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Flying Operations

U-28 AIRCREW EVALUATION CRITERIA

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This manual implements Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure found in* Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations, and* Air Force and AFPD 11-4, *Aviation Service.* It establishes evaluation criteria for initial (INIT) and periodic aircrew qualification for all units operating Air Force Special Operations Command (AFSOC) U-28 and trainer aircraft. It is used in conjunction with AFMAN 11-202V2, *Aircrew Standardization and Evaluation Program*, and AFSOC supplements hereto Air Force Manual (AFMAN) 11-202V2 Air Force Special Operations Command (AFSOC) Supplement, *Aircrew Standardization/Evaluation Program* and Air Force Special Operations Command Instruction (AFSOCI) 11-2TSO, Volume 2, *Tactical Systems Operator Aircrew Evaluation Criteria*. This manual applies to all DAF civilian employees and uniformed members of the Regular Air Force and the Air Force Reserve (AFR). This publication does not apply to the United States Space Force and the Air National Guard. Major Commands (MAJCOM)/Direct Reporting Units (DRU)/Field Operating Agencies (FOA) are to forward proposed MAJCOM/DRU/FOA-level supplements to this volume to AF/A3TC, through Air Force Special Operations Command (AFSOC)/Aircrew Training (A3TA), or Special Activities (A3TV) for approval prior to publication in accordance with (IAW) AFI 11-200. Copies of MAJCOM/DRU/FOA-level supplements, after approved and published, will be provided by the issuing MAJCOM/DRU/FOA to AFSOC/A3TA, and the user MAJCOM/DRU/FOA. **Note:** The terms DRU and FOA as used in this paragraph refer only to those DRUs/FOAs that report directly to HQ United States Air Force (USAF). This publication requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by Department of Defense Directive (DoDD) 5400.11, DoD Privacy Program. The applicable System of Records

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SUMMARY OF CHANGES

This document has been revised and should be completely reviewed. Major changes include deletion of the circling evaluation criteria; removal of tactical departures as a required examination item.

Chapter 1

ROLES AND RESPONSIBILITIES

1.1. General. This manual establishes requirements and grading criteria for ground and flight phases of initial, requalification, and periodic flight evaluations for U-28 aircrew, except for tactical systems operators (TSOs). TSOs should refer to AFSOCI 11-2TSOV2 for grading criteria. Aircrew evaluations will be conducted in accordance with AFMAN 11-202V2 and AFMAN 11-2U-28V2. Specific areas for evaluation are prescribed to ensure an accurate assessment of the proficiency and capabilities of aircrews. Flight examiners (FEs) use this manual when conducting aircrew evaluations. Instructors will use this manual when preparing aircrews for qualification. **(T-3)**

1.2. MAJCOM/A3. Responsible for the U-28 Mission Design Series (MDS) aircraft and for establishing and standardizing aircrew evaluations in coordination with user commands.

1.3. Operations Group Commander. The Operations Group Commander is responsible for establishing and maintaining the Standardization and Evaluation (Stan/Eval) program and ensure FEs administer evaluations in accordance with AFMAN 11-202V2 and AFMAN 11-2U-28V2.

1.4. Squadron Commander. Squadron Commanders are responsible for establishing and maintaining the Squadron Standardization and Evaluation program as well as ensuring FEs administer evaluations in accordance with AFMAN 11-202V2 and AFMAN 11-2U-28V2.

1.5. Flight Examiners (FEs).

1.5.1. FEs will brief the examinee on the conduct, purpose, and requirements of the evaluation, as well as all applicable evaluation criteria, prior to flight. **(T-3)**

1.5.2. FEs will ensure all required training and documentation are complete prior to initial or requalification evaluations. **(T-2)**

1.5.3. FEs will ensure the examinee is current for all events to be evaluated, unless requested by examinee and approved by the examinee's squadron commander. **(T-3)**

1.5.4. FEs will inform the examinee of any unique requirements before the aircrew briefing. Air Force Reserve only: Any unique inputs to the planned profile should be communicated to Air Force Reserve examinees (regardless of status) no later than 24 hours prior to scheduled mission brief.

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

1.5.6. FEs will report deviations or discrepancies from established procedures or directives in any area, regardless of the individual's crew specialty, to the examinee's squadron or group commander, along with the FE's recommendation for corrective action. **(T-2)**

1.5.7. FEs may assist in evaluation mission planning/briefing as tasked by the examinee.

1.6. Examinees.

1.6.1. Examinees are responsible to accomplish all required mission planning in accordance with the aircrew position assigned during the evaluation. **(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. Examinees are responsible to provide FEs with a copy of necessary charts, flight logs, mission products, and any additional items they deem necessary. **(T-2)**

1.6.2. Examinees are responsible to brief all aspects of their portion of the mission. **(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 IAW the guidance of applicable technical orders, instructions, and directives.

2.1.1. Special Qualifications. Special qualification evaluations are administered for events that are not universal to all members in that crew position.

2.1.1.1. Special qualification evaluations may be conducted separately or in conjunction with the qualification or mission evaluations. After qualification, areas can 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.

2.1.1.2. Special qualifications result in an AF Form 8/8a, *Certificate of Aircrew Qualification*, documented as a SPOT evaluation per AFMAN 11-202V2. Although a unit may maintain 100 percent of its crew members qualified, this documentation is still required due to intra-fly and permanent change of station issues.

2.1.2. Multiple Qualifications. The U-28 Trainer, EQ, and EQ+ variants are different in mission design but the same airframe model. Once differences training is complete, pilots may complete instrument (INSTM) and qualification (QUAL) evaluations in any U-28 variant or simulator. Pilot mission (MSN) evaluations and Combat Systems Officer (CSO) QUAL/MSN evaluations must be completed in a U-28 EQ/EQ+ or simulator. **(T-2)** All qualifications are awarded in the "U-28," specific variant types should not be listed.

2.1.3. Conducting the evaluation:

2.1.3.1. FEs will not intentionally fail any minimum equipment list (MEL) equipment during flight evaluations, but may deny the use of systems not affecting safety of flight. **(T-3)** FEs may use reduced engine power settings for simulated engine out maneuvers. To maximize troubleshooting, FEs may fail mission equipment on the mission buses. These items are not required for flight, and will not be failed during critical phases of flight. **(T-3)**

2.1.3.2. FEs are permitted to use AF Form 3862, *Flight Evaluation Worksheet* or an electronic equivalent (e.g., Patriot Excalibur software) to assist with the evaluation. If a worksheet is used, it must be current in relation to requirements outlined in this manual and evaluation tables. **(T-2)**

2.1.3.3. FEs will 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.

2.2. Evaluation Requirements. Evaluation profiles will reflect a sampling of the unit's mission. **(T-3)** Evaluation tables are provided to summarize evaluation areas. All aircrew must be evaluated on the areas listed in **Table 2.1**. **(T-2)** Instructor evaluation areas are in **Table 5.1** 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 and in flight and/or alternate methods. For areas without a note, FEs may evaluate at their discretion if observed. If required events are not observed, then the evaluation is incomplete and must be accomplished on another flight, simulator sortie, or by alternate means.

2.2.1. Examinations. All crew members will complete open and closed book examinations as a requisite to periodic evaluations. Pilots will complete the instrument examination as a requisite to periodic INSTM evaluation. QUAL and MSN examinations may be combined and given as one examination. **(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 FE or unit standardizations and evaluations. Operations Group Standardization and Evaluation may develop EPE guides for each crew position for FE 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. **(T-3)** FEs should include other general knowledge areas as well. For mission evaluations, evaluate mission-specific equipment and situations. EPEs should include sufficient in-flight and ground emergencies to evaluate the examinee's knowledge of systems and procedures to the FE's satisfaction.

2.2.3. Examinees may use publications that are normally available in flight. The examinee should accomplish all critical actions procedures (CAP) from memory and should provide the initial steps of the EP that, in the opinion of the FE, would not allow time for reference. Grading criteria for EPE are outlined in Area 5 of general grading areas.

2.2.4. Publications Check. Required for all INSTM, QUAL, MSN, or combined evaluations (e.g., INSTM/QUAL/MSN) as outlined in Area 12 of General Grading Areas.

