

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

**AIR FORCE MANUAL 11-2C-146A,
VOLUME 2**



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Flying Operations

**C-146A AIRCREW EVALUATION
CRITERIA**

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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-146A Aircraft. It is used in conjunction with AFMAN 11-202 Vol 2 *Aircrew Standardization/Evaluation Program*. This publication applies to the regular Air Force (AF) and the Air Force Reserve (AFR). This publication does not apply to the United States Space Force or Air National Guard (ANG). This manual requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by Title 37 United States Code 334, *Special aviation incentive pay and bonus authorities for officers*, Department of Defense Instruction 7730.67, *Aviation Incentive Pays and Bonus Program* and Executive Order 13478, *Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers*. 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 DAF 847, *Recommendation for Change of Publication*; route DAF 847 from the field through the appropriate functional chain of command. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is 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

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SUMMARY OF CHANGES

Changes to this publication include: SQ/CC approval to conduct periodic, spot, and no-notice evaluations in the WST; removal of any reference to the first pilot (FP) program; combining the short field takeoff and maximum effort performance graded areas; expanding references to LPV as an approved precision approach for INSTM evaluations; and clarification of required graded events on the INIT INSTR evaluation.

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Chapter 1

GENERAL INFORMATION

1.1. General. This manual establishes requirements and grading criteria for ground and flight phases of initial, requalification, and periodic flight evaluations. Aircrew evaluations will be conducted in accordance with (IAW) this manual and Air Force Instruction (AFI) 11-202 Vol 2 AFSOCSUP, *Aircrew Standardization/Evaluation Program*. (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 manual when conducting aircrew evaluations; instructors will use this manual when preparing aircrews for qualification. (T-2).

1.2. Applicability. This manual applies to all individuals performing duties on C-146A aircraft.

1.3. Keywords 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. Air Operations, Headquarters Air Force (HQ USAF/A3T), as the certifying official for AFMAN 11-202 Vol 2, is the “Tier-1” waiver authority for the United States Air Force (USAF) aircrew standardization and evaluation programs. Post all waivers to this manual in the individual’s flight evaluation folder behind Tab 2. See AFI 11-202, Vol 2, AFSOCSUP, for waiver documentation. (T-2).

1.5. Roles and Responsibilities.

1.5.1. Flight Examiners will:

1.5.1.1. Inform the examinee of any special requirements before the aircrew briefing. (T-2).

1.5.1.2. Brief the examinee on the conduct, purpose, and requirements of the evaluation, as well as all applicable evaluation criteria, prior to flight. (T-2).

1.5.1.3. Ensure all required training and documentation is complete prior to initial or requalification evaluations. (T-3).

1.5.1.4. Not intentionally fail any equipment during flight evaluations, but may deny the use of systems not affecting safety of flight. (T-2). Systems that can be denied in-flight are as follows: navigational aids or displays, autopilot, flight director, and flaps for no flap landings. Examiners may use reduced power settings for simulated engine out maneuvers.

1.5.1.5. Under no circumstances, allow the aircraft to slow below one engine inoperative minimum control speed (V_{MCA}), regardless of airspeed tolerances listed for specific areas. (T-2).

1.5.1.6. 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).

1.5.2. Examinees will:

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

1.5.2.2. Accomplish all required mission planning. (T-3).

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

1.5.3. IAW **paragraph 5.2.6.3.2** of the AFI 11-202 Vol 2 AFSOCSUP, normal preparation for the mission will be determined by the flight examiner, with the following restrictions: notifications will take place no earlier than the start of mission planning (normally the day prior), and no later than the completion of the crew brief. (T-3).

1.6. Grading Instructions. All evaluations will follow the guidelines set in AFI 11-202 Vol 2 AFSOCSUP and this manual. (T-2). Examiners will use the criteria contained in this manual to accomplish all flight and emergency procedures evaluations. (T-2). To ensure standard and objective evaluations, flight examiners will be thoroughly familiar with the prescribed evaluation criteria. (T-2).

1.6.1. Area/Subarea Grades. Areas/subareas will have a two-level (Q/U) or three-level (Q/Q-/U) grading system. (T-2). Discrepancies will be documented against the listed subareas. (T-2).

1.6.1.1. 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.

1.6.1.2. 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.

1.6.1.3. U indicates a breach of flight discipline, performance outside allowable parameters or deviations from prescribed procedures or tolerances that adversely affected 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. (T-2).

1.6.2. 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. (T-2). Critical areas are identified by "(CRITICAL)" in the area title.

1.7. Evaluation Requirements. Evaluation profiles will reflect a sampling of the unit's missions. (T-2). 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. Required evaluation events are identified by an “X” in the crew specific tables. For areas without an “X”, 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. (T-2).

1.7.1. **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-2).

1.7.2. **Grading Criteria.** Flight examiners will use the grading criteria in this volume to determine individual area grades. (T-2). 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.

1.7.2.1. 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.

1.8. 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 AFMAN 11-202 Vol 3 AFSOCSUP, *General Flight Rules*, and maximum FDP. (T-2). 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. (T-2).

1.8.1. 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 11-202 Vol 2 AFSOCSUP. (T-2).

