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SECRETARY OF THE AIR FORCE**

**AIR FORCE MANUAL 11-2U-2,
VOLUME 2**



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Flying Operations

**U-2--AIRCREW EVALUATION
CRITERIA**

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This volume establishes criteria and procedures for U-2 flight evaluations, implements Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations*. It applies to all U-2 units. This AFMAN applies to all military and civilian personnel in the Regular Air Force and Air Force Reserve who operate the U-2 aircraft and those who execute Mobile Officer duties. It does not apply to Air National Guard or the United States Space Force. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Recommendations for improvements to this volume should be submitted on Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*, through Numbered Air Force standardization/evaluation (Stan/Eval) channels, to the parent major command (MAJCOM) Stan/Eval. Parent MAJCOM Stan/Eval forward approved recommendations to lead command Office of Primary Responsibility (OPR) (Air Combat Command (ACC) Standardization and Evaluation Branch (ACC/A3TV), 205 Dodd Blvd, Suite 234, Langley AFB VA 23665-2789). MAJCOMs, direct reporting units (DRUs), and field operating agencies (FOAs) may forward proposed MAJCOM/ DRU/FOA-level supplements to this volume through ACC/A3TV to Air Force Flight Safety Agency Flight Directives (AFFSA/XOF) for approval prior to publication. After approved and published, the MAJCOM/ DRU/FOA OPRs provide copies of those supplements to ACC/A3TV and the user MAJCOM/DRU/FOA OPRs. Field units below MAJCOM/DRU/FOA level forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA OPR for pre-publication review. **Note:** The terms DRU and FOA as used in this paragraph refer only to those DRUs/FOAs

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SUMMARY OF CHANGES

This document has been substantially revised and should be thoroughly reviewed. Changes include clarifying language for mission (MSN) evaluation, instructor (INSTR) evaluation, and instrument (INSTM) evaluation criteria, reorganizing MOBILE evaluation requirements under SPOT evaluations, and numerous administrative and formatting changes throughout the document. Tiered waiver guidance has been added where applicable, per guidance provided in DAFMAN 90-161.

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Chapter 1

ROLES AND RESPONSIBILITIES

1.1. Flight Examiners (FEs):

- 1.1.1. Should exercise judgment when assigning subjective area grades, when assigning the overall qualification level, and when evaluating in situations not covered explicitly by this document.
- 1.1.2. Will brief the examinee on the purpose, conduct, and extent of each evaluation.
- 1.1.3. May assist in evaluation mission planning/briefing as tasked by the examinee.
- 1.1.4. May evaluate from any flight position (to include chase) necessary to conduct a thorough evaluation.
- 1.1.5. Will apply the grading criteria contained in [Chapter 3](#), as applicable.
- 1.1.6. Will debrief the examinee's overall rating, specific deviations, area grades assigned (if other than qualified), and any required additional training, at a minimum.
- 1.1.7. Should use all electronic means available to reconstruct, evaluate, and adequately debrief the mission.

1.2. Examinees:

- 1.2.1. Will accomplish required flight planning in accordance with the flight position assigned during the evaluation, furnishing FEs a copy of necessary mission data and mission materials, if appropriate.
- 1.2.2. Will brief and fly the desired airspeed for approaches and simulated flame-out (SFO) patterns.

Chapter 2

EVALUATION REQUIREMENTS

2.1. General.

2.1.1. Publications Check/Currency of Flight Publications. All evaluations include a currency and accuracy check on all issued publications/checklists. **(T-3)** Unit commanders may specify additional publications to be evaluated in the unit supplement to AFMAN 11-202V2.

2.1.2. Cockpit/Crew Resource Management (CRM). CRM skills are integral to all phases of flight. Evaluations must include the assessment of CRM skills using specific CRM grading under Area 37. **(T-3)** Guidance on CRM is provided in AFMAN 11-290 ACC Supplement, *Cockpit/Crew Resource Management and Threat & Error Management Program*. CRM skills are listed on the AF Form 4031, *CRM/TEM Skills Criteria Training/Evaluation*. The Stan/Eval trend program can be used to measure the effectiveness of CRM training.

2.1.2.1. Formal Course Evaluations. Syllabus evaluations should be flown according to syllabus mission profile guidelines, or on a mission profile developed from syllabus training objectives.

2.1.2.2. FEs may modify course guidelines based on other factors, such as local operating considerations, in order to complete the evaluation.

2.1.2.3. Syllabus tasks not specifically addressed by the criteria listed in this regulation should be evaluated using criterion reference objectives (CRO) from the appropriate syllabus.

2.1.3. Combined Evaluations. With the approval of the squadron commander (SQ/CC) the instrument qualification (INSTM/(QUAL) or QUAL, and mission (MSN) evaluations may be combined as a single evaluation. This option is intended only for experienced pilots. Document approval on the AF Form 8, *Certificate of Aircrew Qualification*, by stating in the Additional Comments portion "SQ/CC has approved a combined evaluation." **(T-3)**

2.1.3.1. Combined evaluations include all current QUAL (or INSTM/QUAL) and MSN evaluation requirements, including requisites.

2.1.3.2. One event may satisfy multiple types of emergency procedures evaluations (EPEs), as long as the event includes the required areas for both evaluations.