2.2.5. Cockpit/Crew Resource Management (CRM). 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).

2.2.6. Syllabus Evaluations. For evaluations conducted after the completion of a prescribed syllabus of instruction at the formal training unit or conducted via secondary method training, use the specific criteria in the syllabus of instruction for the evaluation. All required areas must be evaluated for the type of evaluation being flown, IAW guidance in this volume. **(T-2)** Grade training objectives and related areas using the performance criteria in this volume. **(T-2)**

2.2.7. Simulator. Simulators and weapon system trainers may be used to accomplish evaluations under the instructions in this manual. Do not conduct two consecutive evaluations in the simulator. **(T-3)**

2.2.8. If an area/subarea was not able to be evaluated in flight and the simulator is certified for the event, it can 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.

2.2.9. 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 (e.g., procedural trainer or verbal examination). If, in the FE's judgment, an item cannot be adequately evaluated by an alternate method, complete the evaluation on an additional flight.

2.3. Grading Instructions. FEs will use the grading criteria in this volume and the classified addendum to determine individual area grades in all flight, simulator, and EPEs. **(T-2)** Exercise judgment when the wording of areas is subjective and when specific areas are not covered. FE will be the determining factor in arriving at the overall grade. **(T-2)** Consider cumulative deviations when determining the overall grade. CRITICAL areas require adequate accomplishment by the aircrew member in order to successfully achieve the mission objectives and will be graded either Q or U. If an aircrew member receives an unqualified grade in any CRITICAL area, the overall grade for the evaluation will also be unqualified. **(T-1)** CRITICAL areas are identified by "CRITICAL" in the area title. The EPE will be graded on a Q1, Q2, or Q3 basis. All other areas will be graded under the Q, Q-, or U construct.

2.3.1. Additional Training**.** FEs assign additional ground or flight training at their discretion, documented on the Form 8. 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 Q3 evaluation. This option requires FE discretion and judicious application. **(T-3)** The examinee must be informed when the additional training begins and ends. **(T-2)**

2.3.2. Unsatisfactory performance. If the FE observes an aircrew examinee jeopardizing safety, the FE will assume the duties of that aircrew member **(T-2)** If the FE feels the examinee can continue safely with supervision, the FE is not required to assume the examinee's duties. If the FE assumes the examinee's duties, assign a qualification level 3 (Q3) as the overall grade.

2.3.3. Rechecks**.** Rechecks should be administered by an FE other than the one who administered the original evaluation. Rechecks will be requalification (RQ) evaluations IAW the guidance contained in AFMAN 11-202V2.

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

Area	Notes	Required Grading Areas
1		Safety – CRITICAL
2		Aircrew Discipline – CRITICAL
3		Airmanship/Situational Awareness – CRITICAL

4	1	Critical Action Procedures (CAP) – CRITICAL
5	1	Emergency Procedures Evaluation (EPE)
6		Crew Coordination
7	1	Mission Planning
8	1	Knowledge of Directives
9		Preflight
10		Use of Checklists
11	1	Forms/Reports
12	1	Personal/Professional Equipment/Flight Publications
13	1	Emergency and Life Support Equipment/Procedures
14	1	Briefings/Debriefings
15	1	Classified Material/Operations Security
16	1	Aircraft Security
17		Communication
18	1	Risk Management/Decision Making
19		Task Management
Notes: **1. Note 1**: May be accomplished via an alternate method.		

2.4. General Grading Criteria. With the exception of CRITICAL Areas and the EPE, grading criteria for evaluations follows the Q, Q- and U construct. CRITICAL areas are either Q or U and the EPE is graded as Q1, Q2 or Q3. FEs will use the grading criteria in this volume and the classified addendum to determine individual area grades. **(T-2)** Exercise judgment when the wording of areas is subjective and when specific areas are not covered. FE judgment will be the determining factor in arriving at the overall grade. **(T-2)** Consider cumulative deviations when determining the overall grade.

2.4.1. Area 1. Safety - CRITICAL.

2.4.1.1. **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.

2.4.1.2. **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.

2.4.2. Area 2. Aircrew Discipline - CRITICAL.

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

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

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

2.4.3.1. **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.

2.4.3.2. **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.

2.4.4. Area 4. CAP – CRITICAL.

2.4.4.1. **Q.** Able to accomplish the proper CAP, in the correct sequence with no discrepancies.

2.4.4.2. **U.** Failed to accomplish CAP in the correct sequence. Discrepancies in the procedure.

2.4.5. Area 5. Emergency Procedures Evaluation (EPE).

2.4.5.1. **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.

2.4.5.2. **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.

2.4.5.3. **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.

2.4.6. Area 6. Crew Coordination.

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

2.4.6.2. **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.

2.4.6.3. **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.

2.4.7. Area 7. Mission Planning.

2.4.7.1. **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, extracted 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.

2.4.7.2. **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.

2.4.7.3. **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.

2.4.8. Area 8. Knowledge of Directives.

2.4.8.1. **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.

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

2.4.8.3. **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.

2.4.9. Area 9. Preflight.

2.4.9.1. **Q.** Completed aircraft systems preflight and inspections IAW guidance contained in aircraft operating manuals, checklists, and instructions. Individual technique complied with established procedures.

2.4.9.2. **Q-.** Minor deviations from established aircraft systems pre-flight/inspection. Individual technique was safe, but detracted from established procedures. Used individual technique instead of established procedure and was unaware of differences.

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

2.4.10. Area 10. Use of Checklist.

2.4.10.1. **Q.** Consistently used correct checklist, gave correct responses and accomplished appropriate actions at the appropriate time throughout the mission.

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

2.4.10.3. **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.

2.4.11. Area 11. Forms/Reports.

2.4.11.1. **Q.** All required forms and/or flight plans were complete, accurate, legible, and accomplished on time IAW the guidance of applicable directives. Relayed an accurate debrief of significant events to applicable agencies (mission planners, intelligence, weather, maintenance, etc.).

2.4.11.2. **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.

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

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

2.4.12.1. **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.

2.4.12.2. **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.

2.4.12.3. **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 out dated and/or contained deficiencies that would impact flight safety or mission accomplishment.

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

2.4.13.1. **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.

2.4.13.2. **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. Omitted, or deviated in use of checklist and/or available aids.

2.4.13.3. **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.

2.4.14. Area 14. Briefings/Debriefings.

2.4.14.1. **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.

2.4.14.2. **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.

2.4.14.3. **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.

2.4.15. Area 15. Classified Material/Operations Security.

2.4.15.1. **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 crypto-logical material required for the mission.

2.4.15.2. **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 crypto-logical material required for mission, but was slow in requesting or obtaining material or did so only after being prompted.

2.4.15.3. **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.

2.4.16. Area 16. Aircraft Security.

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

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

2.4.16.3. **U.** Could not explain proper anti-hijacking and aircraft security procedures.

2.4.17. Area 17. Communication.

2.4.17.1. **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.

2.4.17.2. **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.

2.4.17.3. **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.

2.4.18. Area 18. Risk Management/Decision Making.

2.4.18.1. **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.

2.4.18.2. **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.

2.4.18.3. **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.

2.4.19. Area 19. Task Management.

2.4.19.1. **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.

2.4.19.2. **Q-.** Did not consistently or correctly prioritize tasks. Did not effectively use available resources to manage workload. Did not clearly communicate or 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 or report work overloads in self and others.

2.4.19.3. **U.** Failed to correctly prioritize tasks. Did not use available resources to manage workload. Did not communicate or 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 or report work overloads in self and others.

Chapter 3

PILOT EVALUATIONS

3.1. General. All pilots require an INSTM and QUAL evaluation. **(T-2)** MSN qualified pilots also require a MSN evaluation. **(T-2)** Timing for INSTM, QUAL, and MSN evaluations will be IAW with AFMAN 11-202V2. **(T-2)** For aircraft commanders (ACs), pilot crew coordination will include duties and responsibilities expected of an AC. **(T-2)**

3.2. Requirements. Evaluate all pilots on areas listed in Tables **3.1** and **3.2** **(T-2)**

3.3. Instrument (INSTM). See **Table 3.1** for required INSTM evaluation areas. Requisites (prerequisites for initial or requalification evaluations) include the Instrument Refresher Course (IRC) and instrument examination. **(T-2)**

3.4. Qualification (QUAL). See **Table 3.1** for required QUAL evaluation areas. Requisites (prerequisites for INIT or RQ evaluations) include QUAL open and closed book examinations (or formal school end of course examinations), and EPE. **(T-2)** This evaluation is normally accomplished in combination with an INSTM evaluation. If the pilot is an AC, the evaluation should normally be flown from the left seat. Instructors' evaluations may be flown from either seat.