1.9. Additional Training. Flight examiners are responsible for assigning additional training at their discretion. Document the additional training and the completion IAW AFI 11-202 Vol 2 AFSOCSUP. Any approved training device or medium may be used for additional training. (T-2).

1.9.1. 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-2).

1.10. Rechecks. Rechecks will be administered by a flight examiner other than the one who administered the original evaluation. (T-3).

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).** This includes appropriate aircraft systems operation in accordance with applicable technical orders, instructions, and directives.

2.1.1. Periodic, Spot, and No-Notice evaluations may be conducted in either the C-146A Model Design Series (MDS) aircraft or the CSC-146A Weapon System Trainer (WST). The actual aircraft will serve as the primary method for all crew member evaluations. **(T-2).** As a secondary method and only with specific approval from the Squadron Commander, evaluators may conduct Periodic, Spot, and No-Notice evaluations in the WST. **NOTE:** Any subsequent periodic evaluation for an aircrew member evaluated in the WST must be conducted in the actual aircraft (e.g. an aircrew member will not have two back-to-back periodic evaluations in the CSC-146A WST). **(T-2).**

2.1.1.1. Initial (INIT) and Requalification (RQ) evaluations will be conducted in the actual aircraft. **(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 the open and closed book examinations as requisites to periodic evaluations IAW AFI 11-202 Vol 2 AFSOCSUP paragraph 5.5.3. **(T-2).** Reference AFI 11-202 Vol 2 AFSOCSUP Chapter 6 for required number of questions and test question structure.

2.2.1.1. For any type of INIT evaluation, the open book, closed book, and instrument examination (pilot only) are prerequisites and must be completed within 6 months prior to the flight phase IAW AFI 11-202 Vol 2 AFSOCSUP paragraph 5.5.1. **(T-2).**

2.2.1.2. For any type of RQ evaluation, the open book, closed book, and instrument examination (pilot only) are prerequisites. **Exception:** RQ SPOT evaluations following a Commander-Directed Downgrade, testing, EPE, and CAPs are per the requirements listed in the Commander-Directed Downgrade Form 8 and not necessarily prerequisites unless otherwise specified.

2.2.2. **Emergency Procedures Evaluation (EPE).** An EPE is a requisite for all QUAL evaluations. **(T-2).** EPEs may be conducted verbally, in flight, or by another method determined by the examiner or unit standardization and evaluation. Operations Group Stan/Eval (OGV) may develop local EPE guides for each crew position for flight examiner use. EPEs should be scenario driven, tailored to the specific crew position and include areas commensurate with the examinee's qualification and experience level (i.e. general knowledge). EPEs will 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 (CAPS) 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 criteria for CAPs and EPE are outlined in Areas 4 and 5 of General Grading Areas.

2.2.3. **Publications Check.** Required for all evaluations as outlined in Area 12 of General Grading Areas. (T-2).

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. (T-2). 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 manual. (T-2). Grade training objectives and related areas using the performance criteria in this manual. (T-2).

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

AREA	NOTES	GRADING AREAS
1	X1	Safety–CRITICAL
2	X1	Aircrew Discipline–CRITICAL
3	X1	Airmanship/Situational Awareness–CRITICAL
4	X2	CAPs–CRITICAL
5	X2	Emergency Procedures Evaluation
6	X1	Crew Coordination
7	X1	Mission Planning
8	X1	Knowledge of Directives
9	X3	Preflight/Postflight
10	X1	Use of Checklists
11	X3	Forms/Reports/Logs
12	X1	Personal/Professional Equipment/Flight Publications
13	X3	Emergency and Life Support Equipment/Procedures
14	X1	Briefings/Debriefings
15		Classified Material/Operations Security
16	X2	Anti-hijacking/Aircraft Security
17	X1	Communication
18	X1	Risk Management/Decision Making
19	X1	Task Management

Notes:

- X1. Required events for ALL evaluations.
- X2. Required events for QUAL evaluations.
- X3. LM QUAL 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. Critical Action Procedures (CAPS)—(CRITICAL).

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

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

2.3.5. Area 5. Emergency Procedures Evaluation.

2.3.5.1. **Q1.** 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. **Q2** . 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. **Q3**. 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 member's 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 (FLIP), weather, Notice to Airmen (NOTAM) System, alternate airfields, flight logs, performance data, fuel requirements, and charts. Aware of the available alternatives if unable to complete the flight/mission as planned. Read and signed-off all items in the Flight Crew Information File (FCIF) 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 instructions 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/Postflight.

2.3.9.1. **Q.** Completed aircraft systems preflight/postflight inspections IAW aircraft operating manuals, checklists, and instructions. Ensured aircraft properly configured for flight/parking (i.e. removed/installed gear pins, ground wires, covers, door locks.) Individual technique complied with established procedures.

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

2.3.9.3. **U.** Failed to preflight/postflight critical components or could not conduct a satisfactory preflight/postflight inspections. 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.. 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/ Explained thorough knowledge of Communications Security (COMSEC), Operations Security (OPSEC) 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 cryptologic material required for the mission.