2.1.4. Required Graded Areas. Required graded areas are annotated in Tables [2.1](#) and [2.2](#), respectively. When it is impractical or impossible to accomplish a required evaluation area in-flight, an alternate method (e.g., Mission Procedures Trainer (MPT) or verbal examination) may be used in order to complete the evaluation. FEs will document the reason and type of alternate method used in the "Additional Comments" portion of the AF Form 8. **(T-3)** If the FE determines the required item cannot be adequately evaluated by an alternate method, an additional flight is required to complete the evaluation. In Tables [2.1](#) and [2.2](#):

2.1.4.1. Areas annotated with an "R" are necessary items for that event.

2.1.4.2. Areas indicated with an "R2" require evaluation of at least two of the items under the associated section.

2.1.5. For non-instructor evaluations in the TU-2S, the FE occupies the rear cockpit. For Instructor (INSTR) evaluations, the FE occupies the front cockpit.

2.2. Qualification (QUAL) Evaluations.

2.2.1. Procedures.

2.2.1.1. QUAL evaluations may be administered on any compatible training mission.

2.2.1.2. On QUAL evaluations, the examinee accomplishes all mission planning.

2.2.2. Minimum Requisites. The minimum requisites for a QUAL evaluation are:

2.2.2.1. A boldface examination;

2.2.2.2. A closed book examination;

2.2.2.3. An open book examination;

2.2.2.4. An EPE.

2.3. Mission (MSN) Evaluations.

2.3.1. Procedures.

2.3.1.1. MSN evaluations are encouraged to be accomplished during exercise or higher headquarters (HHQ) operational missions encompassing actual payload and sensor operation.

2.3.1.2. MSN evaluations flown from home station may be satisfied on either a HHQ mission (i.e., operational or exercise mission) or training sortie. If a HHQ mission is not available, the flight profile should resemble an operational mission.

2.3.1.3. For MSN evaluations, a mission planner provides the mission kit of study and review. The examinee is responsible for ensuring the data used in the aircraft is accurate for the designated mission but not graded on products generated by others.

2.3.1.4. Basic Mission Capable aircrew should only be evaluated on missions routinely performed.

2.3.1.5. Mission evaluation areas that cannot be directly evaluated/observed by the FE will be sampled in the MPT (or verbally if required) during the EPE. **(T-3)**

2.3.2. Responsibilities.

2.3.2.1. SQ/CCs ensure that FEs administer initial MSN evaluations in the primary Design Operational Capability (DOC) of the unit unless that unit has a different assigned contingency for which to prepare.

2.3.2.2. FEs:

2.3.2.2.1. Should tailor MSN evaluations to represent a primary unit DOC tasking. An assigned combat/contingency tasking (e.g., a mission set representing the Area of Responsibility to which the examinee initially deploys) may be substituted with SQ/CC approval.

2.3.2.2.2. Should include material from Air Force Tactics, Techniques, and Procedures (AFTTP) 3-1.U-2, (U) *Combat Aircraft Fundamentals--U-2* (Classified), and

Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3250.01 (U) *Intelligence Surveillance and Reconnaissance Management* (Classified) and ensure examinees have a working knowledge of the publications.

2.3.2.2.3. May include excerpts from actual operational and contingency plans, airspace control plans, and communications plans in MSN evaluation scenarios.

2.3.2.2.4. Will evaluate examinees in the position of their highest certification, even if a portion of the evaluation is flown in another position. **(T-3)**

2.3.2.2.5. Should use a portable aviation Global Positioning System (GPS) to aid in reconstructing the mission and assessing the examinee's performance.

2.3.2.2.6. May use ground-based video recording devices and GPS data to reconstruct and evaluate the flight.

2.3.3. Minimum Requisites. An EPE is the only MSN evaluation requisite.

2.4. SPOT Evaluations.

2.4.1. Procedures.

2.4.1.1. SPOT Mobile Evaluations.

2.4.1.1.1. SPOT Mobile evaluations may be administered on any compatible training mission.

2.4.1.1.2. To initially qualify as a mobile in the U-2, the pilot must successfully complete a SPOT mobile evaluation. **(T-3)** For pilots who maintain flying currency/qualification, this is a one-time evaluation during which the examinee must demonstrate the ability to safely operate the chase vehicle as well as perform mobile duties. **(T-3)** Mobile duties include, but are not limited to, assisting the pilot during ground operations, taxi, takeoff, and landing. This evaluation is normally conducted as the final mobile event of the basic qualification (BQ) syllabus.

2.4.1.1.3. On subsequent QUAL and MSN evaluations, the examinee's mobile knowledge is assessed by the FE throughout the course of the evaluation.

2.4.1.1.4. U-2 pilots not maintaining flying currency/qualification due to extenuating circumstances may be authorized to perform mobile duties according to guidance in AFMAN 11-2U-2, Volume 1, *U-2 Aircrew Training*. These pilots maintain a "Mobile Only" qualification by accomplishing SPOT evaluations no less frequent than the last day of the 17th month following the month in which the previous QUAL or SPOT Mobile evaluation, whichever came later, was successfully completed. This assesses their ability to perform mobile duties as well as assist the pilot with emergency procedures.