3.5. Mission (MSN). See **Table 3.2** for MSN evaluation areas and subparagraph below for requirements. Requisites (prerequisites for initial or requalification evaluations) include pilot mission open and pilot mission closed book examinations and EPE. **(T-2)**

3.5.1. Crew Position. Copilot evaluations will be flown from the right seat only. **(T-2)** Evaluations for ACs and instructor pilots may be flown from either seat. Document which seat the examinee occupied in the comments section of the AF Form 8.

3.5.2. Requirements. At least 60 minutes of demonstrated usage of onboard systems and accomplish five mission events for INIT/RQ (four for periodic) from **Table 3.2** Additionally: one mission event will consist of Mission Event #7 or Mission Event #19. **(T-3)**

Table 3.1. Pilot INSTM/QUAL Required Grading Areas.

Area	Notes	Required Grading Areas	QUAL	INSTM
30		Ground Operations & Taxi	X	
31		Takeoff	X	
32	1	Instrument Departure		X
33		Enroute Navigation and use of Navigation Aids (NAVAIDS)		X

34		Descent and Arrival Procedures		X
35		Holding or Procedure Turn		X
36	2, 3	**Precision Approach**		
36a		Precision Approach Radar (PAR)		X
36b		Instrument Landing System (ILS)		X
36c		Localizer Performance with Vertical Guidance (LPV)		X
36d		Localizer Directional Aid (LDA) with Glideslope		X
37	2, 3	**Non-Precision Approach**		
37a		Area Navigation (RNAV) or Global Positioning System (GPS)		X
37b		Very High Frequency Omni-directional Range (VOR)		X
37c		Localizer (LOC)		X
37d		Non Directional Beacon (NDB)		X
37e		Approach Surveillance Radar (ASR)		X
37f		Localizer Performance (LP)		X
38		Reserved for future use		
39	1	Missed Approach		X

40		Visual Flight Rules (VFR) Pattern	X	
41		**Final Approach and Landing**		
41a		Full Flap Landing	X	
41b		Partial Flap Landing	X	
41c		No Flap Landing	X	
41d		Touch-and-Go Landing	X	
42	1	Fuel Conservation	X	
43	1	Systems Operations/Knowledge/Limitations/National Airspace System (NAS)	X	
44	3	SFO	X	
44a		EOLP	X	
44b		Turn back or Straight-Ahead	X	
44c		Off-Airfield EOLP	X	
45-49		Reserved for future use		
Note 1: May be accomplished via an alternate method. 2. Only one of the two required approaches may be controller directed (PAR/ASR). 3. Any one required				

Table 3.2. Pilot MSN Required Grading Areas.

Area	Notes	Required Grading Areas	MSN

50		Threat Avoidance and Tactics	X
51		Tactical Departure	
52		Tactical Recovery	
53		Reserved for Future Use	
54		Reserved for Future Use	
56	1	Flight Management System (FMS) Operation	X
57	1	Radios and Secure Communications	X
58	1	Identification, Friend or Foe (IFF)	X
59	1	Defensive Systems	X
60	1	Mission Computer and Network Architecture	X
61	1	Mission Systems Operations, Knowledge and Limitations	X
	2	**Mission Events**	
62		Objective Correlation and Target Development (Mission Event #1)	X
63		Vehicle Follow (Mission Event #2)	X
64		Squirter Control (Mission Event #3)	X
65		Route Reconnaissance or Friendly Escort (Mission Event #4)	X
66		Helicopter Landing Zone Reconnaissance (Mission Event #5)	X
67		Target Talk-on (Mission Event #6)	X
68		Mission Event #7	X
69		Buddy Lase (Mission Event #8)	X
70		Collateral Calls (Mission Event #9)	X
71		Tactical Air Coordinator - Airborne(TAC(-A)) or Air/Sensor Warden (Mission Event #10)	X
72		Mission Event #19	X

Notes:

1. Note 1: May be accomplished via an alternate method.

2. Note 2: Any 4 (Periodic) or 5 (INIT/RQ) mission events required, one of which must be Mission Event #7 or Mission Event #19 **(T-3)**

Table 3.3. General Criteria.

Q	Altitude	± 100 feet
	Airspeed	+10/-5 Knots Indicated Airspeed (KIAS)
	Course	± 5 degrees/2 Nautical Miles (nm) (whichever is greater)
	Arc	± 1 nm
Q-	Altitude	±200 feet
	Airspeed	+15/-10 knots
	Course	±10 degrees/5 nm (whichever is greater)
	Arc	±2 nm
U		Exceeded Q- limitations

3.6. Grading Criteria. The following subparagraphs contain grading criteria for the areas listed in **Table 3.1** and **Table 3.2** The general criteria in **Table 3.3** apply during all phases of flight except as noted in specific areas and instrument final approaches.

3.6.1. Area 30. Ground Operations and Taxi.

3.6.1.1. **Q.** Established and adhered to station, start engine, taxi, and take-off 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.

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

3.6.1.3. **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.

3.6.2. Area 31. Takeoff.

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

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

3.6.2.3. **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.

3.6.3. Area 32. Instrument Departure.

3.6.3.1. **Q.** Performed departure IAW the guidance of published procedures and directives. Used all available instruments and systems (e.g., both navigation sources, Flight Director (FD), GPS, etc.) to fly the chronologically and risk-based priorities as available instruments allow: 1) published departure procedure (if applicable), or controller's instructions, or navigation to first point, 2) instruments to facilitate a turn back in the event of an engine failure, and 3) instrument approach back to the departure airfield. Complied with all restrictions or controlling agency instructions. Made all required reports. Applied course and heading corrections promptly. Demonstrated smooth and positive aircraft control.

3.6.3.2. **Q-.** Only partially set up instruments and systems before departure. Mis-prioritized setup per **paragraph 3.6.3.1** and/or did not set up for each priority when aircraft had enough systems to do so. 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.

3.6.3.3. **U.** Instrument departure was not in accordance with technical orders, directives, or published procedures. Failed to setup or incorrectly setup instruments. Did not consider departure priorities when setting up instruments. Failed to comply with published or directed departure, or controlling agency instructions. Accepted an inaccurate clearance. Aircraft control was erratic.

3.6.4. Area 33. En route navigation and use of navigational aids (NAVAIDS).

3.6.4.1. **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 flight management system (GPS, FMS, etc.). Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.

3.6.4.2. **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.

3.6.4.3. **U.** Major errors in procedures/use of navigation equipment. Did not ensure NAVAIDS 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.

3.6.5. Area 34. Descent and Arrival Procedures.

3.6.5.1. **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.

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

3.6.5.3. **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.

3.6.6. Area 35. Holding or Procedure Turn.

3.6.6.1. **Q.** Briefed and performed entry and holding in accordance with published procedures and directives. If using autopilot, holding pattern was properly entered and autopilot performance was monitored. Holding pattern limits exceeded by not more than:

3.6.6.1.1. VOR Leg timing: ± 15 seconds.

3.6.6.1.2. VOR distance as defined by Distance Measuring Equipment (DME): ± 1 nm.

3.6.6.1.3. RNAV/GPS: ± 1 nm.

3.6.6.2. **Q-.** Briefed and performed entry and holding procedures with minor deviations. Failed to properly setup and load the autopilot (if used), but corrected in a timely manner. Holding pattern limit exceeded by not more than:

3.6.6.2.1. VOR Leg timing: ± 30 seconds.

3.6.6.2.2. VOR distance as defined by DME: ± 2 nm.

3.6.6.2.3. RNAV/GPS: ± 2 nm.

3.6.6.3. **U.** Holding was not in accordance with technical orders, directives, or published procedures. Failed to brief holding. Failed to enter into autopilot properly and subsequently failed to correct in a timely manner. Failed to disconnect autopilot (if used) if the autopilot holding pattern was not as briefed or was incorrect. Exceeded Q- holding pattern limits.

3.6.7. Area 36. Precision Approach. **Note**: Use the following criteria for Areas 36a, 36c. and 36d. 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.

3.6.7.1. **Q.**

3.6.7.1.1. Airspeed: +10/-5 KIAS

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

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

3.6.7.1.4. Azimuth: Within one dot (ILS/LPV/LDA).

3.6.7.2. **Q-.**

3.6.7.2.1. Airspeed: +15/-5 KIAS.

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

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

3.6.7.2.4. Azimuth: Within two dots (ILS/LPV/LDA).

3.6.7.3. **U.**

3.6.7.3.1. Exceeded Q- criteria. Duck under resulted in an unsafe position to continue landing.

3.6.7.4. Area 36a Precision Approach Radar.

3.6.7.4.1. **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.

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

3.6.7.4.3. **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; position would not have permitted a safe landing. Exceeded Q- limits.

