "Note" indicates operations procedures, techniques, etc., considered essential to emphasize.

1.4. Waivers. Waiver authority for the contents of this document is Director of Operations (AF/A3O). IAW AFI 11-202V2, the MAJCOM/A3 is the waiver authority for individual aircrew requirements on a case-by-case basis, but the MAJCOM/A3 may not approve blanket or group (two or more aircrew) waivers. Waiver requests should be submitted through MAJCOM Standardization and Evaluation channels to the A3. As applicable, MAJCOM/A3 will forward requests to AF/A3O, with an info copy to AF/A3OI. AFR crews will send copies of all waiver requests and approvals to HQ AFRC/A3Vv.

1.5. Supplements. Units are encouraged to supplement this publication with standard evaluation profiles that best fit the unit's mission, equipment, and location. Units will forward a copy of supplements AFSOC/A3V, for approval.

1.6. Roles and Responsibilities.

1.6.1. **Flight Examiners (FEs). FEs will:**

1.6.1.1. Inform the examinee of any special requirements. **(T-2).**

1.6.1.2. Brief the examinee on the conduct, purpose, and requirements of the evaluation, as well as all applicable evaluation criteria, prior to flight (Air Force Reserve Command only: Any unique evaluator inputs to the planned profile should be communicated to the examinee no later than 24 hours prior to scheduled mission brief). **(T-2).**

1.6.1.3. Ensure all required training and documentation is complete prior to initial or requalification evaluations. **(T-2).**

1.6.1.4. Not intentionally fail any equipment during flight evaluations, but may deny the use of systems not effecting safety of flight. **(T-3).** Systems that can be denied in-flight

are as follows: Navigational aids or displays, Autopilot, Flight Director, flaps for no-flap landings, primary trim controls. Examiners may use reduced power settings for simulated engine-out maneuvers.

1.6.1.5. Under no circumstances, allow the aircraft to slow below one engine inoperative minimum control speed (Vmca), regardless of airspeed tolerances listed for specific areas. **(T-2).**

1.6.1.6. Thoroughly debrief or critique all aspects of the flight. **(T-3).** During the critique, the flight examiner will review the examinee's overall rating, specific deviations, area/subarea grades assigned, and any additional training required. **(T-3).**

1.6.2. **Examinees.** Examinees will:

1.6.2.1. Accomplish all required mission planning. **(T-3).** If an Operations Planning Team or Deployment Planning Team accomplishes mission planning, the examinee is ultimately responsible for the accuracy and completeness of all mission-planning paperwork.

1.6.2.2. Provide the flight examiner a copy of necessary charts, flight logs, mission folders, and any additional items the FE deems necessary. **(T-2).**

1.6.2.3. Be current for all events evaluated during a periodic evaluation, unless requested by examinee and approved by squadron commander or operations officer. **(T-3).**

1.7. Grading Instructions. All evaluations will follow the guidelines set in AFI 11-202V2, and this AFMAN. Examiners will use the criteria contained in this publication to accomplish all flight and emergency procedures evaluations. To ensure standard and objective evaluations, flight examiners will be thoroughly familiar with the prescribed evaluation criteria. **(T-3).**

1.7.1. Area/Subarea Grades. Areas/subareas will have a two-level (Q/U) or three-level (Q/Q-/U) grading system. Discrepancies will be documented against the listed subareas.

1.7.1.1. Q is the desired level of performance. The examinee demonstrated a satisfactory knowledge of all required information, performed aircrew duties within the prescribed tolerances, and accomplished the assigned mission.

1.7.1.2. Q- indicates the examinee is qualified to perform the assigned area/subarea tasks, but requires debriefing or additional training as determined by the flight examiner. Deviations from established standards must not exceed the prescribed Q- tolerances or jeopardize flight safety.

1.7.1.3. U indicates a breach of flight discipline, performance outside allowable parameters or deviations from prescribed procedures or tolerances that adversely effected mission accomplishment or compromised flight safety. An examinee receiving an area/subarea grade of U normally requires additional training. When, in the judgment of the flight examiner, additional training will not constructively improve examinee's performance, it is not required. In this case, the flight examiner must thoroughly debrief the examinee.

1.7.2. Critical Areas. Critical areas require adequate accomplishment by the aircrew member in order to successfully achieve the mission objectives. If an aircrew member receives an unqualified grade in any critical area, the overall grade for the evaluation will also be unqualified. Critical areas are identified by "(Critical)" in the area title.

1.8. Evaluation Requirements. Evaluation profiles will reflect a sampling of the unit's missions. Evaluation tables are provided to summarize evaluation areas. Areas common to all crew members are contained in **Table 2.1**. Instructor evaluation areas are in **Table 3.1**. Evaluation areas unique to each crew position are located in their respective chapter. Each crew specific chapter defines required events. Evaluation methods are identified by NOTES in the crew specific tables and include: In-flight only; in-flight and/or in simulator (see **Paragraph 1.8.1**); and in-flight and/or alternate methods (see **Paragraph 1.8.3**). For areas without a NOTE, flight examiners may evaluate at their discretion if observed. If required events are not observed, then the evaluation is incomplete and will be accomplished on another flight.

1.8.1. Simulator. Weapon System Trainers may be used to accomplish evaluations if certified by AFSOC/A3. Do not conduct two consecutive evaluations in the simulator (Exception: Instrument evaluations.) **(T-2).**

1.8.2. If an area/subarea was not able to be evaluated in-flight, and the event is certified for evaluation purposes in the simulator, it may be evaluated in the simulator to complete the evaluation. Document in the comments section of AF Form 8, *Certificate of Aircrew Qualification*, which portion(s) of the evaluation were conducted in the simulator.

1.8.3. Alternate Method. When it is impossible to evaluate an area in-flight due to equipment malfunctions, operational requirements, scheduling restrictions, or weather, the area may be evaluated by an alternate method (i.e., procedural trainer or verbal examination). If, in the flight examiner's judgment, an item cannot be adequately evaluated by an alternate method, complete the evaluation on an additional flight. **(T-3).**

1.8.4. Grading Criteria. To the maximum extent possible, flight examiners will use the grading criteria in this volume to determine individual area grades. Exercise judgment when the wording of areas is subjective and when specific areas are not covered. Flight examiner judgment will be the determining factor in arriving at the overall grade. Consider cumulative deviations when determining the overall grade.

1.8.5. Base tolerances for in-flight parameters on conditions of smooth air and a stable aircraft. In some cases, momentary deviations are allowable provided the examinee applies prompt corrective action and such deviations do not jeopardize safety.

1.9. Unsatisfactory Performance. If the flight examiner observes an aircrew counterpart jeopardizing safety, the examiner will assume the duties of that aircrew member (provided the examiner's Flight Duty Period (FDP) does not exceed AFI 11-202V3, *General Flight Rules*, maximum FDP for an unaugmented crew. This does not mean the examiner must assume the examinee's position any time unsatisfactory performance is observed. If the examiner feels the examinee can continue safely with supervision, the examiner is not required to assume the examinee's duties. However, if the flight examiner assumes the examinee's duties, assign a Qualification Level 3 (Q-3) as the overall grade. Evaluators must report deviations or discrepancies from established procedures or directives in any area, regardless of the individual's crew specialty, to the squadron or group commander, along with evaluator's recommendation for corrective action, IAW AFI 11-202V2, *AFSOC SUP*, *Aircrew Standardization/Evaluation Program*. **(T-3).**

1.10. Additional Training. Flight examiners are responsible for assigning additional training at their discretion. Document additional training and completion IAW AFI 11-202V2, *AFSOC SUP*. Examiners will ensure any approved training device or medium may be used for additional

training. **(T-3).** Additional training may be accomplished on the same flight as the evaluation, provided the unique situation presents a valuable training opportunity (i.e., crosswind landings), and the discrepancy requiring the additional training will not result in overall Q-3 evaluation. This option requires flight examiner discretion and judicious application. The examinee must be informed when the additional training begins and ends. **(T-3).**

1.11. Rechecks. Rechecks will normally be administered by a flight examiner other than the one who administered the original evaluation.

1.12. Special Qualifications. Special qualification evaluations are administered for special mission events that are not universal to all members in that crew position. Special qualification evaluations may be conducted separately or in conjunction with the qualification or mission evaluations. After qualification, areas may be graded as part of periodic mission evaluations. There are no requisites for special qualification evaluations unless specified. Refer to the appropriate crew position for any special qualification evaluation requirements. Special qualifications result in an AF Form 8. Document IAW AFI 11-202V2, as a SPOT evaluation in the flight phase block of the AF Form 8/8a. If the evaluator is current/qualified in a special mission event, and the special mission event is accomplished during the evaluation profile, the special mission event will be evaluated during the mission (MSN) evaluation but annotated separately on the AF Form 8/8a in the Mission Description. Although a unit may maintain 100 percent of its crew members qualified, this documentation is still required due to intrafly and permanent change of station issues.

1.13. Flight Evaluation Worksheets. AFSOC Form 48, Flight Evaluation Worksheet, generated flight evaluation worksheet or electronic equivalent (Patriot Excalibur) are permitted to assist with the evaluation. If a flight evaluation worksheet is used, it must be current in relation to requirements outlined in this publication and evaluation tables. **(T-3).**

1.14. Multiple Qualification. Each aircraft requires a separate qualification (QUAL), (MSN), and instructor evaluation. The instrument (INSTM) evaluation will be maintained in the most complex aircraft flown by the examinee (i.e., aircraft with retractable gear, multiengine aircraft, etc.). Squadron Standardization/Evaluation will determine complex aircraft priority. **(T-2).**

Chapter 2

ALL EVALUATIONS

2.1. General. The general grading criteria contained in this chapter applies to all crew positions and all evaluations. The examinee must satisfactorily demonstrate the ability to perform required duties safely and effectively. **(T-2).** Flight examiners will ensure this includes appropriate aircraft systems operation IAW applicable technical orders, instructions, and directives. **(T-2).**

2.2. Requirements. Evaluate all crew members on areas listed in **Table 2.1**.

2.2.1. Examinations. All crew members will complete open and closed book examinations as a requisite to periodic evaluations IAW AFI 11-202V2. Pilots will complete the instrument examination as a requisite to periodic INSTM evaluations IAW AFI 11-202V2, and AFMAN 11-210, *Instrument Refresher Program*. QUAL and MSN examinations may be combined and given as one examination. Flight examiners will reference AFI 11-202V2 for required number of questions and test question structure. **(T-2).**

2.2.2. Emergency Procedures Evaluation (EPE). An EPE is a requisite for all QUAL and MSN evaluations except for special qualification evaluations. EPEs may be conducted verbally, in-flight, in a simulator, or by another method determined by the examiner or unit stan/eval. Operations Group Standardization and Evaluation may develop EPE guides for each crew position for flight examiner use. EPEs should be scenario driven, and tailored to the specific crew position. The EPE will include areas commensurate with the examinee's qualification and experience level. Examiners should include other general knowledge areas as well. For mission evaluations, evaluate mission-specific equipment and situations. Flight examiners will ensure EPEs include sufficient in- flight and ground emergencies to evaluate the examinee's knowledge of systems and procedures to the flight examiner's satisfaction. **(T-2).**

2.2.2.1. Examinees may use publications that are normally available in-flight. The examinee should recite all critical actions procedures from memory and should provide the initial steps of the emergency procedures that, in the opinion of the examiner, would not allow time for reference.

2.2.2.2. Grading Criterial for EPE are outlined in **paragraph 2.3.5** of this publication.

2.2.3. Publications Check. Required for all INSTM, QUAL, MSN, or combined evaluations (e.g., INSTM/QUAL/MSN) as outlined in **paragraph 2.3.12.1** of this publication.