2.3.15.2. **Q-.** Limited knowledge of COMSEC or OPSEC procedures. 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 cryptologic 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 cryptologic materials required for the mission.

2.3.16. Area 16. Anti-hijacking/Aircraft Security.

2.3.16.1. **Q.** Explained proper anti-hijacking and aircraft security procedures.

2.3.16.2. **Q-.** Difficulty explaining proper anti-hijacking and aircraft security procedures.

2.3.16.3. **U.** Could not explain proper anti-hijacking 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 affect 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. (T-2).

3.2. Requirements. Evaluate instructors on all areas listed in [Table 3.1](#). Instructor pilot candidates must be qualified in all areas they will instruct. (T-2). Initial instructor evaluations may be a stand-alone Instructor (INSTR) evaluation or accomplished in conjunction with a periodic INSTM, QUAL, or MSN evaluation. Periodic instructor evaluations will be accomplished in conjunction with periodic INSTM, QUAL, or MSN evaluations IAW AFI 11-202 Vol 2 AFSOCSUP. (T-2). An RQ INSTR evaluation is required anytime an instructor is unqualified to include a Commander-Directed Downgrade. (T-2).

3.3. Instrument (INSTM).

3.3.1. Initial/Requalification. Evaluate instructor candidates on instructor performance during a representative sample of instrument procedures. All required INSTM items listed in [Table 4.1](#), will be evaluated. (T-2). **Exception:** If the instructor candidate is not within their evaluation eligibility period IAW AFI 11-202 Vol 2 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. Regardless, a minimum of one instrument approach will be flown by the initial instructor pilot candidate. (T-2).

3.3.2. Periodic. Qualified instructors will be evaluated to instructor standards during events accomplished for periodic INSTM evaluations and all areas listed in [Table 3.1](#). (T-2).

3.4. Qualification (QUAL).

3.4.1. Initial/Requalification. Evaluate instructor candidates on instructor performance during a representative sample of emergency and qualification procedures. All required QUAL items listed in [Table 4.2](#), will be evaluated for instructor pilot candidates. (T-2). 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 11-202 Vol 2 AFSOCSUP, the candidate's instructional ability may be evaluated while the required items are accomplished by a student under their supervision. Regardless, a minimum of one takeoff and landing at each flap setting will be flown by the initial instructor pilot candidate. (T-2).

3.4.2. Periodic. Qualified instructors will be evaluated to instructor standards during events accomplished for periodic QUAL evaluations and areas listed in [Table 3.1](#). (T-2)

3.5. Mission (MSN).

3.5.1. Initial/Requalification. Accomplish the evaluation on a mission that permits accomplishment of a sampling of events seen on a routine mission sortie. All items listed in [Table 4.3](#), will be evaluated for instructor pilot candidates. (T-2). 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 11-202 Vol 2 AFSOCSUP, the candidate's instructional ability may be evaluated while the required items are accomplished by a student under their supervision. Regardless, initial instructor pilot

candidates will fly a minimum of one Night Vision Goggle (NVG) takeoff and NVG landing. (T-2).

3.5.2. **Periodic.** Qualified instructors will be evaluated to instructor standards during events accomplished for MSN periodic evaluations and areas listed in [Table 3.1](#). (T-2)

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

AREA	NOTES	GRADING
20	X	Mission Preparation
21	X	Instructional Ability
22	X	Instructor Knowledge
23	X	Briefings/Debriefings/Critique
24	X	Demonstration of Maneuvers/Procedures
Notes: X. Required events for all INSTR evaluations.		

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 past performance of student. 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.

Chapter 4

PILOT EVALUATIONS

4.1. General. This chapter standardizes initial, periodic, and re-qualification evaluations, including requirements for INSTM, QUAL, and MSN evaluations. The process can be broken in two categories: category one (QUAL/INSTM) will qualify the pilot in the basic operation of the C-146 and category two (MSN) adds the appropriate mission areas as a minimum for mission qualification. INSTM, QUAL, and MSN evaluations should be combined IAW AFI 11-202, Vol 2, AFSOCSUP, 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 are covered in this chapter.

4.3. Instrument (INSTM). The C-146 instrument evaluation should be conducted in combination with the QUAL and MSN evaluation. (T-3). INSTM evaluations may be conducted using NVGs. Include all areas under GENERAL ([Table 2.1](#)) and INSTRUMENT ([Table 4.1](#)). Additional INSTM events may be required at the evaluator pilot's discretion (T-2).

4.3.1. **Requisites.** The instrument examination is a requisite for instrument evaluations. (T-3).

4.3.2. **Mission Co-pilot.** Mission Co-pilots (MC) will accomplish all events from the right seat (T-3).

4.3.3. **Mission Pilot .** Mission pilots (MP) will accomplish all events from the left seat as aircraft commander. Instructor pilots may accomplish the INSTM evaluation from the either seat. (T-3).

Table 4.1. Pilot INSTM Grading Areas.

AREA	NOTES		GRADING AREAS
	MC	MP	
30	X	X	Instrument Departure
31	X	X	Use of Navigational Aids
32	X	X	Holding or Procedure Turn
33	X	X	Precision Approach
34	X	X	Non-precision Approach
35	X	X	Circling or Side-Step Approach
36	X1	X1	Missed Approach or Go-Around
Notes: X. Minimum of one event required. 1. Simulated Engine-out Go-Around also satisfies the requirement.			