2.4.1.1.5. U-2 Individual Mobility Augmentees (IMAs) assigned to the 9th Reconnaissance Wing (9 RW) who are maintaining "Mobile Only" qualification take their subsequent SPOT evaluations while performing mobile duties and operating the chase vehicle.

2.4.1.1.6. For SQ/CC-directed or syllabus-directed requalification programs which include a mobile evaluation, document as a SPOT on a separate AF Form 8.

2.4.1.2. SPOT FE Objectivity (SPOT) Evaluations.

2.4.1.2.1. SPOT FE Objectivity evaluations may be administered on any QUAL or MSN evaluation that complies with AFMAN 11-202, Volume 2, ACC Supplement, *Aircrew Standardization and Evaluation Program*, pyramid evaluation structure guidance.

2.4.1.2.2. To be certified as an evaluator in the U-2, the pilot must successfully complete a SPOT FE Objectivity evaluation. **(T-3)** This is a one-time evaluation, with the examinee operating the chase vehicle, during which they must demonstrate the ability to comply with all AFMAN 11-202V2 ACC SUP FE Objectivity evaluation criteria. **(T-3)**

2.4.2. Minimum Requisites.

2.4.2.1. The minimum requisites for a SPOT Mobile evaluation are:

2.4.2.1.1. A boldface examination

2.4.2.1.2. A closed book examination

2.4.2.1.3. An open book examination

2.4.2.1.4. An EPE (utilizing QUAL EPE criteria)

2.4.2.2. The minimum requisites for SPOT FE Objectivity evaluation are:

2.4.2.2.1. an over-the-shoulder observation of a current evaluator and

2.4.2.2.2. an EPE (utilizing criteria appropriate to the type of evaluation being administered) while being observed by a current evaluator.

2.5. Instructor (INSTR) Evaluations.

2.5.1. Procedures.

2.5.1.1. Initial (INIT) INSTR Evaluations. To initially qualify as an instructor in the U-2, the pilot must successfully complete an initial INSTR evaluation. **(T-3)** This is a one-time evaluation during which the examinee demonstrates the ability to instruct in a selected phase of the unit's mission. Except for requirements outlined under Area 33, Instructor Performance, in **Table 2.1**, specific profiles and/or events are determined by the FE.

2.5.1.2. On subsequent QUAL and MSN evaluations, the examinee's ability to instruct is assessed by the FE during the course of the evaluation and documented accordingly on the AF Form 8.

2.5.1.3. U-2S INSTR Evaluations.

2.5.1.3.1. U-2S INSTR evaluations may be administered on any compatible training mission.

2.5.1.3.2. Initial and requalification INSTR evaluations are administered in the chase vehicle.

2.5.1.3.3. Requalification INSTR evaluations are documented on the AF Form 8. For SQ/CC-directed or syllabus-directed requalification programs which include a flight

evaluation, document the INSTR evaluation on the same AF Form 8 as the flight evaluation.

2.5.1.3.4. Recurring INSTR evaluations in the mobile vehicle are not required. Instructor duties are sampled on recurring QUAL and MSN evaluations.

2.5.1.3.5. U-2S instructor pilots maintaining a “Mobile Only” qualification according to [paragraph 2.4.1.1.4](#) guidelines are evaluated on instructor duties during recurring SPOT Mobile evaluations.

2.5.1.3.6. U-2 IMAs who hold an Instructor Qualification are evaluated on their instruction while running the MPT from the instructor’s station and not from in the cockpit.

2.5.1.4. TU-2S Instructor Evaluations.

2.5.1.4.1. TU-2S INSTR evaluations must be administered on a dedicated training mission utilizing existing TU-2S qualified Instructor Pilots (IPs). **(T-3)**

2.5.1.4.2. Initial and requalification INSTR evaluations are administered in the TU-2S. Evaluations include satisfactory demonstration of overhead, straight-in and emergency patterns and landings flown from the rear cockpit. The FE will perform a cross section of maneuvers to evaluate error analysis, grading practices, and instructional techniques. **(T-3)**

2.5.1.4.3. An examinee may update their QUAL evaluation concurrent with an INIT INSTR evaluation, provided all requisites are accomplished.

2.5.1.4.4. Requalification INSTR evaluations are documented on the AF Form 8 and may be combined with a recurring QUAL or MSN evaluation if flown in the TU-2S.

2.5.1.4.5. Instructor duties are sampled on recurring QUAL evaluations flown from the rear cockpit of the TU-2S, and recurring MSN evaluations (normally flown in the U-2S).

2.5.1.4.6. Area 14--Airwork (Flight Characteristics Demo), Area 819--High Speed Taxi Demo, and Area 820--Approach to Stall/Stall Recovery are accomplished on all initial, requalification, and recurring TU-2S QUAL evaluations.

2.5.2. Minimum Requisites. An EPE is the only requisite for initial and requalification INSTR evaluations. Reference [paragraph 2.7.6](#) for requirements.

2.6. Instrument (INSTM) Evaluations.

2.6.1. Procedures.

2.6.1.1. U-2 pilots normally accomplish INSTM evaluations in the Companion Trainer Program (CTP) aircraft. INSTM evaluations flown in the U-2 are normally combined with a QUAL evaluation but may be flown on any compatible training mission.