3.6.7.5. Area 36b Instrument Landing System, Area 36c LPV and Area 36d LDA.

3.6.7.5.1. **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.

3.6.7.5.2. **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.

3.6.7.5.3. **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.

3.6.8. Area 37. Non-Precision Approach. **Note**: Use the following criteria for Area 37a RNAV/GPS, Area 37b VOR, Area 37c LOC, Area 37d NDB, Area 37e ASR and Area 37f LP. Use the following criteria as general tolerances for airspeed, altitude, heading, and azimuth. Airspeed tolerances are based on computed or briefed approach speed.

3.6.8.1. **Q.** Approach was IAW flight manual, directives, and published procedures. Used appropriate descent rate to arrive at minimum descent altitude (MDA) before visual descent point (VDP). Properly set power while leveling at MDA to maintain altitude and airspeed. Position permitted a safe landing. Smooth and timely response to controller's instructions (ASR).

3.6.8.1.1. Airspeed: +10/-5 KIAS.

3.6.8.1.2. Heading: ± 5 degrees (ASR).

3.6.8.1.3. Course: ± 5 degrees at MAP (RNAV/GPS, VOR, NDB)

3.6.8.1.4. Localizer/LP Course: Less than one dot deflection.

3.6.8.1.5. MDA: +100/-0 feet.

3.6.8.1.6. MAP: Timing computed/adjusted within 10 seconds or distance within ± 0.5 nm.

3.6.8.2. **Q-.** Performed approach with minor deviations. Arrived at MDA at or before the MAP, but at or past the VDP. Position would have permitted a safe landing. Incorrect power setting at MDA, resulting in an improper descent/climb or deceleration/acceleration. Slow to respond to controller's instructions and make corrections (ASR).

3.6.8.2.1. Airspeed: +15/-5 KIAS.

3.6.8.2.2. Heading: ± 10 degrees (ASR).

3.6.8.2.3. Course: ± 10 degrees at MAP (NAV/GPS, VOR, NDB).

3.6.8.2.4. Localizer/LP Course: Within two dots deflection.

3.6.8.2.5. MDA: +150/-50 feet.

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

3.6.8.3. **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.

3.6.9. Area 38. Circling or Side-Step Approach.

3.6.9.1. 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.

3.6.9.1.1. Airspeed: +10/-5 KIAS.

3.6.9.1.2. Altitude: +100/-0 feet.

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

3.6.9.2.1. Airspeed: +15/-5 KIAS.

3.6.9.2.2. Altitude: +150/-50 feet.

3.6.9.3. 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.

3.6.10. Area 39. Missed Approach.

3.6.10.1. **Q.** Executed missed approach IAW published procedures or climb out instructions and restrictions. Initiated and performed go-around promptly. Complied with controller's instructions. Applied smooth control inputs. Attained and maintained a positive climb. Used all available means to assist in missed approach procedures (e.g., FD, go around button).

3.6.10.2. **Q-.** Executed missed approach or climb out instructions with minor deviations. Was slow or hesitant to initiate go-around. Slow to respond to controller's instructions. Slightly over controlled the aircraft. Did not use all available means to assist in performing procedure.

3.6.10.3. **U.** Did not execute missed approach or climb out instructions 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.

3.6.11. Area 40. VFR Pattern.

3.6.11.1. **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.

3.6.11.2. **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.

3.6.11.3. **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.

3.6.12. Area 41. Final Approach and Landing. 41a, Full Flap Landing, Area 41b Partial Flap Landing, Area 41c No Flap Landing and Area 41d Touch-and-go Landing. Use the following criteria. **Note**: The following criteria apply to all landings. FEs 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.

3.6.12.1. **Q.** Performed landing as published/directed IAW flight manual. Crossed threshold at Vref +10/-0 knots or Angle of Attack (AOA) centered at an appropriate attitude. Smooth and positive aircraft control throughout the round out and flare. Touched down with no crab and within ±3 feet of centerline. Complied with flight manual procedures for the use of brakes and reverse thrust. Properly calculated Takeoff and Landing Data (TOLD), and identified and adhered to touch-down, go-around, and decision points. Met the following criteria:

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

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

3.6.12.1.3. **Q-.** Performed landing with minor deviations to procedures as published/directed. Crossed threshold at Vref +15/-5 knots or ±1 diamond AOA; slightly high or low but no compromise of safety. Touched down not more than ±7 feet of centerline. Improperly calculated TOLD but realized and corrected mistake before becoming unsafe. Misidentified or did not adhere to briefed touch-down, go-around, and decision points, but was not unsafe. Exceeded Q criteria but not the following:

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

3.6.12.1.5. Touchdown Point: Past threshold and within 1,500 feet of intended touchdown point.

3.6.12.1.6. **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. Did not calculate or miscalculated TOLD. Did not identify or incorrectly identified touch-down, go-around, or decision points, or did not adhere to them resulting in an unsafe action. Exceeded Q- criteria.

3.6.13. Area 42. Fuel Conservation.

3.6.13.1. **Q.** Demonstrated 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.

3.6.13.2. **Q-.** Demonstrated 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.

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

3.6.14. Area 43. Systems Operation/Knowledge/Limitations/NAS.

3.6.14.1. **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.

3.6.14.2. **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.

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

3.6.15. Area 44. SFO.

3.6.15.1. Areas 44a through 44c use the following criteria in addition to each specific event's criteria.

3.6.15.1.1. **Q.** Possessed a high level of knowledge of energy management and emergency procedures. Properly analyzed the emergency scenario presented and took proper action. If engine failure/shut down, feathered the propeller expeditiously. Followed published maneuver guidance to a point that would result in a safe landing at the intended point of touchdown. Ensured crew ran the applicable emergency checklist.

3.6.15.1.2. **Q-.** Marginal knowledge of energy management and emergency procedures. Properly analyzed the situation but did not do so expeditiously, resulting in more difficult maneuvering than required. If engine failure/shut down, delayed feathering the propeller. Mentioned emergency checklists but did not run them. Followed maneuver guidance with some deviations, but landing would still be safe, either touching down on pavement and running off or landing short but safely (e.g., in under run).

3.6.15.1.3. **U.** Unsatisfactory knowledge of energy management and emergency procedures. Did not properly analyze the situation and/or took improper action. Failed to manage energy properly. Eventual landing would not have been safe or would have been off the intended landing surface. Failed to use emergency checklists. Failed to feather the propeller following an engine failure/shutdown.

3.6.15.2. Area 44a. EOLP. Includes straight-in and downwind EOLP SFOs.

3.6.15.2.1. **Q.** Possessed a high level of knowledge of EOLP procedures. If EP initiated from outside the landing pattern, correctly determined energy state and where the EOLP would be intercepted over the airfield configured appropriately for conditions and per Aircrew Operating Handbook Volume 1 (AOH V1). Correctly calculated required fly off values based on actual energy state to within ±100 ft at high key and ±50 ft at low key. Actually flew those calculated fly off values to within ±100 ft at high key and ±50 ft at low key. Flew AOA centered throughout the maneuver, ±1 diamond. Properly adjusted key horizontal positions to account for wind. Eventual landing would be possible and would not result in the aircraft departing the runway.

3.6.15.2.2. **Q-.** Marginal knowledge of EOLP procedures. Incorrectly determined energy state or failed to determine the EOLP interception location. Configured late or mismanaged energy resulting in missing a planned key position. Made slight

miscalculations in the required fly off values, but still within ±150 ft at high key and ±75 ft at low key. Flew the calculated fly off values, but exceeded Q criteria, remaining within ±150 ft at high key and ±75 ft at low key. Flew within AOA fast and slow display limits. Incompletely adjusted key horizontal positions to account for winds. Managed energy state was low or high, which would have resulted in landing short of the intended touchdown point, or landing long and not being able to stop prior to the departure end of the runway.

3.6.15.2.3. **U.** Unsatisfactory knowledge of EOLP procedures. Unable to determine energy state prior to entering EOLP. Configured inappropriately or failed to configure. Incorrectly determined energy state. Did not calculate fly off values or calculated them exceeding Q- criteria. Did not fly off calculated fly off values or flown fly off exceeded Q- criteria. Exceeded Q- criteria for AOA. Received approach to stall or stall indication and did not correct appropriately. Did not correct key horizontal positions for wind or did so but exceeded Q- criteria. EOLP would not have resulted in a landing on the runway.