4.4. Qualification (QUAL). The C-146 qualification evaluation should be conducted in conjunction with the INSTM and MSN evaluation. (T-3). QUAL evaluations may be conducted using NVGs. Evaluate applicable areas under GENERAL ([Table 2.1](#)) and QUAL ([Table 4.1](#)). Additional QUAL events may be required at the evaluator pilot's discretion. (T-2).

4.4.1. **Requisites** . The Open and Closed Book examinations, EPE, and CAPs are requisites for the QUAL evaluation. (T-3).

4.4.2. **Mission Co-pilot.** MCs will accomplish all events from the right seat. (T-3).

4.4.3. **Mission Pilot.** MPs will accomplish all events from the left seat as aircraft commander (instructor pilots may accomplish the QUAL evaluation from the right seat). (T-3).

Table 4.2. Pilot QUAL Grading Areas.

AREA	NOTES		GRADING AREAS
	MC	MP	
40			Ground Operations & Taxi
41	X	X	Takeoff
42			Enroute Navigation
43			Descent & Arrival Procedures
44	X	X	Simulated Engine-out Approach
45	X	X	Simulated Engine-out Go-around
46	X	X	VFR Pattern
47			Final Approach and Landing
47a	X	X	32° Flap Landing
47b	X	X	20° Flap Landing
47c	X	X	0° Flap Landing
47d	X	X	Simulated Engine-out Landing
47e	X	X	Touch-and-go Landing
48			Fuel Conservation
49	X	X	Systems Operations/Knowledge/Limitations/NAS
Notes:			
X: Minimum Requirement			

4.5. Mission (MSN). The C-146 mission evaluation should be conducted in combination with the INSTM and QUAL evaluation. (T-3). Include all areas under GENERAL (Table 2.1) and applicable areas under MISSION (Table 4.3). Additional MSN events may be required at the evaluator pilot's discretion.

Table 4.3. Pilot MSN Grading Areas.

AREA	NOTES		GRADING AREAS
	MC	MP	
50		X	Landing Zone (LZ) Alignment
51	X	X	Landing Zone Arrival Procedure
52	X1	X	Short Field Takeoff / Maximum Effort Performance
53	X1	X	Short Field Landing
54		X2	Semi-prepared Takeoff
55		X2	Semi-prepared Landing
56	X	X	NVG Takeoff

57	X	X	NVG Landing
58	X	X	NVG Go-Around
59-69			Reserved for future use

Notes:

X: Minimum requirement.

1: Pilot Not Flying (PNF) duties only.

2: If an actual semi-prepared takeoff/landing is not available due to weather or scheduling restrictions, flight examiners may elect to evaluate semi-prepared takeoff/landing on a simulated semi-prepared surface.

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 4.4](#), apply during all phases of flight except as NOTED in specific areas and instrument final approaches.

Table 4.4. General Criteria.

Q	Altitude	± 100 feet
	Airspeed	+10/-5 Knots Indicated Airspeed (KIAS) (not less than V _{MCA})
	Course	± 5 degrees/2 Nautical Miles (NM) (whichever is greater)
	Arc	±1 NM
Q-	Altitude	± 200 feet
	Airspeed	+15/-10 knots (but not less than V _{MCA})
	Course	± 10 degrees/5 NM (whichever is greater)
	Arc	±2 NM
U		Exceeded Q- limits

4.6.1. Area 30. Instrument Departure.

4.6.1.1. **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.

4.6.1.2. **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.

4.6.1.3. **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.

4.6.2. Area 31. Use of Navigational Aids.

4.6.2.1. **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 flight management system (Global Positioning Service (GPS), Flight Management System (FMS), etc.). Complied with

clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.

4.6.2.2. **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.

4.6.2.3. **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.

4.6.3. **Area 32. Holding/Procedure Turn.**

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

4.6.3.1.1. Very High Frequency Omnidirectional Radio (VOR) Leg timing: ± 15 seconds.

4.6.3.1.2. VOR/Distance Measuring Equipment (DME): ± 1 NM

4.6.3.1.3. Random Navigation (RNAV)/GPS: ± 1 NM.

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

4.6.3.2.1. VOR Leg timing: ± 30 seconds.

4.6.3.2.2. VOR/DME: ± 2 NM

4.6.3.2.3. RNAV/GPS: ± 2 NM.

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

4.6.4. **Area 33. Precision Approach.** Either an Instrument Landing System (ILS), a Localizer Performance with Vertical Guidance (LPV) or Precision Approach Radar (PAR). **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.

4.6.4.1. **Q.**

4.6.4.1.1. 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.

4.6.4.1.2. Airspeed: $+10/-2$ KIAS.

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

4.6.4.1.4. Glide slope: Within one dot (ILS/LPV).

4.6.4.1.5. Azimuth: Within one dot (ILS/LPV).

4.6.4.2. **Q-.**

4.6.4.2.1. 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.