2.2.4. Cockpit/Crew Resource Management (CRM). In accordance with AFI 11-290, *Cockpit/Crew Resource Management Training Program*, crew resource management skills will be evaluated during initial and periodic evaluations. CRM skills are integral to all phases of flight; therefore no specific area titled CRM exists. CRM skills are imbedded within specific grading criteria (mission planning, airmanship/situational awareness, crew coordination, communication, risk management/decision making, task management, and briefing/debriefing) and include all of the skills listed on the AF Form 4031, CRM *Skills Criteria Training/ Evaluation Form*. Therefore, use of the AF Form 4031 is unnecessary for evaluations.

2.2.5. Formal Course Evaluations. All required areas must be evaluated for the type of evaluation flown IAW this AFMAN. **(T-2).** Grade training objectives and related areas using the performance criteria in this AFMAN.

Table 2.1. General Grading Areas (All crew positions and all evaluations).

AREA	NOTES		GRADING AREAS
1		Safety – CRITICAL	
2		Aircrew Discipline – CRITICAL	
3		Airmanship/Situational Awareness – CRITICAL	
4	2	Boldface/Critical Action Procedures (CAPs) – CRITICAL	
5	2	Emergency Procedures Evaluation	
6		Crew Coordination	
7		Mission Planning	
8		Knowledge of Directives	
9		Preflight	Preflight
10		Use of Checklists	
11		Forms/Reports/Logs	
12		Personal/Professional Equipment/Flight Publications	
13		Emergency and Life Support Equipment/Procedures	
14		Briefings/Debriefings	
15		Classified Material/Operations Security	
16	1	Antihijacking/Aircraft Security	
17		Communication	
18		Risk Management/Decision Making	
19		Task Management	

Notes:

1. Only required for QUAL evaluations.
2. Required for QUAL and MSN evaluations.

2.3. General Grading Criteria.

2.3.1. Area 1. Safety - CRITICAL.

2.3.1.1. Q. Was aware of and complied with all safety factors required for safe aircraft or equipment operation and mission accomplishment. Identified and assessed risk appropriately. Properly considered consequences of decisions.

2.3.1.2. U. Not aware of or did not comply with all safety factors required for safe aircraft or equipment operation or mission accomplishment. Failed to properly identify and assess risk. Failed to consider consequences of decisions. Operated the aircraft or equipment in a dangerous manner.

2.3.2. Area 2. Aircrew Discipline - CRITICAL.

2.3.2.1. Q. Demonstrated strict professional flight and crew discipline throughout all phases of the mission.

2.3.2.2. U. Failed to exhibit strict flight and crew discipline. Violated or ignored rules or instructions.

2.3.3. Area 3. Airmanship/Situational Awareness - CRITICAL.

2.3.3.1. Q. Executed the assigned mission in a timely and efficient manner. Anticipated situations that would have adversely affected the mission, and corrected them. Made appropriate decisions based on available information. Recognized the need for action. Aware of performance of self and other flight members. Aware of on-going mission status. Recognized, verbalized, and acted on unexpected events.

2.3.3.2. U. Decisions or lack thereof caused failure to accomplish assigned mission. Did not recognize the need for action. Not aware of performance of self and other flight members. Not aware of on-going mission status. Failed to recognize, verbalize, and act on unexpected events.

2.3.4. Area 4. Boldface/CAPs – CRITICAL.

2.3.4.1. Q. Able to recite CAPs in the correct sequence with no discrepancies.

2.3.4.2. U. Failed to recite CAPs in the correct sequence. Discrepancies in the procedure.

2.3.5. Area 5. Emergency Procedures Evaluation.

2.3.5.1. 1. Satisfactory systems/procedural knowledge. Operated within prescribed limits and correctly diagnosed problems. Performed and/or explained proper corrective action, in the proper sequence, for each type of malfunction. Accomplished all required checklists and/or effectively used available aids. Thoroughly described the location, use and limitations of emergency equipment.

2.3.5.2. 2. Marginal systems/procedural knowledge. Slow to analyze problems or apply proper corrective actions. Did not effectively use checklist and/or available aids. Minor omissions or deviations in describing the location, use and limitations of emergency equipment.

2.3.5.3. 3. Unsatisfactory systems/procedural knowledge. Failed to analyze problem or take corrective action. Failed to accomplish required checklists and/or unable to locate information in available aids. Major omissions or deviations in describing the location, use and limitations of emergency equipment.

2.3.6. Area 6. Crew coordination.

2.3.6.1. Q. Provided direction or information when needed. Adapted to meet new situational demands and focused attention on the task. Knowledgeable of other crew members assigned tasks. Asked for inputs, and made positive statements to motivate crew members.

2.3.6.2. Q-. Crew coordination was limited though adequate to accomplish the mission. Provided limited direction or information when needed. Slow to adapt to meet new situational demands due to limited focus on task. Did not consistently seek inputs from other crew members. Limited effort to motivate crew members through positive statements.

2.3.6.3. U. Did not provide direction or information when needed. Did not adapt to meet new situational demands and focus attention on the task. Did not seek inputs or made no effort to make positive statements to motivate crew members. Lack of crew coordination resulted in significant degradation of mission accomplishment.

2.3.7. Area 7. Mission Planning.

2.3.7.1. Q. Clearly defined the mission overview and mission goals. Provided specific information on required tasks. Solicited feedback from other crew members to ensure understanding of mission requirements. Thoroughly critiqued plans to identify potential problem areas and ensured all had understanding of possible contingencies. Checked all factors applicable to flight such as Flight Information Publication, weather, Notice to Airmen System, alternate airfields, flight logs, performance data, fuel requirements, and charts. When required, extract necessary information from air tasking order. Aware of the available alternatives if unable to complete the flight/mission as planned. Read and initialed all items in the Flight Crew Information File and unit read files.

2.3.7.2. Q-. Did not adequately define the mission overview and mission goals. Potential problem areas partially addressed or not at all. Did not adequately solicit feedback or critique the plans to ensure understanding of possible contingencies. Minor errors or omissions detracted from mission effectiveness, but did not affect mission accomplishment. Limited knowledge of performance capabilities or approved operating procedures or rules.

2.3.7.3. U. Did not define the mission overview and goals. Lack of specific information on required tasks. Did not solicit feedback from other crew members to ensure understanding. Did not critique plans to identify potential problem areas. Major errors or omissions would have prevented a safe or effective mission. Unsatisfactory knowledge of operating data or procedures.

2.3.8. Area 8. Knowledge of Directives.

2.3.8.1. Q. Prepared and completed mission in compliance with existing publications and directives. Demonstrated knowledge of operating procedures and restrictions and where to find them in the correct publications.

2.3.8.2. Q-. Minor deviations to procedures. Unsure of directives and/or had difficulty locating information in appropriate publications. Any instances of noncompliance did not jeopardize safety.

2.3.8.3. U. Unaware of procedures and/or could not locate them in the appropriate publication in a timely manner. Failed to comply with a procedure that could have jeopardized safety or mission success.

2.3.9. Area 9. Preflight.

2.3.9.1. Q. Completed aircraft systems preflight/inspections IAW aircraft operating manuals, checklists, and publications. Individual technique complied with established procedures.

2.3.9.2. Q-. Minor deviations from established aircraft systems preflight/inspection. Individual technique was safe, but deviated from established procedures. Used individual technique instead of established procedure and was unaware of differences.

2.3.9.3. U. Failed to preflight critical component or could not conduct a satisfactory preflight/inspection. Individual techniques unsafe and/or in violation of established procedures.

2.3.10. Area 10. Use of Checklist.

2.3.10.1. Q. Consistently used correct checklist(s), gave correct responses and accomplished appropriate actions at the appropriate time throughout the mission.

2.3.10.2. Q-. Checklist responses were untimely and/or crew member required continual prompting for correct responses or action.

2.3.10.3. U. Used incorrect checklist(s) or consistently omitted checklist items. Was unable to identify the correct checklist to use for a given situation. Omitted or did not complete checklist(s) at the appropriate time.

2.3.11. Area 11. Forms/Reports/Logs.

2.3.11.1. Q. All required forms and/or flight plans were complete, accurate, legible, and accomplished on time IAW applicable directives. Relayed an accurate debrief of significant events to applicable agencies (Mission Planners, Intelligence, Weather, Maintenance, etc.).

2.3.11.2. Q-. Minor errors on forms and/or flight plans did not affect conduct of the flight/mission. Incorrectly or incompletely reported some information due to minor errors, omissions, and/or deviations.

2.3.11.3. U. Did not accomplish required forms and/or flight plans. Omitted or incorrectly reported significant information due to major errors or omissions.

2.3.12. Area 12. Personal/Professional Equipment/Flight Publications.

2.3.12.1. Q. Had all required personal and professional equipment. Displayed satisfactory knowledge of the care and use of such equipment and the contents of required publications. Required equipment inspections were current. Publications were current, contained all supplements or changes and were properly posted.

2.3.12.2. Q-. Did not have all required personal or professional equipment or had limited knowledge of the use or the content of required publications. Publications contained deficiencies that would not impact flight safety or mission accomplishment.

2.3.12.3. U. Did not have required personal or professional equipment essential for the mission. Unsatisfactory knowledge of the care and use of equipment or the content of required publications. Equipment inspections were overdue or equipment was unserviceable. Publications were outdated and/or contained deficiencies that would impact flight safety or mission accomplishment.

2.3.13. Area 13. Emergency and Life Support Equipment/Procedures.

2.3.13.1. Q. Satisfactory systems/procedural knowledge. Displayed satisfactory knowledge of location and use of emergency and life support equipment. Operated within prescribed limits and correctly diagnosed problems. Performed/explained proper wear, use, and corrective action for each type of equipment/malfunction. Effectively used available aids.

2.3.13.2. Q-. Marginal systems/procedural knowledge. Limited knowledge of location and use of emergency and life support equipment. Operated within prescribed limits, but was slow to analyze problems or apply proper corrective actions did not use effectively. Omitted, or deviated in use of checklist and/or available aids.

2.3.13.3. U. Unsatisfactory systems/procedural knowledge. Displayed unsatisfactory knowledge of emergency and life support equipment. Exceeded flight manual limitations. Unable or failed to analyze problem or take proper corrective action. Did not use checklist and/or available aids.

2.3.14. Area 14. Briefings/Debriefings.

2.3.14.1. Q. Ensured briefing contained all applicable information. Prepared at briefing time. Briefings effectively organized and professionally presented in a logical sequence. Presented all objectives, training events, and special interest items. Effectively used available briefing aids. Debriefed mission using specific, non-threatening positive and negative feedback of team and individual performance. Provided specific ways to correct errors. Asked for inputs from others. Re-capped key points and compared mission results with mission objectives.

2.3.14.2. Q-. Omitted items pertinent but not critical to the mission. Some difficulty communicating clearly. Did not make effective use of available briefing aids. Limited discussion of training events or special interest items. Dwelled on non-essential items. Not fully prepared for briefing. Debriefed mission without specific, non-threatening positive and negative feedback on individual and team performance. Did not consistently seek input from others. Incomplete or inadequate re-cap of key points and comparison of mission results to mission objectives.

2.3.14.3. U. Failed to conduct or attend required briefings. Failed to use appropriate briefing aids. Omitted essential items or did not correct erroneous information that could affect mission accomplishment. Demonstrated lack of knowledge of subject. Briefing poorly organized and not presented in a logical sequence. Presented erroneous information that would affect safe or effective mission accomplishment. Presentation created doubts or confusion. Failed to discuss training events or special interest items. Late crew transport due to excessively long briefing. Did not provide non-threatening positive and negative feedback during debriefing. Did not seek input from others. Did not re-cap key mission points nor compare mission results to mission objectives.