3.6.15.3. Area 44b. Turn Back or Straight-Ahead.

3.6.15.3.1. **Q.** Possessed a high level of knowledge of turn back/straight-ahead procedures. Correctly calculated Turn Back Altitude (TBA) IAW U-28 AOH V1, +100/-0 ft. Executed turn back only if engine failure initiated at or above TBA. Performed CAP correctly and ensured remaining checklist items were completed. Smooth and positive aircraft control throughout maneuver. Flew AOA centered ±1 diamond. Set flaps 15 expeditiously after engine failure. Turn back: turned into the wind, or as appropriate for terrain/ and obstacles, and did not over-turn. Would result in a safe landing. Straight-ahead: turned only as required to avoid obstacles and fly to a suitable landing area.

3.6.15.3.2. **Q-.** Marginal knowledge of procedures. Calculated TBA +200/-100 ft. Performed CAP correctly but did not ensure remaining checklist was completed. Flew within AOA fast and slow display limits. Set flaps 15 expeditiously after engine failure. Turn back: turned into the wind, or as appropriate for terrain and obstacles, but over-turned resulting in a lower energy state. Would result in a safe landing in the airfield environment but may not make the runway. Straight-ahead: turned only as required to avoid obstacles and fly to a suitable landing area, but delayed or changed decision resulting in a lower energy state.

3.6.15.3.3. **U.** Unsatisfactory knowledge of procedures. Did not calculate turn back altitude or exceeded Q- criteria. AOA exceeded Q- criteria. Received approach to stall or stall indication and did not correct appropriately. Did not set flaps 15 expeditiously. Turned in the incorrect direction. Executed a turn back below the calculated TBA. Failed to perform CAPs correctly. Would not result in a safe landing.

3.6.15.4. Area 44c. Off-Airfield EOLP. Use EOLP criteria, plus the following.

3.6.15.4.1. **Q.** Cleared for obstacles throughout the approach and on the landing site both visually and with available tools (Enhanced Ground Proximity Warning System, Multifunction Display charts). Landing site determined without excessive delay and large enough to land the aircraft (greater than landing ground roll without reverse).

3.6.15.4.2. **Q-.** Cleared for obstacles only visually. Landing site chosen late, complicating EOLP interception. Changed planned landing site due to poor energy management. Landing site too short to complete landing roll.

3.6.15.4.3. **U.** Did not clear for obstacles. Landing site unsuitable for safe landing. Delay in landing site selection prevented flying any standard part of the EOLP or resulted in low energy, forcing a landing site change.

3.6.16. Area 50. Threat Avoidance and Tactics.

3.6.16.1. **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.

3.6.16.2. **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.

3.6.16.3. **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.

3.6.17. Area 51. Tactical Departure. **Note:** Perform IAW AFTTP 3-3.U-28, *Combat Aircraft Fundamentals U-28.*

3.6.17.1. **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.

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

3.6.17.3. **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.

3.6.18. Area 52. Tactical Recovery. **Note**: Perform IAW in AFTTP 3-3.U-28. **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.

3.6.18.1. **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.

3.6.18.2. **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.

3.6.19. Area 53. Reserved for future use.

3.6.20. Area 54. Reserved for future use.

3.6.21. Area 56. FMS Operation.

3.6.21.1. **Q.** Demonstrated/explained a complete knowledge of the flight management system, including, but not limited to, loading a flight plan, waypoint and pattern entry, loading a GPS approach, and checking Receiver Autonomous Integrity Monitoring (RAIM). Troubleshooting was complete.

3.6.21.2. **Q-.** Demonstrated/explained a marginal knowledge of the flight management system, including, but not limited to, loading a flight plan, waypoint and pattern entry, loading a GPS approach, and checking RAIM. Troubleshooting led to marginally-degraded system. Unable to complete tasks in a timely manner.

3.6.21.3. **U.** Level of knowledge was unsatisfactory. Unable to demonstrate/explain the flight management system, including, but not limited to, loading a flight plan, waypoint and pattern entry, loading a GPS approach, and checking RAIM. Unable to troubleshoot or troubleshooting was incomplete and led to fully degraded system.

3.6.22. Area 57. Radios and Secure Communications.

3.6.22.1. **Q.** Demonstrated/explained a complete knowledge of the radios, to include the ARC-231, PRC-117G, Small Secure Datalink (SSDL) and hand-held radios. Able to load presets, operate in correct secure mode, and program frequencies in a timely manner. Troubleshooting led to fully functional radio usage.

3.6.22.2. **Q-.** Demonstrated/explained a marginal knowledge of the radios, to include the ARC-231, PRC-117G, SSDL, and hand-held radios. Able to load presets, operate in correct secure mode, and program short-notice frequencies with some difficulty. Troubleshooting resulted in semi-degraded radio operation.

3.6.22.3. **U.** Level of knowledge was unsatisfactory. Unable to load presets, operate in correct secure mode, and program frequencies into the ARC-231, PRC-117G, SSDL, and hand-held radios. Unable to troubleshoot, or troubleshooting resulted in degraded radio operation.

3.6.23. Area 58. IFF.

3.6.23.1. **Q.** Demonstrated/explained a complete knowledge of the APX-119, to include proper startup and shutdown procedures, brightness and range control, and data entry. Troubleshooting was complete.

3.6.23.2. **Q-.** Demonstrated/explained a marginal knowledge of the APX-119, to include proper startup and shutdown procedures, brightness and range control, and data entry. Troubleshooting was incomplete.

3.6.23.3. **U.** Level of knowledge was unsatisfactory. Unable to startup and shutdown APX-119. Unable to control the range or brightness. Unable to enter IFF data. Troubleshooting further degraded the system.

3.6.24. Area 59. Defensive Systems.

3.6.24.1. **Q.** Demonstrated/explained a complete knowledge of the ALE-47 and AAR-54, to include proper startup and shutdown procedures, and program/mode selection. Troubleshooting was complete.

3.6.24.2. **Q-.** Demonstrated/explained a marginal knowledge of the ALE-47 and AAR-54. Able to perform startup and shutdown procedures, and program/mode selection with minimal input. Troubleshooting led to marginally degraded system.

3.6.24.3. **U.** Level of knowledge was unsatisfactory. Unable to start system or choose correct program/mode. Unable to troubleshoot.

3.6.25. Area 60. Mission Computer and Network Architecture.

3.6.25.1. **Q.** Demonstrated/explained a complete knowledge of aircraft network architecture and mission computer set up to include all standard software applications. Able to successfully navigate through the architecture and troubleshoot as required. Led to fully operational mission computers.

3.6.25.2. **Q-.** Demonstrated/explained a marginal knowledge of aircraft network architecture and mission computer setup. Unable to fully utilize software applications which could potentially lead to mission degradation. Data entry slow or needed assistance to setup mission computer. Troubleshooting resulted in some systems not functional.

3.6.25.3. **U.** Level of knowledge was unsatisfactory. Unable to properly setup mission computers and/or utilize associated software applications. Unable to properly troubleshoot which led to mission degradation.

3.6.26. Area 61. Mission Systems Operations, Knowledge and Limitations.

3.6.26.1. **Q.** Demonstrated competent operation of systems/equipment associated with the pilot position, mission computer systems, and other associated equipment/systems IAW guides, instructions, and AOH.

3.6.26.2. **Q-.** Demonstrated partial proficiency that did not jeopardize mission accomplishment or flight safety while operating the systems/equipment associated with the pilot position, mission computer systems, and other associated equipment/systems.

3.6.26.3. **U.** Demonstrated unsatisfactory proficiency with the systems/equipment associated with the pilot position, mission computer systems, and other associated equipment/systems.

3.6.27. Area 62-72. Mission Events. Reference **Chapter 6** for Core Mission Event grading criteria.

Chapter 4

COMBAT SYSTEMS OFFICER EVALUATIONS

4.1. General. CSOs require a combined QUAL and MSN evaluation. Timing for QUAL and MSN evaluations will be IAW with AFMAN 11-202V2.

4.2. Requirements. Refer to **Chapter 2** for general grading areas and **Chapter 5** for instructor grading areas and criteria. CSO specific areas and criteria are listed in this chapter.

4.3. Combined Qualification and Mission (QUAL and MSN) Evaluations. See **Table 4.1** for required evaluation areas. Requisites (pre-requisites for initial or requalification evaluations) include the CSO open and CSO closed book examinations, and EPE.

4.4. Initial/Requalification/Periodic. At least 60 minutes of demonstrated usage of onboard systems, EPs, five mission events for INIT/RQ (four for periodic) from **Table 4.1** Additionally, one mission event will consist of Mission Event #7 or Mission Event #19. **(T-3)**

Table 4.1. Combat Systems Officer QUAL and MSN Required Grading Areas.