4.6.4.2.2. Airspeed: +15/-5 KIAS.

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

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

4.6.4.2.5. Azimuth: Within two dots (ILS/LPV).

4.6.4.3. **U.**

4.6.4.3.1. 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.

4.6.5. **Area 34. Non-precision Approach (RNAV/GPS, VOR, LOC, NDB, ASR).**

Note: Use the following criteria for Areas 32a-32e. Use the following criteria as general tolerances for airspeed, altitude, heading, and azimuth. Airspeed tolerances are based on computed or briefed approach speed.

4.6.5.1. **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 (VDP). Position permitted a safe landing. Smooth and timely response to controller's instructions (ASR).

4.6.5.1.1. Airspeed: +10/-2 KIAS.

4.6.5.1.2. Heading: ± 5 degrees (ASR).

4.6.5.1.3. Course: ± 5 degrees at Missed Approach Point (MAP) (RNAV/GPS, VOR, NDB).

4.6.5.1.4. Localizer: less than one dot deflection.

4.6.5.1.5. MDA: +100/-0 feet.

4.6.5.1.6. MAP: Timing computed/adjusted within 10 seconds or distance within $\pm .5$ NM.

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

4.6.5.2.1. Airspeed: +15/-5 KIAS.

4.6.5.2.2. Heading: ± 10 degrees (ASR).

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

4.6.5.2.4. Localizer: Within two dots deflection.

4.6.5.2.5. MDA: +150/-50 feet.

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

4.6.5.3. **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.

4.6.6. **Area 35. Circling/Sidestep Approach.**

4.6.6.1. **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.

4.6.6.1.1. Airspeed: +10/-2 KIAS.

4.6.6.1.2. Altitude: +100/-0 feet.

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

4.6.6.2.1. Airspeed: +15/-5 KIAS.

4.6.6.2.2. Altitude: +150/-50 feet.

4.6.6.3. **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.

4.6.7. **Area 36. Missed Approach/Go-around.**

4.6.7.1. **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.

4.6.7.2. **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 over controlled the aircraft.

4.6.7.3. **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.

4.6.8. **Area 40. Ground Operations/Taxi.**

4.6.8.1. **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, AFI 11-218, *Aircraft Operations and Movement on the Ground*, and local procedures.

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

4.6.8.3. **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.

4.6.9. **Area 41. Takeoff.**

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

4.6.9.2. **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.

4.6.9.3. **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.

4.6.10. **Area 42. Enroute Navigation.**

4.6.10.1. **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.

4.6.10.2. **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.

4.6.10.3. **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.

4.6.11. **Area 43. Descent/Arrival Procedures.**

4.6.11.1. **Q.** Performed descent as directed. Complied with all flight manual, National Airspace System (NAS) or controller issued, or Standard Terminal Arrival (STAR) restrictions in a proficient manner. Accomplished all required checks.

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

4.6.11.3. **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.

4.6.12. **Area 44. Simulated Engine-out Approach. Note:** Use approach criteria for the type of approach being flown and the following.

4.6.12.1. **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.

4.6.12.2. **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.

4.6.12.3. **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.

4.6.13. **Area 45. Simulated Engine-out Go-around. Note:** Use Area 34 criteria and the following:

4.6.13.1. **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.

4.6.13.2. **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.

4.6.13.3. **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.

4.6.14. **Area 46. Visual Flight Rules (VFR) Pattern.**

4.6.14.1. **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.

4.6.14.2. **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/under-shot final approach slightly but was able to intercept a normal glide path. Adequately cleared area of intended flight.

4.6.14.3. **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/under-shot 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.

4.6.15. Area 47. Final Approach and Landing.

4.6.15.1. **Areas 47a through 47e.** 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.

4.6.15.1.1. **Q.** Performed landing as published/directed IAW flight manual. Crossed threshold at the proper airspeed $\pm 10/-0$ 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 50% 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:

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

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

4.6.15.1.2. **Q-.** Performed landing with minor deviations to procedures as published/directed. Crossed threshold at reference speed (VREF) $\pm 15/-5$ knots slightly high or low but no compromise of safety. Touchdown/rollout exceeded more than 50% of wheel-track from centerline. Exceeded Q criteria but not the following:

4.6.15.1.2.1. Touchdown Speed (if applicable): $\pm 10/-5$ KIAS.

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

4.6.15.1.3. **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.

4.6.15.2. Area 43a. 32° Flap Landing.

4.6.15.3. Area 43b. 20° Flap Landing.

4.6.15.4. Area 43c. 0° Flap Landing.

4.6.15.5. Area 43d. Simulated Engine-out Landing/Forced Landing.

4.6.15.6. Area 43e. Touch-and-go Landing. Evaluate the takeoff portion of the touch-and-go using grading criteria in Area 33.

4.6.16. Area 48. Fuel Conservation.

4.6.16.1. **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.

4.6.16.2. **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.

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

4.6.17. Area 49. Systems Operation/Knowledge/Limitations/National Airspace System (NAS).

4.6.17.1. **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.

4.6.17.2. **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.