2.3.15. Area 15. Classified Material/Operations Security.

2.3.15.1. Q. Demonstrated thorough knowledge of communications security (COMSEC), operations security (OPSEC), and courier (if applicable) procedures. Had positive control of classified documents and information used throughout the mission. Properly stored, handled, and/or destroyed all classified or COMSEC material or information generated during the mission. Practiced sound COMSEC and OPSEC during all phases of the mission. Identified, requested and obtained all cryptological material required for the mission.

2.3.15.2. Q-. Limited knowledge of COMSEC or OPSEC procedures and/or courier procedures (if applicable). Limited knowledge of proper storage, handling, and destruction procedures would not have resulted in compromise of classified material or COMSEC, and did not impact mission accomplishment. Identified cryptological material required for mission, but was slow in requesting or obtaining material or did so only after being prompted.

2.3.15.3. U. Unsatisfactory knowledge of COMSEC or OPSEC. Classified documents, COMSEC or information would have been compromised as a result of improper control by examinee. Unfamiliarity with OPSEC procedures had or could have had a negative impact on mission accomplishment. Failed to identify, request or obtain all cryptological materials required for the mission.

2.3.16. Area 16. Antihijacking/Aircraft Security.

2.3.16.1. Q. Explained proper antihijacking and aircraft security procedures.

2.3.16.2. Q-. Difficulty explaining proper antihijacking and aircraft security procedures.

2.3.16.3. U. Could not explain proper antihijacking and aircraft security procedures.

2.3.17. Area 17. Communication.

2.3.17.1. Q. Communicated using precise, standard terminology. Acknowledged all communications. Asked for or provided clarification when necessary. Stated opinions or ideas. Asked questions when uncertain. Advocated specific courses of action. Did not let rank effect mission safety.

2.3.17.2. Q-. Unclear or incomplete communication led to repetition or misunderstanding. Slow to ask for or give constructive feedback or clarifications. Inconsistent use of precise, standard terminology. Did not always state opinions or ideas, ask questions when uncertain, or make positive statements to flight members.

2.3.17.3. U. Failed to communicate effectively. Continuously interrupted others, mumbled, and/or personal conduct or attitude was detrimental to communication among crew members. Withheld information and failed to solicit or respond to constructive criticism. Failed to use precise, standard terminology. Repeatedly failed to acknowledge communications. Did not state opinions, ask questions when unsure, or attempt to motivate flight members using positive statements.

2.3.18. Area 18. Risk Management/Decision Making.

2.3.18.1. Q. Identified contingencies and alternatives. Gathered and cross-checked relevant data before deciding. Clearly stated problems and proposed solutions.

Investigated doubts and concerns of crew members. Used facts to come up with solution. Involved and informed necessary crew members when appropriate. Coordinated mission and crew activities to establish a proper balance between command authority and crew member participation, and acted decisively when the situation required. Clearly stated decisions, received acknowledgement, and provided rationale for decisions.

2.3.18.2. Q-. Partially identified contingencies and alternatives. Made little effort to gather and cross-check relevant data before deciding. Did not clearly state problems and propose solutions. Did not consistently use facts to come up with solutions. Did not effectively inform crew members when appropriate. Did not effectively coordinate mission and crew activities to establish a proper balance between command authority and crew member participation, and acted indecisively at times.

2.3.18.3. U. Failed to identify contingencies and alternatives. Made no effort to gather and cross-check relevant data before deciding. Did not inform necessary crew members when appropriate. Did not use facts to come up with a solution. Avoided or delayed necessary decisions which jeopardized mission effectiveness. Did not coordinate mission and crew activities to establish a proper balance between command authority and crew member participation; acted indecisively.

2.3.19. Area 19. Task Management.

2.3.19.1. Q. Correctly prioritized tasks. Used available resources to manage workload. Asked for assistance when overloaded. Clearly stated problems and proposed solutions. Accepted better ideas when offered. Used facts to come up with solution. Clearly communicated and acknowledged workload and task distribution. Demonstrated high level of vigilance in both high and low workload conditions. Prepared for expected or contingency situations. Avoided the creation of self-imposed workload or stress. Recognized and reported work overloads in self and others.

2.3.19.2. Q-. Did not consistently and correctly prioritize tasks. Did not effectively use available resources to manage workload. Did not clearly communicate and acknowledge workload and task distribution. Did not consistently demonstrate a high level of vigilance in both high and low workload conditions. Slow to prepare for expected or contingency situations. Created some self-imposed workload or stress due to lack of planning. Slow to recognize and report work overloads in self and others.

2.3.19.3. U. Failed to correctly prioritize tasks. Did not use available resources to manage workload. Did not communicate and acknowledge workload and task distribution. Did not demonstrate a high level of vigilance in both high and low workload conditions. Extremely slow to prepare for expected or contingency situations. Created self-imposed workload or stress due to lack of planning. Failed to recognize and report work overloads in self and others.

Chapter 3

INSTRUCTOR EVALUATIONS

3.1. General. The instructor grading criteria apply to initial, requalification, and all periodic instructor evaluations. The examinee will demonstrate the ability to instruct in a safe and effective manner.

3.2. Requirements. Evaluate instructors on areas listed in **Table 3.1**. Instructor candidates must be qualified in all areas they will instruct. **(T-2).** Initial instructor evaluations may be a stand-alone evaluation or accomplished in conjunction with a periodic INSTM, QUAL, or MSN evaluation. Accomplish periodic instructor evaluations in conjunction with periodic INSTM, QUAL, or MSN evaluations IAW AFI 11-202V2, AFSOCSUP. When available, instructors and instructor candidates should be evaluated instructing actual students. Otherwise, the flight examiner may act as the student. A requalification instructor evaluation is required anytime an instructor is unqualified for any reason to include commander-directed downgrades. **(T-2).**

3.3. Instrument. INSTM instructor evaluations are required for each type aircraft. INSTM evaluations are not required for subsequent instructor evaluations in other than the instructor's most complex aircraft.

3.3.1. Initial/Requalification. Evaluate instructor candidates on instructor performance during a representative sample of unit's basic maneuvers. All INSTM items listed in **Table 4.1** will be evaluated. Exception: If the instructor candidate is not within their evaluation eligibility period IAW AFI 11-202V2, AFSOCSUP, the candidate's instructional ability may be evaluated while the INSTM items in **Table 4.1** are flown by a student under their supervision. Only one non-precision approach is required. A minimum of one instrument approach will be flown by the candidate. Evaluate instructor pilot candidate's instructional ability during a representative sample of emergency and instrument procedures.

3.3.2. Periodic. Qualified instructors will be evaluated to instructor standards during all periodic evaluations.

3.4. Qualification. Qualification instructor evaluations are required for each type aircraft.

3.4.1. Initial/Requalification. Evaluate instructor candidates on instructor performance during a representative sample of emergency and qualification procedures. Flight examiners will ensure all QUAL items listed in **Table 4.1** will be evaluated for instructor pilot candidates. Flight examiners will ensure all items listed in **Table 5.1** will be evaluated for instructor loadmaster candidates. **(T-2).** Exception: If the instructor candidate is not within their evaluation eligibility period IAW AFI 11-202V2, AFSOCSUP, the candidate's instructional ability may be evaluated while the required items are accomplished by a student under their supervision. Regardless, instructor pilot candidates will fly a minimum of one takeoff and each flap setting landing from the right seat. **(T-2).**

3.4.2. Periodic. Qualified instructors will be evaluated to instructor standards during all periodic evaluations.

3.5. Mission. Mission instructor evaluations are required for each type aircraft. Evaluate instructional ability during a representative sample of unit's mission events. If mission qualified, all initial and requalification instructor evaluations require the examinee to instruct during a

mission event. Pilots must be aircraft commander qualified in a special mission prior to receiving instructor qualification/certification in that mission. **(T-2).** For loadmasters MSN qualified in a second aircraft, the instructor qualification will also apply to the secondary aircraft.

3.5.1. Initial/Requalification. Accomplish the initial mission instructor evaluation on a mission that permits accomplishment of all required instructor areas and a sampling of events seen on a routine mission sortie. All items listed in **Table 4.2** will be evaluated for instructor pilot candidates. All items listed in **Table 5.1** will be evaluated for instructor loadmaster candidates. Exception: If the instructor candidate is not within their evaluation eligibility period IAW AFI 11-202V2, AFSOCSUP, the candidate's instructional ability may be evaluated while the required items are accomplished by a student under their supervision. Instructor pilot candidates will fly a minimum of one Night Vision Goggle (NVG) takeoff and NVG landing. **(T-3).**

3.5.2. Periodic. Qualified instructors will be evaluated to instructor standards during all periodic evaluations.

Table 3.1. Instructor Evaluation Grading Areas (All Crew Positions).

AREA	GRADING AREAS
20	Mission Preparation
21	Instructional Ability
22	Instructor Knowledge
23	Briefings/Debriefings/Critique
24	Demonstration of Maneuvers/Procedures
25-29	Reserved for future use

3.6. Instructor Grading Criteria.

3.6.1. Area 20. Mission Preparation.

3.6.1.1. Q. Thoroughly reviewed student's training documentation. Ascertained student's present level of training. Assisted student in pre-mission planning and allowed student time for questions. Correctly prioritized training events. Gave student a clear idea of mission training objectives.

3.6.1.2. Q-. Did not thoroughly review student's training folder or correctly ascertain student's present level of training. Caused student to hurry pre-mission planning. Poorly prioritized training events. Training plan/scenario made poor use of time.

3.6.1.3. U. Did not review student's training folder. Did not ascertain student's present level of training. Did not assist student with pre-mission planning or did not allow time for questions. Did not prioritize training events. Failed to give student a clear idea of mission training objectives, methods, and sequence of events.

3.6.2. Area 21. Instructional Ability.

3.6.2.1. Q. Demonstrated proper instructor ability and communicated effectively. Provided appropriate guidance when necessary. Planned ahead, and provided accurate, effective, and timely instruction. Identified and corrected potentially unsafe maneuvers or situations.

3.6.2.2. Q-. Problems in communication or analysis degraded effectiveness of instruction. Accomplished the above tasks with minor discrepancies that did not affect safety or adversely affect student progress.

3.6.2.3. U. Failed to effectively communicate or provide timely feedback. Performed or taught improper procedures/techniques/tactics to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe maneuvers/situations in a timely manner. Made no attempt to instruct.

3.6.3. Area 22. Instructor Knowledge.

3.6.3.1. Q. Demonstrated a high level of knowledge of all applicable aircraft systems, techniques, procedures, missions, publications, and tactics to be performed. Completed appropriate training records accurately. Comments were clear and pertinent.

3.6.3.2. Q-. Minor errors/deficiencies in knowledge of above areas did not affect safety or adversely affect student progress. Minor errors or omissions in training records. Comments were incomplete or slightly unclear.

3.6.3.3. U. Lack of knowledge of publications or procedures seriously detracted from instructor effectiveness. Could not apply knowledge of above areas. Did not complete required forms or records. Comments were invalid, unclear, or did not accurately document performance.

3.6.4. Area 23. Briefings/Debriefings/Critique.

3.6.4.1. Q. Briefings/Debriefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed. Showed an excellent ability during the critique to reconstruct the flight, offer mission analysis, and provide guidance where appropriate. Training grade reflected the actual performance of the student relative to the standard. Pre-briefed the student's next mission, if required.

3.6.4.2. Q-. Minor errors or omissions in briefings and/or critique did not affect safety or adversely affect student progress.