2.6.1.2. Non-CTP pilots assigned to Beale AFB or a base where no U-2s are assigned, will accomplish INSTM evaluations in the front seat of the TU-2S. **(T-2)**

2.6.1.3. Non-CTP pilots assigned to an Outside the Continental United States (OCONUS) Forward Operating Location (FOL) will accomplish INSTM evaluations in a U-2S and be

evaluated from the mobile position by an AFMAN 11-202V2 ACC SUP pyramid evaluation structure appropriate evaluator. **(T-2)** During the in-flight portion of the evaluation, the pilot must utilize an appropriately mounted video recording device in the cockpit and vector playback from ForeFlight. or similar approved software, to enable accurate representation and evaluation of the sortie, as a minimum. **(T-3)** Use of video playback from the mobile is highly encouraged, but not required to complete the evaluation.

2.6.1.4. FOL/CCs will accomplish INSTM evaluations in the front seat of the TU-2S at Beale AFB unless a pyramid appropriate evaluator is deployed to their location to administer the evaluation. **(T-2)**

2.6.2. Minimum Requisites. The minimum requisites for a QUAL evaluation are:

2.6.2.1. An instrument examination.

2.6.2.2. An EPE.

Table 2.1. Aircrew Evaluation Grading Areas.

| AREA | NOTE | AREA TITLE | QUAL | MSN | MOBILE |
|----------------|------|---------------------------------------|------|-----|--------|
| GENERAL | | | | | |
| 1 | | MISSION PLANNING | R | R | R |
| 2 | | BRIEFING (if applicable) | R | R | R |
| 3 | | GROUND OPS | R | R | R |
| 4 | | TAKEOFF | R | R | R |
| 6 | | DEPARTURE | R | R | |
| 7 | | LEVEL OFF | R | R | |
| 8 | | CRUISE/NAVIGATION | | R | |
| 10 | | IN-FLIGHT CHECKS | R | R | |
| 12 | | COMMUNICATION/NAVIGATION /IFF (CNI) | R | R | |
| 14 | 2 | AIRWORK (FLIGHT CHARACTERISTICS DEMO) | R | | |
| 16 | | EQUIPMENT OPERATIONS | R | R | R |

| | | | | | |
|--------------------|----------|-------------------------------------------|----------|----------|----------|
| 18 | | TACTICAL ARRIVAL | | | |
| 19 | | GO-AROUND | | | |
| 21 | | EMERGENCY TRAFFIC PATTERN | R | | |
| 23 | | VFR PATTERN/APPROACH | R | | |
| 25 | 1 | LANDING | R | R | |
| 29 | | KNOWLEDGE | R | R | R |
| 30 | Critical | AIRMANSHIP/ SITUATIONAL AWARENESS | R | R | R |
| 31 | Critical | SAFETY | R | R | R |
| 32 | Critical | FLIGHT DISCIPLINE | R | R | |
| 33 | | INSTRUCTOR PERFORMANCE (if applicable) | R | R | R |
| 36 | | TASK PRIORITIZATION | R | R | |
| 37 | | COCKPIT/CREW RESOURCE MANAGEMENT | R | R | R |
| 819 | 2 | HIGH SPEED TAXI DEMO | R | | |
| 820 | 2 | APPROACH TO STALL RECOVERY/STALL RECOVERY | R | | |
| INSTRUMENTS | | | | | |
| 62 | 3 | INSTRUMENT PENETRATION/ENROUTE DESCENT | R | | |
| 64 | 3 | NONPRECISION APPROACH | R | | |
| 65 | 3, 4 | PRECISION APPROACH (PAR) | R | | |
| 66 | 3, 4 | PRECISION APPROACH (ILS) | R | | |
| 67 | 3 | MISSED APPROACH/CLIMB OUT | R | | |

| | | | | | |
|----------------|---|-------------------------------------------------------------------------------------|----------|----------|----------|
| 69 | 3 | INSTRUMENT CROSS-CHECK | R | | |
| MISSION | | | | | |
| 35 | 5 | RADAR SCOPE/SENSOR INTERPRETATION | | R | |
| 85 | | RADIO USE/TACTICAL COMMUNICATION (PRIMARY/BACKUP COMBAT/SRO COMM PROCEDURES) | | R | |
| 88 | | TACTICAL NAVIGATION (DR/PILOTAGE NAVIGATION) | | R | |
| 89 | | INGRESS (COMBAT/SRO NAV PROCEDURES) | | R | |
| 90 | | EGRESS (COMBAT/SRO NAV PROCEDURES) | | R | |
| 92 | | DYNAMIC REPLANNING/TIMING EXERCISE | | R | |
| 94 | | EVASIVE ACTION/THREAT REACTIONS | | R | |
| 96 | | ELECTRONIC ATTACK (EA)/ELECTRONIC PROTECTION (EP)/ALL ASPECT MISSILE DEFENSE (AAMD) | | R | |
| 98 | 5 | SENSOR MANAGEMENT | | R | |
| 161 | | DEGRADED/DENIED GPS | | R | |
| 164 | 5 | DATALINK OPERATION | | R | |
| MOBILE | | | | | |
| 817 | | RUN-INS | | | R |
| 818 | | CALLS | | | R |
| Notes: | | | | | |

1. For QUAL evaluations, landings are required from both normal and no-flap patterns. At least one landing must be made no-voice. **(T-3)**
2. Flight Characteristics Demo, Approach to Stall/Stall Recovery, and High Speed Taxi Demo are accomplished on all TU-2S QUAL evaluations.
3. Indicates additional areas required for an INSTM evaluation if not completed in the CTP aircraft.
4. Only one type of Precision Approach is required on the INSTM check, either a PAR or an instrument landing system (ILS).
5. Graded areas only required after aircraft/MPT hardware/software upgrade to new configuration.