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

4.6.18. Area 50. Landing Zone (LZ) Alignment.

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

4.6.18.1.1. Airspeed: ± 5 KIAS.

4.6.18.1.2. Altitude: + 50 / -0 feet.

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

4.6.18.2.1. Airspeed: + 10 / -5 KIAS.

4.6.18.2.2. Altitude: + 100 / -50 feet.

4.6.18.3. **U.** Unable to identify LZ due to poor technique or pilot error. Did not fly proper alignment or unaware of alignment error. Mission not accomplished due to poor LZ acquisition, alignment, or deviation from procedures, caused by pilot error or omission. Exceeded Q- criteria.

4.6.19. Area 51. Landing Zone Arrival Procedures (LZAP).

4.6.19.1. **Q .** Successfully navigated the aircraft to a position where a safe landing could be accomplished. Used proper, clear, and concise terminology during the entire procedure.

4.6.19.2. **Q- .** Briefing was incomplete or deviated from established procedures. Improperly programmed equipment, had minor deviations which caused course/glideslope

corrections, but still able to navigate the aircraft to a point where a safe landing could be made.

4.6.19.3. **U** . Had unsatisfactory knowledge of LZAP procedures. Failed to navigate the aircraft to a point from which a safe landing could be made.

4.6.20. Area 52. Short Field Takeoff / Maximum Effort Performance.

4.6.20.1. **Q**. Displayed satisfactory knowledge and understanding of the 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).

4.6.20.2. **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.

4.6.20.3. **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.

4.6.21. Area 53. Short Field Landing.

4.6.21.1. **Q**. Adhered to published procedures. Maintained smooth approach path. Used proper aim points with positive corrections, as necessary. Touched down in zone, on centerline without excessive bouncing or crab. Maintained runway centerline during rollout. Stopped at pre-briefed location or exited the runway at pre-briefed location.

4.6.21.1.1. Airspeed: $V_{REF} \pm 2$ KIAS.

4.6.21.2. **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 50% of wheel-track from centerline.

4.6.21.2.1. Airspeed: $V_{REF} + 10/- 5$ KIAS.

4.6.21.3. **U**. Touchdown short of the landing zone. Touchdown beyond the pre-briefed go-around point and did not execute a go-around. Failed to stop at pre-briefed location or exit the runway at pre-briefed location.

4.6.22. Area 54. Semi-prepared Takeoff.

4.6.22.1. **Q**. Maintained smooth, positive aircraft control throughout the takeoff. Performed semi-prepared takeoff in accordance with flight manual and as directed.

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

4.6.22.3. **U** . Semi-prepared takeoff was potentially dangerous. Exceeded aircraft or systems limitations. Violated flight manual procedures. Exceeded Q- criteria.

4.6.23. Area 55. Semi-prepared Landing.

4.6.23.1. **Q** . Performed semi-prepared landing as published in the aircraft flight manual. Crossed threshold at the proper airspeed +10/-2 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.

4.6.23.2. **Q-** . Performed semi-prepared landing with minor deviations to procedures as published. Crossed threshold +15/-5 knots slightly high or low but no compromise of safety. Touchdown/rollout exceeded 50% of wheel-track from centerline..

4.6.23.3. **U** . Semi-prepared landing not performed as published. Exceeded Q- criteria. Failed to comply with flight manual procedures for the use of brakes and revers thrust.

4.6.24. Area 56. NVG Takeoff.

4.6.24.1. Use the Area 31–Takeoff or Area 54–Short Field Takeoff criteria to evaluate takeoffs while wearing NVGs.

4.6.25. Area 57. NVG Landing.

4.6.25.1. Use Area 43–Final Approach and Landing or Area 55–Short Field Landing criteria to evaluate landings while wearing NVGs.

4.6.26. Area 58. NVG Go-Around.

4.6.26.1. Use Area 36–Missed Approach/Go-around criteria to evaluate go-arounds while wearing NVGs.

Chapter 5

LOADMASTER EVALUATIONS

5.1. General. All loadmasters require QUAL and MSN evaluations. (T-2). Instructors will demonstrate instructor duties on all periodic evaluations. To promote efficient use of aircraft and resources, the QUAL and MSN evaluations should be combined IAW AFI 11-202, Vol 2, AFSOCSUP. The examinee must satisfactorily demonstrate the ability to perform all loadmaster duties safely and effectively, including the operation of appropriate aircraft systems IAW with all applicable AOHs, instructions, and directives. (T-2).

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, CAPS, and an EPE. (T-3). The EPE should cover areas applicable to the duties of a loadmaster on the aircraft 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). 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. Additional QUAL events may be required at the evaluator's discretion.

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. (T-2). 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-2).

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. (T-2). Required events include a minimum of complete aircraft preflight, completion of Weight and Balance data, normal in-flight mission duties, short field take-off (event may be simulated), Landing Zone Arrival Procedure (LZAP), and a complete aircraft post-flight. (T-2). Additional MSN events may be required at the evaluator's discretion.

Table 5.1. Loadmaster QUAL/MSN Grading Areas.