3.6.4.3. U. Briefings/debriefings were marginal or non-existent; major errors or omissions in briefings/debriefings. Did not review students past performance. Analysis of events or maneuvers was incomplete, inaccurate, or confusing. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required.

3.6.5. Area 24. Demonstration of Maneuvers/Procedures.

3.6.5.1. Q. Effectively demonstrated procedures and techniques. Provided concise, meaningful, and timely in-flight commentary. Had thorough knowledge of applicable aircraft systems, procedures, publications, and instructions.

3.6.5.2. Q-. Performed required maneuvers or procedures with minor deviations from prescribed parameters. In-flight commentary was sometimes unclear or poorly timed,

interfering with student performance. Discrepancies in the above areas did not adversely affect safety or student progress.

3.6.5.3. U. Failed to properly perform required maneuvers or procedures. Made major procedural errors. Did not provide in-flight commentary and/or in-flight commentary was incorrect or unsafe. Insufficient knowledge of aircraft systems, procedures, and/or proper source material.

3.6.6. Area 25-29. Reserved for future use.

Chapter 4

PILOT/COPILOT EVALUATIONS

4.1. General. All pilots and copilots require an Instrument (INSTM) and qualification (QUAL) evaluation. MSN qualified pilots/copilots require a MSN evaluation. Copilots will be evaluated to the same standard as pilots unless specified otherwise. Pilot crew coordination will include duties and responsibilities expected of an aircraft commander. Copilot crew coordination will not include duties and responsibilities expected of an aircraft commander. Instructors will demonstrate instructor duties on all periodic evaluations. INSTM, QUAL, and MSN evaluations may be combined IAW AFI 11-202V2, to promote efficient use of aircraft and resources.

4.2. Requirements. Refer to **Chapter 2** for general and **Chapter 3** for instructor grading areas and criteria. Required areas and criteria for pilots/copilots are covered in this chapter.

4.3. Instrument (INSTM). INSTM evaluations are normally flown concurrently with QUAL evaluations. See **Table 4.1** for required INSTM evaluation areas. Requisites (prerequisites for initial or requalification evaluations) include the Instrument examination.

4.3.1. The evaluation profile will include: One precision approach; one non-precision approach; holding or procedure turn; circling pattern; missed approach; and a simulated engine-out approach.

4.3.2. Initial/Requalification. All initial and requalification evaluations will be INSTM evaluations. The Instrument Examination is a prerequisite for initial evaluations. The examinee will attend the Instrument Refresher Course (IRC) prior to taking the Instrument Examination. **(T-3).**

4.3.3. Periodic. A periodic INSTM evaluation is normally flown concurrently with periodic QUAL evaluations. See **Paragraph 4.3** for multi-qualification guidance.

4.4. Qualification. See **Table 4.1** for required QUAL evaluation areas. Requisites (prerequisites for initial or requalification evaluations) include QUAL Open and Closed Book examinations (or Formal School End of Course examinations), Boldface/CAPS, and EPE. This evaluation is normally accomplished in combination with an INSTM evaluation.

4.4.1. The evaluation profile will include: Visual Flight Rules (VFR) pattern; Full, Partial and No-flap landings; touch-and-go procedures; and simulated engine-out approach, go-around, and landing. **(T-2).**

4.4.2. Initial/Requalification and Periodic. Pilots qualified in more than one aircraft require both an initial and periodic QUAL evaluation for each aircraft in which currency is maintained. **(T-2).**

4.5. Mission. See **Table 4.2** for MSN evaluation areas and subparagraph below for requirements. Requisites (prerequisites for initial or requalification evaluations) include Open and Closed Book examinations (or Formal School End of Course examinations) and EPE. Pilots mission qualified in more than one aircraft require both an initial and periodic MSN evaluation for each aircraft in which currency is maintained. For Initial/Requalification/Periodic evaluations the profile will include a tactical departure, tactical recovery, airdrop, NVG pattern, NVG go-around, NVG short field takeoff, and NVG short field landing. For pilots/copilots that are low-level

qualified, the MSN evaluation will also include a 30 minute (minimum) low-level route, a timed event (time over target (TOT) for airdrop, time of arrival (TOA) for airland). **(T-2).**

Table 4.1. Pilot/Copilot INSTM/QUAL Grading Areas.

AREA	NOTES	GRADING AREAS	QUAL	INSTM
30		Ground Operations & Taxi	X	
31		Takeoff	X	
32		Instrument Departure		X
33		En Route Navigation/Use of Navigational Aids		X
34		Descent & Arrival Procedures		X
35		Holding or Procedure Turn		X
36	1, 2	Precision Approach		X
36a		Precision Approach Radar (PAR)		X
36b		Instrument Landing System (ILS)		X
37	1, 2	Non-precision Approach		
37a		Area Navigation (RNAV)/Global Positioning System (GPS)		X
37b		VHF Omnidirectional Range (VOR)		X
37c		Localizer (LOC)		X
37d		Non-directional Beacon (NDB)		X
37e		Airborne Surveillance Radar (Center of Gravity (CG)		X
38		Circling or Side-step Approach		X
39		Missed Approach or Go-around		X
40		Simulated Engine-out Approach		X
41		Simulated Engine-out Go-around	X	

42		VFR Pattern	X	
43		Final Approach and Landing	X	X
43a		Full Flap Landing	X	
43b		Partial Flap Landing	X	
43c		No Flap Landing	X	
43d		Simulated Engine-out Landing	X	
43e		Touch-and-go Landing	X	
44		Fuel Conservation	X	
45		Systems Operation/ Knowledge/ Limitations/ National Airspace System (NAS)	X	X
46-49		Reserved for future use		

Notes:

1. Only one of the required approaches may be controller directed PAR or Airborne Surveillance Radar (ASR).

2. Any one required.

Table 4.2. Pilot MSN Grading Areas.

AREA	GRADING AREAS	MSN	Special Qual
50	En Route Navigation	X	
51	Landing Zone (LZ)/Drop Zone (DZ) Alignment	X	
52	Threat Avoidance & Tactics	X	
53	Tactical Departure	X	
54	Tactical Recovery	X	
55	Short Field Takeoff	X	
56	Short Field Landing	X	
57	NVG Airland	X	
58	Airdrop Procedures	X	
59	Systems Operations/Knowledge/Limitations	X	
60	Authentication/Encode-Decode Procedures	X	

61	NVG Low-Level Operations		X
62	Formation		X
62-69	Reserved for future use		

Table 4.3. General Criteria.

Q	Altitude	± 100 feet
	Airspeed	+10/-5 Knots Indicated Airspeed (KIAS) (but not less than Vmca)
	Course	± 5 degrees/2 Nautical Miles (nm) (whichever is greater)
	Arc	±1 nm
Q-	Altitude	± 200 feet
	Airspeed	+15/-10 KIAS (but not less than Vmca)
	Course	± 10 degrees/5 nm (whichever is greater)
	Arc	±2 nm
U		Exceeded Q- limits

4.6. Grading Criteria. The following subparagraphs contain grading criteria for the areas listed in **Table 4.1** and **Table 4.2**. The general criteria in **Table 4.3** apply during all phases of flight except as NOTED in specific areas and instrument final approaches.

4.6.1. Area 30. Ground Operations/Taxi.

4.6.1.1. Q. Established and adhered to station, start engine, taxi, and takeoff time to assure thorough preflight, check of personal equipment, crew and/or passenger briefings, etc. Accurately determined readiness of aircraft for flight. Completed all systems preflight and postflight inspections, and checklists IAW flight manual. Conducted taxi operations according to flight manual, AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, and local procedures.

4.6.1.2. Q-. Same as above except for minor procedural deviations that did not detract from mission effectiveness.

4.6.1.3. U. Failed to accurately determine readiness of aircraft for flight. Major deviations in procedure that would preclude safe mission accomplishment. Crew errors directly contributed to a late takeoff that degraded the mission or made it ineffective. Omitted checklist items.

4.6.2. Area 31. Takeoff.

4.6.2.1. Q. Maintained smooth, positive aircraft control throughout takeoff. Performed takeoff in accordance with flight manual and as published or directed.

4.6.2.2. Q-. Minor deviations from published procedures without effecting safety of flight. Aircraft control was safe but not consistently smooth and positive. Hesitant in application of procedures or corrections.

4.6.2.3. U. Takeoff was potentially dangerous. Exceeded aircraft or systems limitations. Failed to establish proper climb attitude. Excessive deviation from intended flight path. Violated flight manual procedures. Exceeded Q- criteria.

4.6.3. Area 32. Instrument Departure.

4.6.3.1. Q. Performed departure IAW published procedures and directives. Complied with all restrictions or controlling agency instructions. Made all required reports. Applied course and heading corrections promptly. Demonstrated smooth, positive aircraft control.

4.6.3.2. Q-. Minor deviations in navigation occurred during departure. Slow to comply with controlling agency instructions or unsure of reporting requirements. Slow to apply course and heading corrections. Aircraft control was not consistently smooth and positive.

4.6.3.3. U. Instrument departure was not in accordance with technical orders, directives, or published procedures. Failed to comply with published or directed departure, or controlling agency instructions. Accepted an inaccurate clearance. Aircraft control was erratic.

4.6.4. Area 33. En Route Navigation/Use of Navigational Aids.

4.6.4.1. Q. Able to navigate using all available means. Used appropriate navigation procedures. Ensured navigational aids were properly tuned, identified, and monitored. Input correct flight plan or changes in airframe (GPS, Flight Management System (FMS), etc.). Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.

4.6.4.2. Q-. Minor errors in procedures or use of navigation equipment. Some deviations in tuning, identifying, and monitoring navigational aids or changing information in flight management system (GPS, FMS, etc.) were observed. Slow to comply with clearance instructions. Had some difficulty in establishing exact position and course. Slow to adjust for deviations in time and course.

4.6.4.3. U. Major errors in procedures/use of navigation equipment. Did not ensure navigational aids were tuned, identified, and monitored. Input incorrect flight plan or changes in airframe flight management system (GPS, FMS, etc.). Could not establish position. Failed to recognize checkpoints or adjust for deviations in time and course. Did not remain within the confines of assigned airspace. Exceeded Q- criteria.

4.6.5. Area 34. Descent and Arrival Procedures.

4.6.5.1. Q. Performed descent as directed. Complied with all flight manual, NAS or controller issued, or Standard Terminal Arrival restrictions in a proficient manner. Accomplished all required checks.

4.6.5.2. Q-. Performed descent as directed with minor deviations that did not compromise mission safety. Slow to comply with controller instructions and accomplish required checks.

4.6.5.3. U. Performed descent with major deviations. Failed to follow controller instructions or made erratic corrections. Exceeded flight manual limitations or did not accomplish required checks.

4.6.6. Area 35. Holding or Procedure Turn.

4.6.6.1. Q. Performed entry and holding in accordance with published procedures and directives. Holding pattern limits exceeded by not more than:

4.6.6.1.1. VOR Leg timing: ± 15 seconds.

4.6.6.1.2. VOR/Distance Measuring Equipment (DME): ± 1 nm

4.6.6.1.3. RNAV/GPS: ± 1 nm.

4.6.6.2. Q-. Performed entry and holding procedures with minor deviations. Holding pattern limit exceeded by not more than:

4.6.6.2.1. VOR Leg timing: ± 30 seconds.

4.6.6.2.2. VOR/DME: ± 2 nm

4.6.6.2.3. RNAV/GPS: ± 2 nm.

4.6.6.3. U. Holding was not in accordance with technical orders, directives, or published procedures. Exceeded Q- holding pattern limits.