2.7. Emergency Procedures Evaluations (EPEs).

2.7.1. General. The EPE should be conducted in the MPT to the maximum extent possible. If the MPT is not available, a verbal EPE is acceptable. This option is documented on the AF Form 8.

2.7.2. Grading criteria for each required item is listed in [Chapter 3](#).

2.7.3. The following graded areas are required on all EPEs:

2.7.3.1. Aircraft General Knowledge.

2.7.3.2. Emergency Procedures/Aircraft Malfunctions.

2.7.3.3. The FE will evaluate a minimum of two emergency procedures per the pre-takeoff, takeoff, inflight, and landing phases of flight. **(T-3)**

2.7.3.4. Cockpit/Crew Resource Management (CRM).

2.7.4. The following additional graded areas are required on all QUAL EPEs:

2.7.4.1. The FE will evaluate all boldface items. **(T-3)**

2.7.4.2. Unusual Attitude Recoveries.

2.7.4.3. For TU-2S instructors, the FE evaluates a cross-section of emergency procedures as performed from the rear cockpit.

2.7.4.4. Alternate/Divert Airfields. This area includes a divert from home station to an alternate airfield.

2.7.4.5. For combined INSTM/QUAL EPEs (non-CTP aircraft), include a minimum of one approach at a divert/alternate airfield, other than home base, utilizing standby/emergency flight instruments.

2.7.5. The following items are required on all MSN EPEs, as the FE tailors the MSN evaluation scenario to the unit tasking/mission:

2.7.5.1. Radar Scope/Sensor Interpretation.

2.7.5.2. Radio Use/Tactical Communication (Primary/Backup Combat/SRO Comm Procedures).

2.7.5.3. Tactical Navigation (Dead Reckoning (DR)/Pilotage Navigation).

2.7.5.4. Ingress (Combat/SRO Navigation [NAV] Procedures).

2.7.5.5. Egress (Combat/SRO NAV Procedures).

2.7.5.6. Dynamic Replanning/Timing Exercise.

2.7.5.7. Evasive Action/Threat Reactions.

2.7.5.8. Electronic Attack (EA)/Electronic Protection (EP)/All Aspect Missile Defense (AAMD).

2.7.5.9. Sensor Management.

2.7.5.10. Degraded/Denied GPS.

2.7.5.11. Datalink Operations.

2.7.6. The following graded areas are required on INIT and Requalification (RQ) INSTR EPEs:

2.7.6.1. MPT Operation. U-2S and TU-2S instructors are evaluated on their ability to instruct and operate the MPT as part of their initial or requalification instructor EPE.

2.7.6.2. On recurring QUAL and MSN evaluations instruction is sampled throughout the EPE. MPT use by the examinee is at the discretion of the FE.

Table 2.2. EPE Grading Areas.

| AREA | NOTES | AREA TITLE | QUAL | MSN |
|--------------------|-------|---------------------------------------------------------------------|-----------|-----------|
| GENERAL | | | | |
| 29 | | KNOWLEDGE | R | R |
| 37 | | COCKPIT/CREW RESOURCE MANAGEMENT | R | R |
| 301 | | EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (GENERAL) | | |
| PRE-TAKEOFF | | | R2 | R2 |
| 321 | | HYDRAULIC EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 331 | | ELECTRICAL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |

| | | | | |
|----------------|----------|-------------------------------------------------------------------------------------------------------------|-----------|-----------|
| 341 | | FUEL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 351 | | ENVIRONMENTAL CONTROL SYSTEM (ECS)/OXYGEN EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 361 | | ENGINE EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 362 | | FIRE | | |
| 364 | | HOT START | | |
| 366 | | HUNG START/NO START/TAILPIPE FIRE | | |
| 371 | | AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 372 | | BATTERY CHARGER CONTROL UNIT (BCCU) FAULT – GROUND OPS | | |
| 381 | | WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 391 | | FLIGHT CONTROL SYSTEM (FCS) EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 401 | | BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 411 | | EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF) | | |
| 412 | Critical | ABANDONING THE AIRCRAFT (EMERGENCY GROUND EGRESS) | R | |
| TAKEOFF | | | R2 | R2 |

| | | | | |
|-----|----------|--------------------------------------------------------------------------------|----------|--|
| 421 | | HYDRAULIC EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 431 | | ELECTRICAL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 441 | | FUEL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 451 | | ECS/OXYGEN EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 454 | Critical | FOG, VAPOR OR SMOKE IN THE COCKPIT | R | |
| 461 | | ENGINE EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 462 | | ENGINE FAILURE ON TAKEOFF | | |
| 463 | | ABORT | | |
| 466 | | FIRE OR OVERHEAT WARNING LIGHT | | |
| 467 | | LOW THRUST OR PARTIAL POWER LOSS | | |
| 471 | | AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 474 | Critical | LOW ALTITUDE AIRSTART | R | |
| 481 | | WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 491 | | FCS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| 501 | | BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |

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|------------------|--|----------------------------------------------------------------------------------------------------------|-----------|-----------|
| 507 | | HUNG POGO | | |
| 511 | | EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF) | | |
| IN-FLIGHT | | | R2 | R2 |
| 521 | | HYDRAULIC/AIRFRAME MOUNTED ACCESSORY DRIVE (AMAD) EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 523 | | HYDRAULIC SYSTEM FAILURE | | |
| 525 | | AMAD/PTO SHAFT FAILURE | | |
| 526 | | AMAD OIL PRESSURE LOW | | |
| 527 | | AMAD OIL TEMP HIGH | | |
| 528 | | PARTIAL HYDRAULIC PRESSURE LOSS | | |
| 531 | | ELECTRICAL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 532 | | COMPLETE ELECTRICAL FAILURE | | |
| 541 | | FUEL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 544 | | FUEL CROSS TRANSFER PUMP FAILURE | | |
| 545 | | FUEL BOOST PUMP FAILURE | | |
| 551 | | ECS/OXYGEN EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 552 | | COCKPIT TEMPERATURE CONTROL FAILURE | | |
| 553 | | COCKPIT SMOKE | | |

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|-----|----------|------------------------------------------------------------------------------|----------|--|
| 557 | | PRESSURIZATION SYSTEM EMERGENCY OPERATION | | |
| 559 | Critical | OXYGEN SYSTEM MALFUNCTION | R | |
| 561 | | ENGINE EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 564 | | FLAMEOUT PROCEDURES (CONFIGURATION THROUGH ROLLOUT) | | |
| 569 | | OIL SYSTEM MALFUNCTIONS | | |
| 571 | | AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 581 | | WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 591 | | FCS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 592 | | CONTROLLABILITY CHECK | | |
| 601 | | BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 611 | | EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT) | | |
| 613 | | SPIN/OUT OF CONTROL | | |
| 614 | 1 | AFMAN 11-202V3 PARAGRAPH A5.11 FIXED-WING UNUSUAL ATTITUDES – AI INOPERATIVE | R | |
| 616 | | ALTERNATE/DIVERT AIRFIELDS | R | |
| 617 | Critical | EJECTION | R | |
| 618 | | BEFORE EJECTION/BAILOUT | | |

| | | | | |
|----------------|----------|-----------------------------------------------------------------|-----------|-----------|
| 620 | | DITCHING | | |
| 626 | Critical | HIGH MACH RECOVERY | R | |
| 627 | Critical | PITCH TRIM EMERGENCY | R | |
| 628 | | EMERGENCY DESCENT | | |
| 629 | | UNCOMMANDED SCRAMBLE HANDLE INITIATION | | |
| 630 | | Equipment Bay (Q-BAY) ALTITUDE HIGH | | |
| LANDING | | | R2 | R2 |
| 631 | | HYDRAULIC EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 641 | | ELECTRICAL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 651 | | FUEL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 661 | | ECS/OXYGEN EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 671 | | ENGINE EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 678 | | FLAMEOUT LANDING/PRECAUTIONARY PATTERN – FLAPS DOWN | | |
| 679 | | FLAMEOUT LANDING – FLAPS UP | | |
| 681 | | AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |

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|----------------|--|-------------------------------------------------------------------------------------|--|----------|
| 691 | | WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 701 | | FCS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 706 | | LANDING WITH LESS THAN 20 DEGREES FLAPS | | |
| 711 | | BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 714 | | LANDING WITH LANDING GEAR UNSAFE | | |
| 721 | | EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING) | | |
| 723 | | LANDING ON UNPREPARED SURFACE | | |
| 724 | | LANDING WITH X-WIND IN EXCESS OF MAX RECOMMENDED VALUE | | |
| MISSION | | | | |
| 35 | | RADAR SCOPE/SENSOR INTERPRETATION | | R |
| 85 | | RADIO USE/TACTICAL COMMUNICATION (PRIMARY/BACKUP COMBAT/SRO COMM PROCEDURES) | | R |
| 88 | | TACTICAL NAVIGATION (DR/PILOTAGE NAVIGATION) | | R |
| 89 | | INGRESS (COMBAT/SRO NAV PROCEDURES) | | R |
| 90 | | EGRESS (COMBAT/SRO NAV PROCEDURES) | | R |
| 92 | | DYNAMIC REPLANNING/TIMING EXERCISE | | R |
| 94 | | EVASIVE ACTION/THREAT REACTIONS | | R |
| 96 | | ELECTRONIC ATTACK (EA)/ELECTRONIC PROTECTION (EP)/ALL ASPECT MISSILE DEFENSE (AAMD) | | R |

| | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------|----------|----------|
| 98 | | SENSOR MANAGEMENT | | R |
| 161 | | DEGRADED/DENIED GPS | | R |
| 164 | | DATALINK OPERATIONS | | R |
| INSTRUCTOR | | | | |
| 821 | 2 | MPT OPERATION | R | |
| <p>Notes:</p> <ol style="list-style-type: none"> 1. Required if also an INSTM evaluation (i.e., INSTM/QUAL). 2. Required only on INIT, RQ INSTR, and recurring MOBILE INSTR QUAL (for IMAs) evaluations. | | | | |