AREA	NOTE	GRADING AREAS
70		Load Planning/Inspection
71		On/Off-loading Procedures
72		Supervisory Abilities
73		Tie-down/Restraint
74		Hazardous Material

75	X1	Aircraft Limitations
76		Passenger Handling
77		Border Clearance
78	X1	Aircraft Weight and Balance
79	X1	Scanner Duties
80		Engine Running On /Off-load
81	X1	Systems Knowledge
82		NVG Usage/Limitations
83		Aircraft Backing
84		Mission Procedures
85		Refuel/Defuel
86	X1	Checklist Usage
87	X2	Short Field Takeoff / Maximum Effort Performance
88	X2	Landing Zone Arrival Procedures (LZAP)
Notes: X1. Required for QUAL portion of flight evaluations. X2. Required for MSN portion of flight evaluations.		

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

5.5.1. Area 70. Load Planning/Inspection.

5.5.1.1. **Q.** Accurately planned/explained a passenger and/or cargo load and met aircraft Center of Gravity (CG) limits. Inspected/explained proper preparation and documentation of payload.

5.5.1.2. **Q-.** Difficulty planning/explaining a passenger and/or cargo load to meet CG limits. Difficulty inspecting or explaining proper preparation and documentation of payload.

5.5.1.3. **U.** Unable to plan/explain a passenger and/or cargo load and meet CG limits. Failed to inspect/explain proper preparation and documentation of payload.

5.5.2. Area 71. On/Off-loading Procedures.

5.5.2.1. **Q.** Correctly demonstrated/explained cargo upload/download of the aircraft safely and in a timely manner.

5.5.2.2. **Q-.** Difficulty correctly demonstrating/explaining cargo upload/download of the aircraft. Minor deviations occurred but safety was not compromised.

5.5.2.3. **U.** Failed to correctly or safely demonstrate/explain cargo upload/download of the aircraft. Loading procedures caused undue delay.

5.5.3. Area 72. Supervisory Abilities.

5.5.3.1. **Q.** Established and maintained control of personnel during ground operations. Safety was not compromised.

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

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

5.5.4. Area 73. Tie-down/Restraint.

5.5.4.1. **Q.** Correctly calculated and applied correct amount of restraint to a given item. Understood and could state the principles of restraint.

5.5.4.2. **Q-.** Difficulty calculating or applying the correct amount of restraint. Did not fully understand the principles of restraint.

5.5.4.3. **U.** Failed to correctly calculate or apply the correct amount of restraint. Did not understand and could not state the principles of restraint.

5.5.5. Area 74. Hazardous Material.

5.5.5.1. **Q.** Understood hazardous cargo procedures. Could comply with the provisions of AFMAN 24-604, *Preparing Hazardous Materials for Military Air Shipments*, and/or follow the procedures for air movement of hazardous cargo under tactical, contingency, or emergency conditions.

5.5.5.2. **Q-.** Understood hazardous cargo procedures, but made minor deviations. Could comply with the provisions of AFMAN 24-604, and/or follow the procedures for air movement of hazardous cargo under tactical, contingency, or emergency conditions. Safety was not compromised.

5.5.5.3. **U.** Did not understand hazardous cargo procedures in AFMAN 24-604. Safety was compromised.

5.5.6. Area 75. Aircraft Limitations.

5.5.6.1. **Q.** Correctly stated, understood, and could apply the correct limitations associated with the aircraft, on/off-loading, and associated equipment.

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

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

5.5.7. Area 76. Passenger Handling.

5.5.7.1. **Q.** Correctly briefed and/or performed passenger handling procedures.

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

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

5.5.8. Area 77. Border Clearance.

5.5.8.1. **Q.** Correctly followed DOD, USAF, and command guidelines. Completed or explained border clearance requirements IAW current directives.

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

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

5.5.9. Area 78. Aircraft Weight and Balance.

5.5.9.1. **Q.** Accurately completed aircraft weight and balance forms. Errors in takeoff or landing gross weights did not exceed ± 200 pounds or ± 0.2 percent of Mean Aerodynamic Chord (MAC). 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.

5.5.9.2. **Q-.** Errors on aircraft weight and balance form(s) exceeded takeoff or landing gross weights by ± 200 to 500 pounds or ± 0.3 to 0.5 percent of MAC 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.

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

5.5.10. Area 79. Scanner Duties.

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

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

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

5.5.11. Area 80. Engine Running On/Off-load.

5.5.11.1. **Q.** Followed/explained proper procedures for engine running on/off-load operations.

5.5.11.2. **Q-.** Difficulty following/explaining proper procedures for engine running on/off-load operations.

5.5.11.3. **U.** Did not follow/explain proper procedures for engine running on/off- loading.

5.5.12. Area 81. 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.

5.5.12.1. **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.

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

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

5.5.13. Area 82. NVG Usage/Limitations.

5.5.13.1. **Q.** Correctly described the use/limitations of NVGs.

5.5.13.2. **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.

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

5.5.14. Area 83. Reverse Taxi.

5.5.14.1. **Q.** Safely and accurately conducted or explained aircraft backing procedures. Properly coordinated and executed procedures with aircrew.

5.5.14.2. **Q-.** Conducted or explained 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.

5.5.14.3. **U.** Failed to properly execute and/or explain aircraft backing procedures. Safety was compromised.