4.6.7. Area 36. Precision Approach. **Note:** Use the following criteria for Areas 31a and 31b. Use the following criteria as general tolerances for airspeed, altitude, heading, glide slope, and azimuth. Airspeed tolerances are based on computed or briefed approach speed.

4.6.7.1. Q.

4.6.7.1.1. Airspeed: + 10/-2 KIAS

4.6.7.1.2. Heading: ± 5 degrees of controller's instructions (PAR).

4.6.7.1.3. Glide slope: Within one dot (ILS).

4.6.7.1.4. Azimuth: Within one dot (ILS).

4.6.7.2. Q-.

4.6.7.2.1. Airspeed: + 15/-5 KIAS.

4.6.7.2.2. Heading: ± 10 degrees of controller's instructions (PAR).

4.6.7.2.3. Glide slope: Within one dot low, two dots high (ILS), after runway was in sight examinee momentarily deviated below glide path but corrected for a safe landing (duck under).

4.6.7.2.4. Azimuth: Within two dots (ILS).

4.6.7.3. U.

4.6.7.3.1. Exceeded Q- criteria.

4.6.7.4. Area 36a. PAR.

4.6.7.4.1. Q. Approach was IAW flight manual, directives and published procedures. Smooth and timely response to controller's instructions. Established initial glide path and maintained glide slope with minor deviations. Complied with decision height. Position would have permitted a safe landing. Elevation did not exceed slightly above or slightly below glide path.

4.6.7.4.2. Q-. Performed approach with minor deviations. Slow to respond to controllers instructions and make corrections. Position would have permitted a safe landing. Elevation did not exceed well above or well below glide path.

4.6.7.4.3. U. Approach not IAW flight manual, directives, or published procedures. Erratic course and glide slope corrections. Did not make corrections or react to controller's instructions. Did not comply with decision height and/or position would not have permitted a safe landing. Exceeded Q- limits.

4.6.7.5. Area 36b. (ILS).

4.6.7.5.1. Q. Approach was IAW flight manual, directives, and published procedures. Smooth and timely corrections to azimuth and glide slope. Complied with decision height and position permitted a safe landing.

4.6.7.5.2. Q-. Performed procedures with minor deviations. Slow to make corrections or initiate procedures. Slow to comply with decision height. Position would have permitted a safe landing.

4.6.7.5.3. U. Approach not IAW flight manual, directives, or published procedures. Erratic course/glide slope corrections. Did not comply with decision height or position would not have permitted a safe landing. Exceeded Q- criteria.

4.6.8. Area 37. Non-Precision Approach. **Note:** Use the following criteria for Areas 37a-37e. Use the following criteria as general tolerances for airspeed, altitude, heading, and azimuth. Airspeed tolerances are based on computed or briefed approach speed.

4.6.8.1. Q. Approach was IAW flight manual, directives, and published procedures. Used appropriate descent rate to arrive at Minimum Descent Altitude (MDA) at or before Visual Descent Point . Position permitted a safe landing. Smooth and timely response to controller's instructions (ASR).

4.6.8.1.1. Airspeed: +10/-2 KIAS.

4.6.8.1.2. Heading: ±5 degrees (ASR).

4.6.8.1.3. Course: ±5 degrees at missed approach point (MAP) (RNAV/GPS, VOR, NDB)

4.6.8.1.4. LOC: less than one dot deflection.

4.6.8.1.5. MDA: +100/-0 feet.

4.6.8.1.6. MAP: Timing computed/adjusted within 10 seconds or distance within ± .5 nm.

4.6.8.2. Q-. Performed approach with minor deviations. Arrived at MDA at or before the MAP, but past the Visual Descent Point. Position would have permitted a safe landing. Slow to respond to controller's instructions and make corrections (ASR).

4.6.8.2.1. Airspeed: +15/-5 KIAS.

4.6.8.2.2. Heading: ± 10 degrees (ASR).

4.6.8.2.3. Course: ± 10 degrees at MAP (RNAV/GPS, VOR, NDB).

4.6.8.2.4. LOC: Within two dots deflection.

4.6.8.2.5. MDA: +150/-50 feet.

4.6.8.2.6. MAP: Timing computed/adjusted within 20 seconds or distance within + 1/- .5 nm.

4.6.8.3. U. Approach not IAW flight manual, directives, or published procedures. Maintained steady-state flight below the MDA, even though the -50 foot limit was not exceeded. Could not land safely from approach and did not initiate missed approach/go-around when appropriate or directed. Exceeded Q- criteria.

4.6.8.4. Area 37a. Area Navigation (RNAV)/ (GPS).

4.6.8.5. Area 37b. VOR.

4.6.8.6. Area 37c. LOC .

4.6.8.7. Area 37d. NDB.

4.6.8.8. Area 37e. ASR.

4.6.9. Area 38. Circling or Sidestep Approach.

4.6.9.1. Q. Properly identified aircraft category for the approach and remained within the lateral limits for that category. Complied with controller's instructions. Attained runway alignment without excessive bank angles. Did not descend from the MDA until in a position to place the aircraft on a normal glide path or execute a normal landing.

4.6.9.1.1. Airspeed: +10/-2 KIAS.

4.6.9.1.2. Altitude: +100/-0 feet.

4.6.9.2. Q-. Slow to comply with controller's instructions. Attained runway alignment but occasionally required excessive bank angles or maneuvering.

4.6.9.2.1. Airspeed: +15/-5 KIAS.

4.6.9.2.2. Altitude: +150/-50 feet.

4.6.9.3. U. Did not properly identify aircraft category or exceeded the lateral limits of circling airspace. Did not comply with controller's instructions. Excessive maneuvering to attain runway alignment was potentially unsafe. Descended from the MDA before the aircraft was in position for a normal glide path or landing. Exceeded Q- criteria.

4.6.10. Area 39. Missed Approach or Go-Around.

4.6.10.1. Q. Executed missed approach IAW published procedures and restrictions. Initiated and performed go-around promptly. Complied with controller's instructions. Applied smooth control inputs. Attained and maintained a positive climb.

4.6.10.2. Q-. Executed missed approach with minor deviations to published procedures/ directives. Was slow or hesitant to initiate go-around. Slow to respond to controller's instructions. Slightly overcontrolled the aircraft.

4.6.10.3. U. Did not execute missed approach IAW technical orders, directives or published procedures. Did not comply with controller's instructions. Deviations or misapplication of procedures could have led to an unsafe condition. Exceeded Q- criteria.

4.6.11. Area 40. Simulated Engine-Out Approach. **Note:** Use approach criteria for the type of approach being flown and the following.

4.6.11.1. Q. Performed procedures IAW the flight manual and associated directives. Individual technique complied with established procedures. Aircraft was properly trimmed for flight operations. Proper control inputs were used to correct asymmetric conditions and proper consideration was given to maneuvering with regard to the "dead" engine.

4.6.11.2. Q-. Minor deviations in procedures or aircraft control allowed the aircraft to occasionally be in uncoordinated flight. Unnecessary maneuvering due to minor errors in planning or judgment.

4.6.11.3. U. Major or unsafe deviations from procedures. Individual technique unsafe or violated established procedures. Aircraft was not properly trimmed for flight operations. Aircraft control consistently resulted in uncoordinated flight. Potentially unsafe maneuvering with regard to the "dead" engine. Exceeded Q- criteria.

4.6.12. Area 41. Simulated Engine-Out Go-Around. **Note:** Use **Area 34** criteria and the following.

4.6.12.1. Q. Applied smooth, coordinated control inputs. Rudder and aileron inputs were in the correct direction or application. Maneuvered appropriately with regard to the "dead" engine. Individual technique complied with established procedures.

4.6.12.2. Q-. Rudder and aileron inputs were in correct direction or application with some over or under control. Individual techniques were safe, but detracted from the maneuver.

4.6.12.3. U. Rudder and/or aileron inputs were incorrect. Maneuvering with regard to the "dead" engine potentially unsafe. Failed to comply with or consider minimum control speeds. Individual technique unsafe or violated established procedures. Exceeded Q- criteria.

4.6.13. Area 42. VFR Pattern.

4.6.13.1. Q. Adhered to published restrictions, procedures, or local guidance. Performed traffic pattern and turn to final/final approach IAW flight manual procedures. Aircraft control was smooth and positive. Did not over/undershoot final approach. Constantly cleared area of intended flight.

4.6.13.2. Q-. Minor deviations from published restrictions/local guidance. Performed traffic pattern and turn to final/final approach with minor deviations to procedures. Aircraft control was safe but not consistently smooth and positive. Over/undershot final approach

slightly but was able to intercept a normal glide path. Adequately cleared area of intended flight.

4.6.13.3. U. Major/unsafe deviations from published restrictions/local guidance. Did not perform traffic pattern and turn to final/final approach IAW technical orders, directives or published procedures. Displayed erratic aircraft control. Over/undershot final approach by a wide margin requiring a go-around or potentially unsafe maneuvering on final. Did not clear area of intended flight. Exceeded Q- criteria.

4.6.14. Area 43. Final Approach and Landing.

4.6.14.1. Areas 43a through 43e. Use the following criteria. **Note:** The following criteria apply to all landings. Flight examiners must apply these criteria judiciously to allow for the unique characteristics of each type of landing. Where runway configuration, arresting cable placement, or flight manual limitations require an adjustment to the desired touchdown point, a simulated runway threshold will be identified and the grading criteria applied accordingly. For instrument approaches, the examinee should utilize a normal glide slope from either the decision height or from a point where visual acquisition of the runway environment is made. Specific items to evaluate include threshold altitude/airspeed, runway alignment, flare, touchdown speed, and landing crab.

4.6.14.1.1. Q. Performed landing as published/directed IAW flight manual. Crossed threshold at the proper airspeed +10/-0 knots in the proper attitude. Smooth and positive aircraft control throughout the round out and flare. Touched down with no crab, and not more than 25% of the wheel track left or right of centerline. Complied with flight manual procedures for the use of brakes and reverse thrust. Met the following criteria:

4.6.14.1.1.1. Touchdown Speed (if applicable): ± 5 KIAS.

4.6.14.1.1.2. Touchdown Point: Past threshold and within 500 feet of intended touchdown point.

4.6.14.1.2. Q-. Performed landing with minor deviations to procedures as published/directed. Crossed threshold at reference speed (Vref) +15/-5 KIAS slightly high or low but no compromise of safety. Touched down not more than 50% of the wheel track left or right of centerline. Exceeded Q criteria but not the following:

4.6.14.1.2.1. Touchdown Speed (if applicable): +10/-5 KIAS.

4.6.14.1.2.2. Touchdown Point: Past threshold and within 1,000 feet of intended touchdown point.

4.6.14.1.3. U. Landing not performed as published/directed. Exceeded Q- criteria. Failed to comply with flight manual procedures for the use of brakes and reverse thrust. Exceeded Q- criteria.

4.6.14.2. Area 43a. Full Flap Landing.

4.6.14.3. Area 43b. Partial Flap Landing.

4.6.14.4. Area 43c. No Flap Landing.

4.6.14.5. Area 43d. Simulated Engine-out Landing.

4.6.14.6. Area 43e. Touch-and-go Landing.

4.6.15. Area 44. Fuel Conservation.

4.6.15.1. Q. Possessed a high level of knowledge of all applicable aircraft publications and other governing directives, and understood how to apply both to enhance fuel conservation. Successfully applied fuel conservation procedures during the mission.

4.6.15.2. Q-. Possessed some knowledge of applicable aircraft publications and other governing directives, and understood how to apply both to enhance fuel conservation. Successfully applied some fuel conservation procedures, but missed several opportunities to apply fuel conservation procedures during the mission.

4.6.15.3. U. Unaware of fuel conservation procedures. Failed to apply any fuel conservation procedures during the mission.