Area	Notes	Required Grading Areas	QUAL	MSN
70	1	Mission Systems Operation, Knowledge and Limitations	X	
71	1	Battle Space Awareness	X	
72	1	Mission Computer and Network Architecture		X
73	1	Radios and Secure Communications	X	
	2	**Mission Events**		
74		Objective Correlation and Target Development (Mission Event #1)		X
75		Vehicle Follow (Mission Event #2)		X
76		Squirter Control (Mission Event #3)		X
77		Route Reconnaissance or Friendly Escort (Mission Event #4)		X

78		Helicopter Landing Zone Reconnaissance (Mission Event #5)		X
79		Target Talk-on (Mission Event #6)		X
80		Mission Event #7		X
81		Buddy Lase (Mission Event #8)		X
82		Collateral Calls (Mission Event #9)		X
83		TAC (A) or Air/Sensor Warden (Mission Event #10)		X
84		Mission Event #19		X

Notes:

1. Note 1: May be accomplished via an alternate method.

2. Note 2: Any 4 (periodic) or 5 (INIT/RQ) mission events required, one of which will be Mission Event #7 or Mission Event #19 **(T-3)**

4.5. Grading Criteria. The following subparagraphs contain grading criteria for the areas listed in **Table 4.1**.

4.5.1. Area 70. Mission Systems Operation, Knowledge and Limitations.

4.5.1.1. **Q.** Demonstrated competent operation of systems/equipment associated with the CSO position, mission computer systems, and other associated equipment/systems IAW guides, instructions, and mission operator handbook(s).

4.5.1.2. **Q-.** Demonstrated partial proficiency that did not jeopardize mission accomplishment or flight safety while operating the systems/equipment associated with the CSO position, mission computer systems, and other associated equipment/systems.

4.5.1.3. **U.** Demonstrated unsatisfactory proficiency with the systems/equipment associated with the CSO position, mission computer systems, and other associated equipment/systems.

4.5.2. Area 71. Battle Space Awareness.

4.5.2.1. **Q.** Using charts/imagery/text or verbal descriptions, demonstrated the ability to acquire and maintain situational awareness with onboard systems while keeping track of the aircraft position and heading versus the location of objectives, threats, terrain, and friendly locations.

4.5.2.2. **Q-.** Using charts/imagery/text or verbal descriptions, demonstrated the ability to acquire and maintain situational awareness with the onboard systems while keeping track of the aircraft position and heading versus the location of objectives, threats, terrain, and friendly locations, but not to the desired speed or proficiency. Examinee caused minor delays to mission accomplishment and did not jeopardize flight safety.

4.5.2.3. **U.** Using charts/imagery/text or verbal descriptions, failed to demonstrate the ability to acquire and maintain situational awareness with the onboard systems while keeping track of the aircraft position and heading versus the location of objectives, threats, terrain, and friendly locations. Mission accomplishment and/or flight safety was jeopardized.

4.5.3. Area 72. Mission Computer and Network Architecture.

4.5.3.1. **Q.** Demonstrated/explained a complete knowledge of aircraft network architecture and mission computer setup to include all standard software applications. Able to successfully navigate through the architecture and troubleshoot as required. Led to fully operational mission computers.

4.5.3.2. **Q-.** Demonstrated/explained a marginal knowledge of aircraft network architecture and mission computer setup. Unable to fully utilize software applications which could potentially lead to mission degradation. Data entry slow or needed assistance to setup mission computer. Troubleshooting resulted in some systems not functional.

4.5.3.3. **U.** Level of knowledge was unsatisfactory. Unable to properly set up mission computers and/or utilize associated software applications. Unable to properly troubleshoot which led to mission degradation.

4.5.4. Area 73. Radios and Secure Communications.

4.5.4.1. **Q.** Demonstrated/explained a complete knowledge of the radios, to include onboard aircraft radios and handheld radios. Able to load presets, operate in correct secure mode, and program frequencies in a timely manner. Troubleshooting led to fully functional radio usage.

4.5.4.2. **Q-.** Demonstrated/explained a marginal knowledge of the radios, to on-board aircraft radios and handheld radios. Able to load presets, operate in correct secure mode, and program short-notice frequencies with some difficulty. Troubleshooting resulted in semi-degraded radio operation.

4.5.4.3. **U.** Level of knowledge was unsatisfactory. Unable to load presets, operate in correct secure mode, and program frequencies into the on-board aircraft radios and handheld radios. Unable to troubleshoot or troubleshooting resulted in degraded radio operation.

4.5.5. Areas 74-84. Mission Events. Reference **Chapter 6** for Core Mission Event grading criteria.

Chapter 5

INSTRUCTOR EVALUATIONS

5.1. General. Instructor grading criteria applies to INIT, RQ and all periodic evaluations for aircrew holding an instructor qualification IAW AFMAN 11-202V2. **(T-2)** INIT and RQ instructor pilot evaluation criteria is written to facilitate a combined, single sortie evaluation.

5.2. Requirements. Evaluate instructors on areas listed in **Table 5.1** Instructor candidates must be qualified in all areas they will instruct. **(T-2)** Initial instructor evaluations may be a standalone evaluation or accomplished in conjunction with a periodic INSTM, QUAL, or MSN evaluation. If accomplished in conjunction with a periodic evaluation, the required events for that specific evaluation supersedes the requirements in this chapter. Qualified instructors will be evaluated to instructor standards during all periodic evaluations (**T-2)** Accomplish periodic instructor evaluations in conjunction with periodic INSTM, QUAL, or MSN evaluations, including the grading areas in **Table 5.1**.

5.3. Instrument. INSTM instructor evaluations may be accomplished in any U-28 variant or simulator. For INIT/RQ evaluations, evaluate instructor candidates on instructor performance during a representative sample of unit's basic maneuvers and instrument procedures. (**T-2)**

5.4. Qualification. Qualification instructor pilot evaluations may be accomplished in any U-28 variant or simulator. CSOs will be evaluated in an EQ/EQ+ or simulator. **(T-2)**

5.4.1. INIT/RQ. Evaluate instructor candidates on instructor performance during a representative sample of unit's basic maneuvers in the crew members' respective qualification events table. **(T-2)**

5.4.2. Emergency Procedures. Evaluate instructor candidate's instructional ability during a representative sample of EPs. **(T-2)**

5.5. Mission. Mission instructor evaluations will be accomplished in the EQ/EQ+, or approved simulator. Pilots must be AC qualified in a special mission prior to receiving instructor qualification/certification in that mission. **(T-2)**

5.5.1. INIT/RQ. 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 tactical mission sortie for their crew position.

Table 5.1. Instructor Evaluation Required Grading Areas (All Crew Positions).

Areas	Notes	Required Grading Areas
20	1	Mission Preparation
21		Instructional Ability
22	1	Instructor Knowledge
23	1	Briefings, Debriefings and Critique

24		Demonstration of Maneuvers/Procedures
25-29		Reserved for future use
Notes: **Note 1**: May be accomplished via an alternate method.		

5.6. Instructor Grading Criteria.

5.6.1. Area 20. Mission Preparation.

5.6.1.1. **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.

5.6.1.2. **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.

5.6.1.3. **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.

5.6.2. Area 21. Instructional Ability.

5.6.2.1. **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.

5.6.2.2. **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.

5.6.2.3. **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.

5.6.3. Area 22. Instructor Knowledge.

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

5.6.3.2. **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.

5.6.3.3. **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.

5.6.4. Area 23. Briefings, Debriefings and Critique.

5.6.4.1. **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.

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

5.6.4.3. **U.** Briefings/debriefings were marginal or non-existent; major errors or omissions in briefings/debriefings. Did not review student's 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.

5.6.5. Area 24. Demonstration of Maneuvers/Procedures.

5.6.5.1. **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.

5.6.5.2. **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.

5.6.5.3. **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.

5.6.6. Area 25. Reserved for future use.

5.6.7. Area 26. Reserved for future use.

5.6.8. Area 27. Reserved for future use.

5.6.9. Area 28. Reserved for future use.

5.6.10. Area 29. Reserved for future use.

Chapter 6

CORE MISSION EVENTS

6.1. General. Core mission events for U-28 aircrew are listed in Tables **3.2** and **4.1**.

6.2. Definition. The core mission event definitions are the same for all crew positions, and designated as Mission Events 1-10 and 19.

6.3. Grading Criteria.

6.3.1. Objective Correlation and Target Development (Mission Event #l).

6.3.1.1. **Q.** Demonstrated a high level of spatial awareness and sensor control. Able to provide a clear and concise description of the objective area, never lost sight of objective.