5.5.15. Area 84. Mission Procedures. Note: Loadmasters will be verbally evaluated on mission knowledge. Actual mission profiles will be flown to the maximum extent possible.

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

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

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

5.5.16. Area 85. Refuel/Defuel.

5.5.16.1. **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.

5.5.16.2. **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/de-fueling system and components.

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

5.5.17. Area 86. Checklist Usage. Use the following criteria.

5.5.17.1. **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. Ensured appropriate aircraft configuration to satisfy preflight, in-flight, and postflight requirements.

5.5.17.2. **Q-**. Accomplished required checklists with minor errors, omissions, or deviations. Backed up pilots on flight parameters e.g., 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. Recognized appropriate aircraft configuration to satisfy preflight, in-flight, and postflight requirements.

5.5.17.3. **U** . Failed to accomplish required checklists or made numerous errors, omissions, 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. Failed to ensure appropriate aircraft configuration for preflight, in-flight, and postflight requirements.

5.5.18. Area 87. Short-Field Takeoff/Maximum Effort Performance Procedures.

5.5.18.1. **Q** . Displayed satisfactory knowledge of short field procedures. Successfully performed acceleration time check IAW applicable Takeoff and Landing Data (TOLD).

5.5.18.2. **Q-**. Displayed a limited knowledge of short field procedures. Accomplished acceleration time check with minor deviations that did not jeopardize safety.

5.5.18.3. **U** . Displayed inadequate knowledge of short field procedures. Failed to make correct calls for acceleration time check and/or jeopardized safety.

5.5.19. Area 88. Landing Zone Arrival Procedures (LZAP).

5.5.19.1. **Q** . Provided proper glide slope altitude call outs IAW applicable directives.

5.5.19.2. **Q-**. Provided glide slope altitude calls with minor errors, deviations, or omissions.

5.5.19.3. **U** . Failed to provide proper glide slope altitude calls IAW applicable directives.

JOSEPH T. GUASTELLA, Lt Gen, USAF
Deputy Chief of Staff, Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-200, *Aircrew Training, Standardization /Evaluation, and General Operations Structure*, 2 May 2022

AFI 11-202, Vol 2, AFSOCSUP, *Aircrew Standardization/Evaluation Program*, 30 August 2021

AFMAN 11-202, Vol 3, AFSOCSUP, *Flight Operations*, 15 March 2021

AFMAN 11-2C-146A, Vol 3, *C-146A Operations Procedures*, 22 March 2019

AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, 4 April 2019

AFMAN 11-290, *Cockpit/Crew Resource Management and Threat & Error Management Program*, 25 October 2021

AFMAN 24-604, *Preparing Hazardous Materials for Military Air Shipments*, 9 October 2020

DAFMAN 90-161, *Publishing Process and Procedures*, 14 April 2022

AFI 33-322, *Records Management and Information Governance Program*, 27 July 2022

Adopted Forms

DAF 847, *Recommendation for Change of Publication*

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

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFRC—Air Force Reserve Command

AFSOC—Air Force Special Operations Command

ANG—Air National Guard

ARMS—Aviation Resource Management System

ASR—Airborne Surveillance Radar

A3—Director of Operations

CAPS—Critical Actions Procedures

CG—Center of Gravity

COMSEC—Communications Security

CRM—Crew Resource Management

DME—Distance Measuring Equipment

DOD—Department of Defense

DODD—Department of Defense Directive
EPE—Emergency Procedures Evaluation
FCIF—Flight Crew Information File
FDP—Flight Duty Period
FLIP—Flight Information Program
FMS—Flight Management System
FP—First Pilot
GPS—Global Positioning System
HQ—Headquarters
IAW—In Accordance With
ILS—Instrument Landing System
INSTM—Instrument
INSTR—Instructor
INIT—Initial
KIAS—Knots Indicated Air Speed
LOC—Localizer
LPV—Localizer Performance with Vertical Guidance
LZ—Landing Zone
LZAP—Landing Zone Arrival Procedure
MAP—Missed Approach Point
MAC—Mean Aerodynamic Chord
MAJCOM—Major Command
MC—Mission Co-Pilot
MDA—Minimum Descent Altitude
MP—Mission Pilot
MSN—Mission
NAS—National Airspace System
NDB—Nondirectional Beacon
NM—Nautical Miles
NOTAM—Notice to Airman
NVG—Night Vision Goggle
OPR—Office of Primary Responsibility

OPSEC—Operations Security

PAR—Precision Approach Radar

PNF—Pilot Not Flying

Q-3—Qualification Level 3

QUAL—Qualification

RNAV—Area Navigation

SOF—Special Operations Forces

SORN—System of Record Notice

Stan/Eval—Standardization and Evaluation

STAR—Standard Terminal Arrival

TOLD—Takeoff and Landing Data

TTP—Tactics, Techniques, and Procedures

USAF—United States Air Force

VDP—Visual Descent Point

VFR—Visual Flight Rules

VMCA—One Engine Inoperative Air Minimum Control Speed

VREF—Reference Speed

VOR—VHF Omnidirectional Range

WST—Weapon System Trainer