4.6.16. Area 45. Systems Operation/Knowledge/Limitations/ NAS.

4.6.16.1. Q. Demonstrated/explained a complete knowledge of aircraft systems operations/ limitations and proper procedural use of systems. Demonstrated complete knowledge of, and complied with NAS rules and procedures in all areas of mission planning and flight operations.

4.6.16.2. Q-. Marginal knowledge of aircraft systems operations and limitations in some areas. Used individual technique instead of established procedures, and was unaware of differences. Marginal knowledge of NAS rules and procedures.

4.6.16.3. U. Unsatisfactory systems knowledge. Failed to demonstrate/explain the procedures for aircraft system operations. Unsatisfactory knowledge of NAS rules and procedures.

4.6.17. Area 46-49. Reserved for future use.

4.6.18. Area 50. En Route Navigation.

4.6.18.1. Q. Planned and flew a route to minimize risk to aircrew and aircraft for a given mission using NVG procedures when applicable IAW governing directives and appropriate Tactics, Techniques, and Procedures (TTP). Flew appropriate profile for terrain, environmental, and threat conditions. Able to navigate using all available means. Used appropriate navigation procedures. Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.

4.6.18.2. Q-. Minor deviations from TTP and airspeed profile. Minor errors in procedures or use of navigation equipment. Slow to comply with clearance instructions. Had some difficulty in establishing exact position or course. Slow to adjust for deviations in time control and course.

4.6.18.3. U. Flew consistently below established minimums IAW governing directives. Major or unsafe deviations from established directives and appropriate TTP. Major errors in procedures or use of navigation equipment. Could not establish position. Failed to recognize checkpoints or adjust for position deviations from course. Did not remain within the confines of assigned airspace. Exceeded Q- criteria.

4.6.19. Area 51. (LZ)/ (DZ) Alignment.

4.6.19.1. Q. Correctly identified the LZ/DZ and made appropriate corrections to proper track. Flight track was IAW mission plan or as updated by flight crew.

4.6.19.1.1. Airspeed: ±5 KIAS

4.6.19.1.2. Altitude: +50/-0 feet

4.6.19.2. Q-. Identified the LZ/DZ late despite clear markings or sufficient landmarks. Alignment was satisfactory but approach course was angled off proper flight track.

4.6.19.2.1. Airspeed: +10/-5 KIAS

4.6.19.2.2. Altitude: +100/-50 feet

4.6.19.3. U. Unable to identify LZ/DZ due to poor technique or pilot error. Did not fly proper alignment or unaware of alignment error. Mission not accomplished due to poor LZ/DZ acquisition, alignment, or deviation from procedures, caused by pilot error or omission. Did not recognize a go-around or no-drop situation. Exceeded Q- criteria.

4.6.20. Area 52. Threat Avoidance and Tactics.

4.6.20.1. Q. Able to formulate a plan of action to avoid the lethal range of a given threat system. Executed the proper evasive maneuver in a timely manner when given an immediate threat. Adequately analyzed and degraded all threats, ensuring effective mission accomplishment. Demonstrated satisfactory knowledge of defensive systems/tactics. Aware of appropriate tactics to avoid threats and exposure.

4.6.20.2. Q-. Made minor errors in avoiding the lethal range of a given threat system, which did not compromise mission accomplishment. Slow to execute the proper evasive maneuver. Minor errors in threat analysis or tactics selection. Limited knowledge of defensive systems.

4.6.20.3. U. Did not avoid the lethal range of a given threat system. Did not execute an effective evasive maneuver when given an immediate threat. Failed to ensure mission effectiveness by not adequately analyzing or degrading threat(s). Not aware of appropriate tactics for specific threats or terrain. Knowledge of defensive systems was unsatisfactory.

4.6.21. Area 53. Tactical Departure.

4.6.21.1. Q. Followed procedures as briefed and IAW flight manual, directives, or published procedures. Displayed smooth, positive control throughout the departure. Gave proper consideration to threat location and adjusted departure accordingly. Constantly cleared area of intended flight.

4.6.21.2. Q-. Performed departure with minor deviations to published procedures. Aircraft control was not consistently positive and smooth.

4.6.21.3. U. Departure not performed IAW flight manual, directives, or published procedures. Displayed erratic aircraft control. Failed to consider threat location or proximity and/or maneuvering could have placed the aircraft within the lethal range of a given threat system. Did not clear the area of intended flight.

4.6.22. Area 54. Tactical Recovery. **Note:** Includes penetrations, overheads, downwind, random steep/shallow, etc.

4.6.22.1. Q. Followed procedures as briefed and IAW flight manual, directives, or published procedures. Displayed smooth, positive control throughout the recovery. Positioned aircraft to intercept glide path for normal landing. Gave proper consideration to threat location and adjusted pattern accordingly. Constantly cleared area of intended flight.

4.6.22.2. Q-. Performed recovery with minor deviations to published procedures. Aircraft control was not consistently positive and smooth. Over/undershot final approach slightly, but was able to intercept glide path for normal landing.

4.6.22.3. U. Recovery not performed IAW flight manual, directives, or published procedures. Displayed erratic aircraft control. Over/undershot final approach, requiring a go-around or potentially unsafe maneuvering to intercept final. Failed to consider threat location or proximity and/or maneuvering could have placed the aircraft within the lethal range of a given threat system. Did not clear area of intended flight.

4.6.23. Area 55. Short Field Takeoff.

4.6.23.1. Q. Displayed satisfactory knowledge of short field procedures. Thoroughly analyzed departure/landing runway and surrounding terrain. Reviewed all applicable Takeoff and Landing Data (TOLD) and thoroughly briefed crew on their duties. Maintained smooth positive control throughout departure roll and takeoff. Climbed on speed and decreased angle of attack once clear of obstacle(s).

4.6.23.2. Q-. Minor deviations in knowledge or published procedures. Minor errors or omissions in TOLD or crew briefing. Control inputs were abrupt. Minor deviations from published/briefed procedures did not jeopardize safety.

4.6.23.3. U. Procedures not IAW flight manual, directives, or published procedures. Failed to analyze landing zone constraints or verbalize concerns posed by terrain or other factors. Major errors in TOLD data review or crew briefing. Displayed unsatisfactory knowledge of short field procedures. Takeoff was not IAW with flight manual, directives, or published procedures. Raised flaps too quickly with relation to airspeed. Performance of maneuver jeopardized safety.

4.6.24. Area 56. Short Field Landing.

4.6.24.1. Q. Adhered to published procedures. Maintained smooth approach path. Used proper aim points with positive corrections, as necessary. Touched down on centerline within the zone (marked or pre-briefed point) without excessive bouncing or crab. Maintained runway centerline during rollout. Stopped at pre- briefed location or exited the runway at pre-briefed location. Airspeed: Vref ± 5 KIAS.

4.6.24.2. Q-. Minor deviations to published procedures. Aim point/aircraft alignment wandered or corrections were not smooth or timely. Landed in zone but had excessive bouncing or crab. Touchdown/rollout was more than 25% of wheel track from centerline. Airspeed: Vref +10/-5 KIAS.

4.6.24.3. U. Touchdown short of the landing zone. Touchdown beyond the pre-briefed touchdown/go-around point and did not execute a go-around. Touchdown/rollout was more than 50% of wheel track from centerline. Failed to stop at pre-briefed location or exit the runway at pre-briefed location.

4.6.25. Area 57. NVG Airland. When evaluating pilots/copilots, use the following areas for detailed criteria:

4.6.25.1. Copilots:

4.6.25.1.1. Area 31 – Takeoff

4.6.25.1.2. Area 39 – Missed Approach or Go-Around

4.6.25.1.3. Area 43 – Final Approach and Landing

4.6.25.2. Pilots

4.6.25.2.1. Area 39 – Missed Approach or Go-Around.

4.6.25.2.2. Area 55 – Short Field Takeoff.

4.6.25.2.3. Area 56 – Short Field Landing.

4.6.25.3. Q. Takeoff, landing, and missed approach criteria listed were not exceeded. Displayed satisfactory knowledge of NVG Airland procedures. Thoroughly analyzed departure/landing runway and surrounding terrain.

4.6.25.4. Q-. Minor deviations in knowledge or published procedures. Errors did not affect safety or mission accomplishment.

4.6.25.5. U. Procedures not IAW flight manual, directives, or published procedures. Errors impacted safety or mission accomplishment.

4.6.26. Area 58. Airdrop Procedures.

4.6.26.1. Q. Complied with all published or briefed procedures. Correctly identified the DZ and made appropriate corrections to DZ run in course alignment. Course alignment was flown IAW briefed mission plan or as updated in-flight by aircrew. Aircraft configuration was correct for airdrop operations. Post DZ operation escape routing was executed IAW published or briefed procedures. For all drops at 300’ above ground level (AGL) or below, drop score of 300 meters or less. For all drops above 300’ AGL, add 15 meters for each 100’ above 300’ to a maximum of 500 meters. Regardless of previous guidance, airdrop must land within the area defined on the DZ survey. **Note:** In the unlikely event of a drop malfunction (load fails to exit or the load falls of the DZ or outside the above criteria due to mechanical chute error), the evaluator will determine if the load would have met the above parameters and will grade the evaluation accordingly.

4.6.26.1.1. Airspeed: ± 5 KIAS.

4.6.26.1.2. Altitude: +50/-0 feet.

4.6.26.2. Q-. Minor deviations in published or briefed procedures. Identified DZ late despite clear DZ markings or sufficient landmarks/ground references. Course alignment was satisfactory but approached or flown at an off angle to the proper course alignment. Minor errors in the escape routing but did not affect mission accomplishment. Exceeded Q criteria but still dropped within the area defined in the DZ survey.

4.6.26.2.1. Airspeed: ± 10 KIAS.

4.6.26.2.2. Altitude: +100/-50 feet.

4.6.26.3. U. Major deviations to published or briefed procedures which adversely effected mission accomplishment. Unable to identify DZ due to poor technique or pilot error. Did not fly proper course alignment or was unaware of alignment error. Mission not accomplished due to aircraft configuration, poor DZ acquisition, course alignment, or deviation from procedures caused by pilot error or omission. Did not recognize a no-drop situation. Exceeded Q- criteria. Off DZ drop.

4.6.27. Area 59. Systems Operation/Knowledge/Limitations.

4.6.27.1. Q. Demonstrated/explained a complete knowledge of aircraft systems operations/ limitations and proper procedural use of systems.

4.6.27.2. Q-. Marginal knowledge of aircraft systems operations and limitations in some areas. Used individual technique instead of established procedures and was unaware of differences. Could not complete the tasks in a timely manner.

4.6.27.3. U. Unsatisfactory systems knowledge. Failed to demonstrate/explain the procedures for aircraft systems operation.

4.6.28. Area 60. Authentication/Encode-Decode Procedures.

4.6.28.1. Q. Thorough knowledge of authentication/encode-decode materials and procedures. Correct/timely authentication procedures. Correct/timely encode-decode procedures when required. Correct authentication/encode-decode materials were always readily at hand.

4.6.28.2. Q-. Limited knowledge of authentication/encode-decode materials and procedures, which did not affect mission accomplishment. Correct but slow authentication which did not affect mission accomplishment. Correct but slow encode-decode procedures which did not affect mission accomplishment.

4.6.28.3. U. Unsatisfactory knowledge of authentication/encode-decode materials and procedures. Incorrect or excessively slow authentication. Failed to encode-decode when required. Authentication/encode-decode materials were not readily available or were incorrect.