6.3.1.2. **Q-.** Demonstrated marginal spatial awareness, sensor control inputs were slow and positive objective identification was delayed. Radio communications regarding objective area were marginal. Sensor momentarily left target area, but never for more than 10 seconds.

6.3.1.3. **U.** Unable to correlate points on imagery with sensor video within 120 seconds of receiving coordinate. Sensor control unsatisfactory, with the sensor field-of-view departing objective for more than 10 seconds.

6.3.2. Vehicle Follow (Mission Event #2).

6.3.2.1. **Q.** CSO or Copilot: Demonstrated strong sensor control for the entire scenario. Maintained positive control of objective through multiple turns, stops and starts. Provided clear and concise radio communications. Proper sensor inputs allowed for no more than 5 seconds of lost sight of objective. AC: Enabled complete tracking of objective through orbit changes, did not nadir either sensor.

6.3.2.2. **Q-.** CSO or Copilot: Demonstrated marginal sensor control during the scenario. Sensor control inputs were slow to react to changes in objective disposition. Lost sight of vehicle multiple times, but never for more than 10 seconds. Radio communications were slow or unclear. AC: Enabled tracking of the objective, may have lost objective due to poor orbit shift or nadir, mission effectiveness was not jeopardized.

6.3.2.3. **U.** CSO or Copilot: Demonstrated unsatisfactory sensor control. Target vehicle was outside sensor field of view (FOV) for more than 10 seconds. Radio communications were incomplete or incorrect. AC: Did not enable tracking of the objective, orbit shift caused loss of objective, induced nadir more than once, mission failure resulted.

6.3.3. Squirter Control (Mission Event #3).

6.3.3.1. **Q.** Demonstrated strong sensor control, CRM, and radio communications. Maintained positive control of all squirters as allocated by the squirter plan. Accurately guided friendly ground element or other sensor onto squirter location. Lost squirter assigned once, for no more than 10 seconds.

6.3.3.2. **Q-.** Demonstrated marginal sensor control, CRM, and radio communications. Maintained marginal control of all squirters as allocated by the squirter plan. Guided

friendly ground element or other sensor onto squirter location with difficulty. Lost sight of squirter more than once, for no more than 10 seconds.

6.3.3.3. **U.** Demonstrated poor sensor control CRM, and radio communications. Did not maintain control of all squirters as allocated by the squirter plan. Could not guide friendly ground element or other sensor onto squirter location. Lost sight of squirter for more than 10 seconds.

6.3.4. Route Reconnaissance or Friendly Escort (Mission Event #4).

6.3.4.1. **Q.** Demonstrated positive control of friendly ground element throughout escort. Developed appropriate route, or verified previously-planned routing, avoiding threats during scenario, actively re-routed when necessary. Radio communications were timely and directive to keep friendlies on the proper route and advised of critical information.

6.3.4.2. **Q-.** Demonstrated marginal control of friendly ground element during escort. Routing was barely adequate, allowed friendly element into proximity of threats on one occasion, reactively re-routed after incident/barrier. Radio communications marginal, providing enough directive to keep friendlies on the proper route but missed critical information.

6.3.4.3. **U.** Demonstrated unsatisfactory control during escort. Plan for infiltration was inadequate or nonexistent. Pop-up threats were not properly addressed on two occasions. Radio communications were ineffective throughout scenario.

6.3.5. Helicopter Landing Zone (HLZ) Reconnaissance (Mission Event #5).

6.3.5.1. **Q.** Demonstrated strong HLZ reconnaissance and selection techniques. Accurately relayed all essential elements of HLZ brief, reacted to helicopter requests within 5 seconds. Deviations less than 25 meters from the HLZ center point noted.

6.3.5.2. **Q-.** Demonstrated marginal HLZ reconnaissance and selection techniques. Failed to accurately relay all essential elements of HLZ brief, reacted to helicopter requests within 10 seconds. Deviations less than 50 meters from the HLZ center point noted.

6.3.5.3. **U.** Unsatisfactory performance during HLZ reconnaissance procedures. Critical elements of HLZ brief omitted. Requests responded to outside of 10 seconds. Deviations over 50 meters from HLZ center point noted.

6.3.6. Target Talk-on (Mission Event #6).

6.3.6.1. **Q.** The direction provided allowed the simulated or actual airborne or ground force to acquire the objective in a minimum amount of time.

6.3.6.2. **Q-.** The direction provided allowed the simulated or actual airborne or ground force to acquire the objective in a reasonable amount of time with minor deviations resulting from the direction provided.

6.3.6.3. **U.** The direction provided did not allow the simulated or actual airborne or ground force to acquire the objective in a reasonable amount of time. Significant delays in getting the simulated or actual airborne or ground force to the objective resulted.

6.3.7. Mission Event #7. Reference classified addendum for event grading criteria.

6.3.7.1. If an examinee does not meet the (Q) grading criteria and a (Q-) or (U) is awarded, the write up for the discrepancy will read: "Did not meet (Q) criteria as defined in the AFMAN 11-2U-28 Volume 1& 2 Classified Addendum Memorandum."

6.3.8. Buddy Lase (Mission Event #8).

6.3.8.1. **Q.** Thorough knowledge of munition capabilities, limitations and tactics, techniques, and procedures (TTPs).

6.3.8.1.1. AC: Positioned the aircraft for weapon and stack deconfliction and optimal laser positioning. Backed up shooter aircraft in air and ground engagement deconfliction.

6.3.8.1.2. CSO: Demonstrated strong sensor and laser control during weapons engagement. Laser employed within 5 seconds of requirement. The engagement met all sensor position criteria requirements per **paragraph 6.3.8.4**.

6.3.8.2. **Q-.** Marginal understanding of munition capabilities, limitations and TTPs with some errors in tactical employment.

6.3.8.2.1. AC: Aircraft positioning enabled mission execution, but was sub-optimal or required excessive maneuvering due to poor maneuver planning. Was late to realize potential air/ground engagement conflict and report, but not so late that an unsafe situation arose.

6.3.8.2.2. CSO: Demonstrated marginal sensor and laser control during weapons engagement. Deviations were recognized and corrected. The engagement did not meet all sensor position criteria requirements per **paragraph 6.3.8.4**.

6.3.8.3. **U.** Did not understand or know how to perform operation. Was unable to discuss weapons capabilities and limitations. Unaware of standard TTPs.

6.3.8.3.1. AC: Did not position the aircraft for weapon and stack deconfliction. Nadir or masking of the designating sensor after weapon release prior to impact. Did not back up shooter aircraft with air or ground engagement deconfliction.

6.3.8.3.2. CSO: Demonstrated unsatisfactory sensor and laser performance during the engagement. Deviations not quickly recognized or corrected. The engagement did not meet all sensor position criteria requirements per **paragraph 6.3.8.4**.

6.3.8.4. Sensor Position Criteria. The following criteria must be met in order for an engagement to be considered successful:

6.3.8.4.1. Correct laser code set in sensor and aircraft systems/buddy lase platform.

6.3.8.4.2. Desired Point of Impact (DPI) within 2 crosshairs width in Narrow or Ultra-Narrow FOV (NAR/UN) or 3 crosshairs width in UN 2X/ UN 4X at launch.

6.3.8.4.3. Laser was not masked by a structure from launch through impact.

6.3.8.4.4. From 10 seconds prior to impact until 5 seconds after calculated impact, (DPI) was within sensor crosshairs gap in the IR camera UN2X// UN 4X FOV. Momentary deviations (<1 second) are allowable if deviation is less than one half-crosshair width and is corrected back to DPI prior to impact.

6.3.9. Collateral Calls (Mission Event #9)

6.3.9.1. **Q.** Collateral calls made IAW established TTPs in a timely manner to controlling agent to permit safe mission execution.

6.3.9.2. **Q-.** Collateral calls made IAW established TTPs with minor deviations to controlling agent. Calls were not made in a timely manner but did not prevent safe mission execution.

6.3.9.3. **U.** Collateral calls were not made IAW established TTPs to controlling agent nor were they timely. Safe mission execution was not assured.

6.3.10. TAC (A) or Air Sensor Warden (Mission Event #10). The minimum for evaluation is the control of one additional simulated/actual aircraft or sensor.