Chapter 3

EVALUATION CRITERIA

3.1. General Grading Standards.

3.1.1. FEs assign appropriate area grades by comparing examinee performance against standards as described in this chapter. The overall flight evaluation grade should be derived from individual area grades based on a composite for the observed events and tasks. The grading criteria in this chapter are divided into three sections: General, Instrument, and Tactical Employment.

3.1.2. If the examinee receives an unqualified area grade in any of the areas identified as “critical” by this volume, the overall qualification level must be a “Q3”. (T-2)

3.1.3. If an FE assigns a qualification level of unqualified (Q3), or if the FE assigns a qualification level of qualified (Q2) but assigns additional training:

3.1.3.1. FEs recommend whether or not such an examinee is allowed to fly before the additional training or re-evaluation is successfully completed.

3.1.3.2. SQ/CCs determine whether or not such an examinee is allowed to fly before the additional training or re-evaluation is successfully completed.

Table 3.1. General Aircraft Control Criteria.

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------|
| Aircraft Control Criteria. The following general criteria apply at all times unless more specific criteria from paragraph 3.2 and subparagraphs apply. | | |
| Q | Altitude | +/- 200 feet |
| | Airspeed | +/- 10 knots |
| | Course | +/- 5 degrees/3 NM (whichever is greater) |
| | TACAN Arc | ≤ 2 NM |
| | | |
| Q- | Altitude | +/- 300 feet |
| | Airspeed | +/- 15 knots |
| | Course | +/- 10 degrees/5 NM (whichever is greater) |
| | TACAN Arc | ≤ 3 NM |
| | | |

| | | |
|---|--|--------------------|
| U | | Exceeded Q- limits |
|---|--|--------------------|

3.2. Aircrew Evaluation Criteria - General.

3.2.1. Area 1--Mission Planning:

3.2.1.1. Mission Preparation:

3.2.1.1.1. **Q.** Clearly defined the mission overview and goals. Developed a sound plan to accomplish the mission. Provided specific information on necessary action items. Solicited feedback from other crewmembers to ensure a thorough understanding of mission requirements. Thoroughly critiqued plans to identify potential problem areas and ensured all flight members understood possible contingencies. Checked all relevant factors in accordance with applicable directives. Obtained necessary information from air tasking order when required. Aware of available alternatives if flight could not be completed as planned. Reviewed and initialed all items in the flight crew information file and read files. Prepared at briefing time.

3.2.1.1.2. **Q-.** Insufficiently defined the mission overview and goals. Insufficiently addressed potential problem areas. Inadequately solicited feedback or critiqued mission plans to ensure a thorough understanding of possible contingencies. Made minor errors or omissions that impacted mission effectiveness but still achieved mission goals. Demonstrated limited knowledge of performance capabilities or approved operating procedures/rules in some areas.

3.2.1.1.3. **U.** Failed to define the mission overview and goals. Provided no specific information on required items. Failed to solicit feedback from other crewmembers to ensure an understanding of mission requirements. Failed to critique plans to identify potential problem areas. Committed major errors or omissions that jeopardized mission effectiveness or safety of flight. Demonstrated a lack of understanding of operating data or procedures. Failed to review or initial Go/No-Go items. Unprepared at briefing time.

3.2.1.2. Publications:

3.2.1.2.1. **Q.** Assigned publications were current and usable for all of the unit's flight taskings.

3.2.1.2.2. **Q-.** Assigned publications contained minor deviations, omissions, or errors, but contained everything necessary to effectively accomplish the mission without jeopardizing safety of flight.

3.2.1.2.3. **U.** Assigned publications contained deviations, omissions, or errors of sufficient magnitude to jeopardize mission effectiveness or safety of flight.

3.2.1.3. Mobile:

3.2.1.3.1. **Q.** Coordinated with the pilot to develop a sound plan to accomplish the mission. Supported the pilot in verifying all applicable flight factors. Aware of available alternatives if the flight could not be completed as planned.

3.2.1.3.2. **Q-**. Committed minor deviations, omissions, or errors, but performed everything necessary to effectively accomplish the mission without jeopardizing safety of flight.

3.2.1.3.3. **U**. Committed major deviations, omissions, or errors of sufficient magnitude to jeopardize mission effectiveness or safety of flight.

3.2.2. Area 2--Briefing (if applicable):

3.2.2.1. Organization:

3.2.2.1.1. **Q**. Presented all applicable information in a logical sequence. Briefed flight member responsibilities, mission priorities, and sensor management. Concluded briefing to ensure enough time for aircrew step, pilot integration, and preflight procedures.

3.2.2.1.2. **Q-**. Briefed events out of sequence. Presented required areas in a hard to follow way or with some redundancy. Insufficiently prepared for briefing.