4.6.29. Area 61. NVG Low-Level Operations.

4.6.29.1. Q. Planned and flew a route to minimize risk to aircraft and crew for a given mission using NVG procedures IAW governing directives and appropriate TTP. Avoided excessive or numerous low altitude warnings. Appropriately assisted other pilot with TOT/TOA control (±1.5 minutes). Maintained airspeed ±10 KIAS IAW crew member inputs. Flew appropriate profile for terrain and environmental conditions. Positively identified controlling terrain, turn points and key navigation points.

4.6.29.2. Q-. Had numerous low-altitude warnings but no significant compromise to safety. Minor deviations from TTP and airspeed profile. Minor errors in positive identification of controlling terrain, turn points or key navigation points which did not compromise safety or mission success. Better awareness of required timing events or en route time status could have avoided excessive, unplanned maneuvering. Maintained airspeed ± 20 KIAS IAW crew member inputs. TOT/TOA within ± 2 minutes.

4.6.29.3. U. Had excessive amount and/or excessively low altitude warnings. Major/unsafe deviations from established directives and appropriate TTP. Repeatedly failed to positively identify controlling terrain, turn points or key navigation points. Violated airspace restrictions. Poor airspeed control resulted in numerous or extreme airspeed adjustment. Excessive airspeed deviations from crew member input. Exceeded Q- criteria.

4.6.30. Area 62. Formation.

4.6.30.1. Q. Executed formation flying IAW directives and appropriate TTP in a safe and timely manner. Lead: Established and maintained appropriate formations utilizing published and briefed procedures. Smooth controls/power inputs and considered wingman. Planned ahead and made timely decisions. Wing: Maintained position IAW published and briefed procedures. Demonstrated smooth and immediate position corrections and maintained safe separation. Rejoins were smooth and timely.

4.6.30.2. Q-. Slow to execute procedures or accomplished maneuver with minor errors. Flight safety was not compromised. Lead: Made minor deviations from briefed or published procedures; maneuvered excessively making it difficult for wingman to maintain position; did not plan ahead or hesitant to make decisions. Wing: Minor deviations to published procedures. Slow to rejoin; varied position considerably.

4.6.30.3. U. Failed to execute procedures when required or executed maneuver in an unsafe manner. Lead: Flight not accomplished IAW published and/or briefed procedures. Continually rough on controls and/or maneuvered erratically causing wing-man to overrun formation; little wingman consideration; indecisive. Wing: Failed to maintain formation position; did not maintain safe separation. Rejoin unsafe.

4.6.31. Area 63-69. Reserved for future use.

Chapter 5

LOADMASTER EVALUATIONS

5.1. General. All loadmasters require QUAL and MSN evaluations. Instructors will demonstrate instructor duties on all periodic evaluations. **(T-2).** To promote efficient use of aircraft and resources, the QUAL and MSN evaluations may be combined IAW AFI 11-202V2.

5.2. Requirements. Refer to **Chapter 2** for general and **Chapter 3** for instructor grading areas and criteria. Loadmaster specific areas and criteria are listed in this chapter.

5.3. Qualification. See **Table 5.1** for required QUAL evaluation areas. Requisites (prerequisites for initial or requalification evaluations) include QUAL Open and Closed Book examinations (or Formal School End of Course examinations), Boldface/CAPs (if applicable), and an EPE. The EPE should cover areas applicable to the duties of a loadmaster on the aircraft being evaluated on to include the following: emergency signals, ground emergencies, in-flight emergencies, and landing emergencies.

5.3.1. Initial/Requalification and Periodic. In addition to **Table 5.1**, items listed in **Table 2.1** (and **Table 3.1** for instructors) will be evaluated on all QUAL evaluations. **(T-2)**. Loadmasters require an INIT QUAL and periodic evaluations for each aircraft that the loadmaster maintains a qualification status. Required events include a minimum of complete aircraft preflight, completion of Weight and Balance data, normal in-flight duties, and a complete aircraft post flight.

5.4. Mission. See **Table 5.1** for required MSN evaluation areas. Requisites (prerequisites for initial or requalification evaluations) include MSN Open and Closed Book examinations (or Formal School End of Course examinations), Boldface/CAPs (if applicable), and an EPE. The EPE should cover areas applicable to the duties of a loadmaster on the aircraft being evaluated on to include the following: emergency signals, ground emergencies, in-flight emergencies, and landing emergencies. Requalification evaluations will be administered as required to regain qualification. **(T-3)**.

5.4.1. Initial/Requalification and Periodic. In addition to **Table 5.1**, items listed in **Table 2.1** (and **Table 3.1** for instructors) will be evaluated on all MSN evaluations. Loadmasters require an INIT MSN and periodic evaluations for each aircraft that the loadmaster maintains a mission qualification status. Required events include a minimum of complete aircraft preflight, completion of Weight and Balance data, one actual airdrop (LCLA or personnel), normal in-flight mission duties, and a complete aircraft post flight.

Table 5.1. Loadmaster QUAL/MSN Grading Areas.

AREA	NOTES	GRADING AREAS
70	1	Life Support Equipment
71	1	Aircraft Configuration/Preflight/Thru-Flight
72	1	Load Planning/Inspection

73	1	On/Offloading Procedures
74	1	Supervisory Abilities
75	1	Tie-down/Restraint
76	1, 2	Winching Procedures
77	1	Hazardous Material
78	1	Aircraft Limitations
79	1	Passenger Handling
80	1	Border Clearance
81	1	Aircraft Weight and Balance
82	1, 2	Scanner Duties
83	1, 2	Defensive Tactics/Threat Calls
84	1	Engine Running Onload/Offload
85	1	Infiltration/Exfiltration
86	1	Systems Knowledge
87	1, 2	Airdrop Rigging Procedures
88	1, 2	Joint Airdrop Inspection
89	1, 2	Coordinated Tasks Briefing
90	1, 2	Airdrop Knowledge
91	1	NVG Usage/Limitations
92	1, 2	Aircraft Backing
93	1, 2	Checklist Usage
93a	1, 2	Cockpit Checklist
93b	1, 2	Before Starting Engines/Starting Engines
93c	1, 2	Before Taxi/Taxi
93d	1, 2	Before Takeoff/Lineup
93e	1, 2	After Takeoff
93f	1, 2	En Route
	1, 2	Descent/Before Landing
93h	1, 2	After Landing
93i	1, 2	Engine Shutdown

93j	1, 2	Before Leaving Airplane
93k	1, 2	Tactical Checklists
93l	1, 2	Postflight
94	1, 2	Mission Procedures
95	1, 2	Refuel/Defuel
Notes: 1. Required for QUAL portion of flight evaluations. 2. Required if loadmaster performs these duties.		

5.5. Grading Criteria. The following subparagraphs contain grading criteria for the areas listed in **Table 5.1**.

5.5.1. Area 70. Life Support Equipment.

5.5.1.1. Q. Located, inspected, distributed, and/or demonstrated the proper use of life support or emergency equipment. Satisfactory knowledge of equipment.

5.5.1.2. Q-. Difficulty locating, inspecting, and/or demonstrating the proper use of life support or emergency equipment. Adequate knowledge of equipment, but needs improvement.

5.5.1.3. U. Failed to inspect, distribute, and/or demonstrate the proper use of life support or emergency equipment. Unsatisfactory knowledge of equipment.

5.5.2. Area 71. Aircraft Configuration/Preflight/Thru-Flight.

5.5.2.1. Q. Ensured the aircraft was properly configured to accommodate mission requirements. Familiar with various configurations as outlined in applicable directives and properly stowed configuration items that were not used. Accomplished thorough preflight/thru-flight IAW checklists and directives.

5.5.2.2. Q-. Difficulty configuring the aircraft but did not impede the mission. Limited knowledge of various configurations as outlined in applicable directives. Accomplished preflight but with minor errors and/or omissions.

5.5.2.3. U. Failed to ensure proper aircraft configuration or caused mission delays. Had unsatisfactory knowledge of configurations. Failed to properly stow configuration items. Failed to accomplish thorough preflight/thru-flight. Major errors and/or omissions were a detriment to safety.

5.5.3. Area 72. Load Planning/Inspection.

5.5.3.1. Q. Accurately planned a passenger/cargo load and met aircraft CG limits. Inspected load for proper preparation and documentation.

5.5.3.2. Q-. Difficulty planning a passenger/cargo load to meet CG limits. Difficulty inspecting load for proper preparation and documentation.

5.5.3.3. U. Unable to plan a passenger/cargo load and meet CG limits. Failed to inspect load for proper preparation and documentation.

5.5.4. Area 73. On/Offloading Procedures.

5.5.4.1. Q. Correctly on/offloaded the aircraft safely and in a timely manner.

5.5.4.2. Q-. Difficulty correctly on/offloading the aircraft. Minor deviations occurred but safety was not compromised.

5.5.4.3. U. Failed to correctly or safely on/offload the aircraft. Loading procedures caused undue delay.

5.5.5. Area 74. Supervisory Abilities.

5.5.5.1. Q. Established and maintained control of personnel during loading operations. Safety was not compromised.

5.5.5.2. Q-. Established and maintained control of personnel, but made minor supervisory errors. Safety was not compromised.

5.5.5.3. U. Did not establish or maintain control of personnel and/or safety was compromised.

5.5.6. Area 75. Tie-Down/Restraint.

5.5.6.1. Q. Correctly calculated and applied correct amount of restraint to a given item. Understood and could state the principals of restraint.

5.5.6.2. Q-. Difficulty calculating or applying the correct amount of restraint. Did not fully understand the principals of restraint.

5.5.6.3. U. Failed to correctly calculate or apply the correct amount of restraint. Did not understand and could not state the principals of restraint.

5.5.7. Area 76. Winching Procedures.

5.5.7.1. Q. Correctly demonstrated and/or explained winching procedures.

5.5.7.2. Q-. Difficulty demonstrating and/or did not completely explain correct winching procedures but safety was not compromised.

5.5.7.3. U. Failed to demonstrate and/or did not explain correct winching procedures or safety was compromised.

5.5.8. Area 77. Hazardous Material.

5.5.8.1. Q. Understood hazardous cargo procedures. Could comply with the provisions of AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*, and/or follow the procedures for air movement of hazardous cargo under tactical, contingency, or emergency conditions.

5.5.8.2. Q-. Understood hazardous cargo procedures, but made minor deviations. Could comply with the provisions of AFMAN 24-204(I), and/or follow the procedures for air movement of hazardous cargo under tactical, contingency, or emergency conditions. Safety was not compromised.

5.5.8.3. U. Did not understand hazardous cargo procedures in AFMAN 24-204(I). Safety was compromised.

5.5.9. Area 78. Aircraft Limitations.

5.5.9.1. Q. Correctly stated, understood, and could apply the correct limitations associated with the aircraft, on/offloading, and associated equipment.

5.5.9.2. Q-. Had difficulty stating or applying various limitations. Had difficulty locating correct limitations in the loading manual(s), or publications.

5.5.9.3. U. Failed to state various limitations, or could not locate correct limitations in the loading manual(s) or publications.

5.5.10. Area 79. Passenger Handling.

5.5.10.1. Q. Correctly briefed and performed passenger handling procedures.

5.5.10.2. Q-. Had difficulty briefing and/or performing passenger handling procedures.

5.5.10.3. U. Failed to brief and/or did not perform proper passenger handling procedures.

5.5.11. Area 80. Border Clearance.

5.5.11.1. Q. Correctly followed Department of Defense, AF, and command guidelines. Completed/explained border clearance requirements IAW current directives.