6.3.10.1. **Q.** Ensured all simulated or actual aircraft and sensors in the stack were deconflicted and positioned in accordance with Fire Support Officer (FSO), Ground Force Commander (GFC) or Joint Terminal Attack Controller (JTAC) intent. Deconflicted all aircraft and friendly forces during all weapons engagements, regardless of which aircraft was shooter (deconfliction may be performed by the FSO/GFC/JTAC, but the AC must at least ensure it has been accomplished). Provided updates to all players where required, and maintained situational awareness and complied with all restricted areas, military operation areas, special use airspace, warning areas and all airspace deconfliction measures.

6.3.10.2. **Q-.** Slow to provide stack and sensor deconfliction, maintained safety but did not meet GFC or JTAC intent. Late to deconflict aircraft and friendly forces during engagements, but ensured deconfliction prior to weapon release. Provided poor sensor deconfliction that did not contribute to mission failure. Momentary deviation from assigned airspace which were corrected with assistance that did not contribute to an unsafe flight condition. Aircraft and sensor positioning provided less than ideal views of the target. Allowed sensor to momentarily deviate from target, which could be reacquired, but did not lead to mission failure. Caused the primary sensor to nadir.

6.3.10.3. **U.** Did not provide stack and sensor deconfliction, which contributed to mission failure. Did not deconflict aircraft or friendly forces during engagements. Unable to stay within airspace or comply with airspace deconfliction measures. Unable to fly an orbit suitable to mission operations.

6.3.11. Area 71. Mission Event #19. Reference classified addendum for event grading criteria.

6.3.11.1. If an examinee does not meet the (Q) grading criteria and a (Q-) or (U) is awarded, the write up for the discrepancy will read: "Did not meet (Q) criteria as defined in the AFMAN 11-2U-28 Volume 1& 2 Classified Addendum Memorandum."

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* 3 May 2022

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

AFMAN 11-202 Volume 2, *Aircrew Standardization and Evaluation Program,* 30 August 2021

AFMAN 11-202V2_AFSOCSUP, *Aircrew Standardization/Evaluation Program,* 3 October 2019

AFSOCI 11-TSOV2, *Tactical Systems Operator Aircrew Evaluation Criteria,* 3 September 2019

AFI 33-322, Records Management and Information Governance Program, 23 March 2020

DAFMAN 90-161, Publishing Processes and Procedures, 15 April 2022

AFMAN 11-202V3_AFSOCSUP, *Flight Operations,* 5 August 2022

AFMAN 11-2U-28V3, *U-28 Operations Procedures,* 1 February 2023

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

AFTTP 3-3. U-28, *Combat Aircraft Fundamentals U-28,* 11 December 2020

Adopted Forms

AF Form 8/8a, *Certificate of Aircrew Qualification*

DAF Form 847, *Recommendation for Change of Publication*

AF Form 3862, *Flight Evaluation Worksheet*

Abbreviations and Acronyms

AC—Aircraft Commander

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AGL—Above ground level

AOA—Angle of Attack

AOH—Aircrew Operating Handbook

AFSOC—Air Force Special Operations Command

ASR—Approach Surveillance Radar

CAP—Critical Actions Procedure

COMSEC—Communications Security

CRM—Crew Resource Management

CSO—Combat Systems Officer

DPI—Desired Point of Impact

DRU—Direct Reporting Unit

DME—Distance Measuring Equipment

EOLP—Engine Out Landing Pattern

EP—Emergency Procedure

EPE—Emergency Procedures Evaluation

FD—Flight Director

FE—Flight examiner

FOA—Field Operating Agency

FOV—Field of View

FMS—Flight Management System

FSO—Fire Support Officer

GFC—Ground Force Commander

GPS—Global Positioning System

HLZ—Helicopter Landing Zone

IAW—In Accordance With

IFF—Identification, Friend, or Foe

ILS—Instrument Landing System

INIT—Initial

INSTM—Instrument

JTAC—Joint Terminal Attack Controller

KIAS—Knots Indicated Air Speed

LDA—Localizer Directional Aid

LOC—Localizer

LP—Localizer Performance

LPV—Localizer Performance with Vertical Guidance

MAJCOM—Major Command

MDA—Minimum Descent Altitude

MDS—Mission Design Series

MEL—Minimum equipment list ()

MSN—Mission

NAS—National Air Space

NAVAIDS—Navigation Aids

NDB—Non Directional Beacon

NM—Nautical Miles

OPR—Office of Primary Responsibility

OPSEC—Operations Security

PAR—Precision Approach Radar

QUAL—Qualification

RAIM—Receiver Autonomous Integrity Monitoring

RNAV—Area Navigation

RQ—Requalification

SFO—Simulated Flameout

SSDL—Small Secure Datalink

TBA—Turn Back Altitude

TOLD—Takeoff and Landing Data

TSO—Tactical Systems Operator

TTP—Tactics, Techniques, and Procedures

UN—Ultra-Narrow

VDP—Visual Descent Point

VFR—Visual Flight Rules

VOR—VHF Omnidirectional Range

Office Symbols

AF/A3—Air Force Deputy Chief of Staff, Operations

AF/A3T—Training and Readiness Directorate

AFSOC/A3T—Operations Training

AFSOC/A3V—Special Activities

AFSOF—Air Force Special Operations Forces

COMAFSOF—Commander Air Force Special Operations Forces

OG/CC—Operations Group Commander

Terms

Base Key—A point approximately 500 feet AGL and 90 degrees perpendicular to the intended touchdown point.

High Key—A point approximately 2,000 feet above ground level (AGL) and over the intended touch down point, whereby the Simulated Flameout / Emergency Landing Pattern commences.

Low Key—A point approximately 1,000 feet AGL and abeam the intended touchdown point, attained by flying off a proper amount of altitude and commencing a break turn from the High Key position.

Nadir—To position the aircraft such that the sensor is unable to maintain the tasking required of it due to the position of the aircraft relative to the target (usually directly above).

Attachment 2

FORM 8 MISSION DESCRIPTIONS

A2.1. Examples. Use the following examples below to document evaluations on the AF Form 8. Additional language is authorized per local Stan/Eval guidance. **(T-2)**

A2.1.1. Upgrade Evaluations. State the specific upgrade type in all capital letters in the first sentence. For example: This MSN/INSTM/QUAL/SPOT evaluation was flown in conjunction with a U-28A BASIC AIRCRAFT COMMANDER UPGRADE/U-28A MISSION AIRCRAFT COMMANDER UPGRADE/U-28A INSTRUCTOR PILOT UPGRADE or U-28A INSTRUCTOR COMBAT SYSTEMS OFFICER UPGRADE.

A2.1.2. Instrument/Qualification Evaluation. This was a day/night INSTM and QUAL evaluation flown from the left/right seat at Hurlburt Field and Selma Regional. Weather was_____. The examinee flew an ILS approach, VOR approach, GPS with procedure turn to a circling approach. Additionally, the examinee performed VFR patterns to include an EOLP, full, partial and no-flap landings. For the EPE the examinee was given a simulated CHIP CAWS in flight. All required maneuvers were accomplished. Lt Col John Doe, YYY SOS/CC was debriefed on the result of this evaluation.

A2.1.3. Pilot Mission Evaluation. This was a day/night MSN evaluation flown from the left/right seat at Cannon AFB. Weather was_____. Examinee flew a tactical departure into mission airspace. The scenario was a Direct Action/Ground Assault Force/Helicopter Assault Force/Vehicle Interdiction Part Task Training/Kinetic Strike Support scenario. The flown profile included target talk-on, target development, vehicle follows and Mission Event 7/19 etc. The EPE was a simulated in-flight/tabletop discussion of cockpit smoke and fumes. All required maneuvers were accomplished. Lt Col John Doe, YYY SOS/CC was debriefed on the result of this evaluation.

A2.1.4. CSO Mission and Qualification Evaluation. This MSN and QUAL evaluation was a Direct Action/Ground Assault Force/Helicopter Assault Force/Vehicle Interdiction/Part Task Training/Kinetic Strike Support Scenario flown at Cannon AFB. The flown profile included target talk-on, target development, vehicle follows and Mission Event 7/19 etc. The EPE was a simulated in-flight/tabletop discussion of cockpit smoke and fumes. All required maneuvers were accomplished. Lt Col John Doe, YYY SOS/CC was debriefed on the result of this evaluation.

A2.1.5. Instructor Evaluation. For instructor evaluations, unless the evaluation was conducted with actual students, specific instructional areas will be documented on the AF Form 8. Ie: "Instructional ability was demonstrated with a thorough discussion of the engine oil system in the brief as well as energy management techniques during the EOLP." Place this sentence prior to the last sentence of the mission description. Instructional ability must be evaluated on all periodic examinations for aircrew certified as instructors.