5.5.11.2. Q-. Difficulty explaining border clearance requirements. Minor mistakes degraded effectiveness.

5.5.11.3. U. Could not accurately complete forms. Unaware of command guidance, or could not explain requirements.

5.5.12. Area 81. Aircraft Weight and Balance.

5.5.12.1. Q. Accurately completed aircraft weight and balance forms. Errors in takeoff or landing gross weights did not exceed ± 500 pounds or ± 0.5 percent of Mean Aerodynamic Chord . Did not exceed aircraft gross takeoff or landing weight limits. Did not exceed aircraft CG limitations for takeoff or landing. Knowledge of aircraft limitations and weight and balance directives was satisfactory. Completed weight and balance accurately with only minor errors.

5.5.12.2. Q-. Errors on aircraft weight and balance form(s) exceeded takeoff or landing gross weights by ± 500 to 1,000 pounds or ± 0.6 to 1.0 percent of Mean Aerodynamic Cord limitations. Did not exceed aircraft gross weight takeoff or landing limits. Did not exceed CG limitations for takeoff or landing. Limited knowledge of aircraft limitations and weight and balance directives. Had difficulty completing weight and balance.

5.5.12.3. U. Knowledge of aircraft limitations and weight and balance directives was inadequate. Failed to complete weight and balance accurately. Exceeded aircraft limitations.

5.5.13. Area 82. Scanner Duties.

5.5.13.1. Q. Periodically performed scanner duties by monitoring aircraft interior and exterior for abnormal conditions.

5.5.13.2. Q-. Did not scan in a timely manner to recognize abnormal conditions.

5.5.13.3. U. Failed to perform scanner duties by monitoring or making periodic checks of the aircraft interior and exterior for abnormal conditions.

5.5.14. Area 83. Defensive Tactics/Threat Calls.

5.5.14.1. Q. Satisfactory knowledge of defensive tactics employed in the C-145A. Properly identified threats and the maneuvers required to defeat it. Explained proper scanning technique.

5.5.14.2. Q-. Limited knowledge of proper scanning techniques. Limited ability to identify threats and the maneuvers required to defeat them.

5.5.14.3. U. Had inadequate knowledge of proper scanning technique. Could not identify threats, or state maneuvers to defeat the threat.

5.5.15. Area 84. Engine Running Onload/Offload.

5.5.15.1. Q. Followed/explained proper procedures for engine running on/offload operations.

5.5.15.2. Q-. Difficulty following/explaining proper procedures for engine running on/offload operations.

5.5.15.3. U. Did not follow/explain proper procedures for engine running on/offloading.

5.5.16. Area 85. Infiltration/Exfiltration.

5.5.16.1. Q. Followed/explained proper procedures for NVG infiltration/exfiltration operations.

5.5.16.2. Q-. Difficulty following/explaining proper procedures for NVG infiltration/exfiltration operations.

5.5.16.3. U. Did not follow/explain proper procedures for NVG infiltration/exfiltration operations.

5.5.17. Area 86. Systems Knowledge. **Note:** As a minimum, evaluate the following areas (as applicable): All systems loadmasters are responsible for operating during non-tactical missions (QUAL) and all systems loadmasters are responsible for operating during tactical missions.

5.5.17.1. Q. Displayed satisfactory knowledge of systems, ensuring satisfactory operation within prescribed limits. Explained proper corrective action for each type of malfunction that loadmasters have action to perform.

5.5.17.2. Q-. Difficulty in displaying a satisfactory knowledge of systems. Slow to analyze problems or apply proper corrective actions.

5.5.17.3. U. Failed to display a satisfactory knowledge of systems. Unable to analyze problems or apply proper corrective actions.

5.5.18. Area 87. Airdrop Rigging Procedures.

5.5.18.1. Q. Correctly rigged and identified key airdrop components.

5.5.18.2. Q-. Difficulty rigging and/or identifying key airdrop components.

5.5.18.3. U. Failed to rig and/or identify key airdrop components.

5.5.19. Area 88. Joint Airdrop Inspection.

5.5.19.1. Q. Correctly completed/explained the joint airdrop inspection (if required).

5.5.19.2. Q-. Had difficulty completing/explaining the joint airdrop inspection (if required).

5.5.19.3. U. Failed to or had extreme difficulty completing/explaining the joint airdrop inspection (if required).

5.5.20. Area 89. Coordinated Tasks Briefing.

5.5.20.1. Q. Correctly briefed the coordinated tasks IAW current directives (if required).

5.5.20.2. Q-. Had difficulty briefing the coordinated tasks IAW current directives (if required).

5.5.20.3. U. Failed to accomplish the coordinated tasks briefing IAW current directives (if required).

5.5.21. Area 90. Airdrop Knowledge.

5.5.21.1. Q. Correctly demonstrated airdrop procedures for the event being flown, if performed. Knowledge of airdrop load information and procedures for other types of loads were satisfactory.

5.5.21.2. Q-. Had difficulty demonstrating and/or understanding airdrop procedures and airdrop load information.

5.5.21.3. U. Could not demonstrate and/or understand airdrop procedures and airdrop load information.

5.5.22. Area 91. NVG Usage/Limitations.

5.5.22.1. Q. Correctly described the use/limitations of NVGs.

5.5.22.2. Q-. Minor omissions or deviations in describing the use/limitations of NVGs. Did not properly preflight, handle, or use NVGs during the flight, but caused no damage to equipment. Mission success was not negatively affected.

5.5.22.3. U. Procedures for using NVGs were incorrect. Caused damage to equipment. Mission unsuccessful as a result of improper NVG usage.

5.5.23. Area 92. Aircraft Backing.

5.5.23.1. Q. Safely and accurately conducted aircraft backing procedures. Properly coordinated and executed procedures with aircrew.

5.5.23.2. Q-. Conducted aircraft backing procedures with minor deviations. Coordination with crew was vague and/or did not execute according to briefing or plan. Safety was not compromised.

5.5.23.3. U. Failed to properly execute and/or coordinate aircraft backing procedures. Safety was compromised.

5.5.24. Areas 93. Checklist Usage. Use the following criteria.

5.5.24.1. Q. Accomplished required checklists without errors, omissions, or deviations. Backed up pilots on flight parameters (e.g., altitudes, airspeeds, and clearances). Satisfactorily monitored engine/system indicators. Recognized and corrected minor omissions or deviations. Recognized, reported, and properly documented out of limit conditions or malfunctions.

5.5.24.2. Q-. Accomplished required checklists with minor errors, omissions, or deviations. Backed up pilots on flight parameters (i.e., altitudes, airspeeds, and clearances) with some deviations. Monitored engine/system indicators with some deviations. Slow to recognize, report, and/or document out of limit conditions or malfunctions.

5.5.24.3. U. Failed to accomplish required checklists or made numerous errors, omissions, or deviations. Failed to back up pilots on flight parameters (i.e., altitudes, airspeeds, and clearances). Failed to monitor engine/system indicators. Allowed limitations to be exceeded, which, without correction, would cause damage to equipment.

5.5.25. Area 93a. Cockpit Checklist.

5.5.26. Area 93b. Before Starting Engines/Starting Engines.

5.5.27. Area 93c. Before Taxi/Taxi.

5.5.28. Area 93d. Before Takeoff/Lineup.

5.5.29. Area 93e. After Takeoff.

5.5.30. Area 93f. En Route.

5.5.31. Area 93g. Descent/Before Landing.

5.5.32. Area 93h. After Landing.

5.5.33. Area 93i. Engine Shutdown.

5.5.34. Area 93j. Before Leaving Airplane.

5.5.35. Area 93k. Tactical Checklist

5.5.36. Area 93l. Postflight.

5.5.36.1. Q. Accomplished required checklists without errors, omissions, or deviations. Ensured aircraft properly configured for parking [i.e. ground wires (if applicable), intakes, door locks].

5.5.36.2. Q-. Accomplished required checklists with minor errors, omissions, or deviations. Minor errors ensuring aircraft properly configured for parking.

5.5.36.3. U. Failed to accomplish required checklists. Did not ensure aircraft was properly configured for parking.

5.5.37. Area 94. Mission Procedures. **Note:** Loadmasters will be verbally evaluated on mission knowledge. Actual mission profiles will be flown to the maximum extent possible.

5.5.37.1. Q. Was fully knowledgeable of unit mission procedures. Was knowledgeable of mission events. Demonstrated adequate situational awareness.

5.5.37.2. Q-. Had limited knowledge of unit mission procedures. Demonstrated limited knowledge of mission events. Limited situational awareness.

5.5.37.3. U. Inadequate knowledge of unit mission procedures. Had inadequate knowledge of mission events. Had inadequate situational awareness.

5.5.38. Area 95. Refuel/Defuel.

5.5.38.1. Q. Demonstrated a satisfactory knowledge of or accomplished refuel/defuel operations with no errors, omissions, or deviations from established procedures. Demonstrated a working knowledge of the aircraft refueling/defueling system.

5.5.38.2. Q-. Demonstrated a limited knowledge of or accomplished refuel/defuel operations with minor errors, omissions, or deviations that did not jeopardize safety. Limited knowledge of the aircraft refueling/defueling system and components.

5.5.38.3. U. Demonstrated inadequate knowledge of or failed to accomplish refuel/defuel operations, made errors, omissions, or deviations that would have jeopardized safety.

MARK D. KELLY, Lt Gen, USAF
Deputy Chief of Staff for Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFMAN 11-210, *Instrument Refresher Program*, 1 September 2017

AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, 5 April 2019

AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*, 13 July 2017

AFMAN 33-363, *Management of Records*, 1 March 2008

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, 21 September 2018

AFI 11-202V2, *Aircrew Standardization/Evaluation Program*, 6 December 2018

AFI 11-202V2, *Aircrew Standardization/Evaluation Program, AFSOC Supplement*, 6 December 2018

AFI 11-202V3, *General Flight Rules*, 10 August 2016

AFI 11-215, *Flight Manuals Program*, 25 Mar 2019

AFI 33-360, *Publications and Forms Management*, 1 December 2015

AFI 11-290, *Cockpit/Crew Resource Management Training Program*, 15 October 2012

AFPD 11-2, *Aircrew Operations*, 31 January 2019

AFPD 11-4, *Aviation Service*, 12 April 2019

Adopted Forms

AF Form 8, *Certificate of Aircrew Qualification*

AF Form 847, *Recommendation for Change of Publication*

AF Form 4031, *CRM Skills Criteria Training/ Evaluation Form*

AFSOC Form 48, *Flight Evaluation Worksheet*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFR—Air Force Reserve

AFSOC—Air Force Special Operations Command

AGL—Above Ground Level

ASR—Airborne Surveillance Radar

A3—Director of Operations

CG—Center of Gravity

COMSEC—Communications Security

CRM—Crew Resource Management

DME—Distance Measuring Equipment

DZ—Drop Zone

EPE—Emergency Procedures Evaluation

FEs—Flight Evaluators

FMS—Flight Management System

GPS—Global Positioning System

IAW—In Accordance With

ILS—Instrument Landing System

INIT—Initial

INSTM—Instrument

IRC—Instrument Refresher Course

KIAS—Knots Indicated Air Speed

LOC—Localizer

LZ—Landing Zone

MAJCOM—Major Command

MAP—Missed Approach Point

MDA—Minimum Descent Altitude

MSN—Mission

NAS—National Airspace System

NDB—Non-directional Beacon

nm—Nautical Miles

NVG—Night Vision Goggle

OPSEC—Operations Security

PAR—Precision Approach Radar

QUAL—Qualification

RNAV—Area Navigation

TOA—Time of Arrival

TOLD—Takeoff and Landing Data

TOT—Time Over Target

TTP—Tactics, Techniques, and Procedures

VFR—Visual Flight Rules

Vmca—One Engine Inoperative Air Minimum Control Speed

VOR—VHF Omnidirectional Range

Vref—Reference Speed