3.2.2.1.3. **U**. Brief was confusing, poorly organized, or presented in an illogical sequence. Failed to brief required areas. Neglected to accommodate enough time for aircrew step, pilot integration, or preflight procedures.

3.2.2.2. Presentation:

3.2.2.2.1. **Q**. Presented in a professional manner and covered all required items. Effectively used available training aids. Pilot and mobile clearly understood mission sequence and requirements.

3.2.2.2.2. **Q-**. Some difficulty communicating clearly. Did not effectively use available training aids. Dwelled on non-essential mission items.

3.2.2.2.3. **U**. Not presented in a professional manner. Did not use available training aids. Created doubts or confusion which would preclude safe and effective mission accomplishment.

3.2.2.3. Mission Objectives:

3.2.2.3.1. **Q**. Established clear objectives for the mission. Presented all training events and special interest items. Included effective technique discussion for accomplishing the mission.

3.2.2.3.2. **Q-**. Poorly defined or quantified mission objectives. Limited discussion of training events or special interest items. Dwelt on non-essential items. Limited discussion of valid techniques.

3.2.2.3.3. **U**. Failed to define or quantify mission objectives. Omitted essential items. Failed to discuss training events, special interest items, or valid techniques.

3.2.2.4. Mobile:

3.2.2.4.1. **Q**. Coordinated with the pilot for emergency procedures scenarios. Understood role and pilot expectations in the event of an emergency during takeoff. Understood role and pilot's briefed plan for in-flight emergencies.

3.2.2.4.2. **Q-**. Committed minor deviations, omissions, or errors, but accomplished everything necessary to effectively accomplish the mission without jeopardizing safety of flight.

3.2.2.4.3. **U**. Demonstrated lack of understanding of pilot's expectations. No awareness of emergency procedures plans. Failed to develop a shared mental picture with the pilot.

3.2.3. Area 3--Ground Operations:

3.2.3.1. Before Takeoff:

3.2.3.1.1. **Q**. Established and adhered to integration, start, taxi and takeoff times while ensuring a thorough preflight and check of personal equipment. Accurately determined readiness of aircraft for flight. Performed all checks and procedures prior to takeoff in accordance with approved checklists and applicable directives.

3.2.3.1.2. **Q-**. Committed minor deviations, omissions, or errors, but performed everything necessary to effectively accomplish the mission without jeopardizing safety of flight.

3.2.3.1.3. **U**. Committed major deviations, omissions, or errors of sufficient magnitude to jeopardize mission effectiveness or safety of flight.

3.2.3.2. After Landing:

3.2.3.2.1. **Q**. Performed appropriate after landing checks and procedures in accordance with Tasking Order (TO) and applicable directives. Completed all required forms accurately.

3.2.3.2.2. **Q-**. Committed minor deviations, omissions, or errors, but performed everything necessary to effectively accomplish the mission without jeopardizing safety of flight. Required forms completed with minor errors.

3.2.3.2.3. **U**. Committed major deviations, omissions, or errors of sufficient magnitude to jeopardize mission effectiveness or safety of flight. Required forms completed inaccurately or with missing date.

3.2.3.3. Mobile:

3.2.3.3.1. **Q**. Performed pre-flight inspection and cockpit setup in an efficient and correct manner in accordance with checklists, governing directives, and mission brief. Adhered to mission timeline established during brief. Positioned mobile to effectively view and monitor engine start, taxi, and to assist the pilot as necessary. Ensured taxi path clear of all personnel, equipment, and obstacles. Provided timely and correct input to pilot.

3.2.3.3.2. **Q-**. Committed minor deviations, omissions, or errors during preflight inspection, cockpit setup, or mission timing. Insufficiently positioned mobile for a clear view of engine start, taxi, or to assist the pilot while still ensuring aircraft safety. Inputs to pilot were slow, untimely, or slightly inaccurate.

3.2.3.3.3. **U**. Committed major deviations, omissions, or errors during preflight inspection, cockpit setup, or mission timing. Failed to position mobile for a clear view

of engine start, taxi, or to assist the pilot. Inputs to pilot were lacking or grossly inaccurate.

3.2.4. Area 4--Takeoff:

3.2.4.1. Pilot:

3.2.4.1.1. **Q.** Maintained smooth aircraft control throughout takeoff. Performed takeoff in accordance with flight manual procedures.

3.2.4.1.2. **Q-.** Minor procedural deviations. Control was inconsistent, rough, or erratic.

3.2.4.1.3. **U.** Takeoff potentially dangerous. Exceeded aircraft/systems limitations and/or violated applicable flight rules. Over-controlled aircraft resulting in excessive deviations from intended flight path.

3.2.4.2. Mobile:

3.2.4.2.1. **Q.** Coordinated with the pilot for emergency procedures scenarios. Understood role and pilot expectations in the event of an emergency during takeoff. Understood role and pilot's briefed plan for in-flight emergencies.

3.2.4.2.2. **Q-.** Committed minor deviations, omissions, or errors, but performed everything necessary to effectively accomplish the mission without jeopardizing safety of flight. Ensured adequate O2 time (if applicable) and ensured takeoff clearance was received. Positioned mobile to assist the pilot as necessary. Minor errors in calls noted and/or not timely and/or slightly inaccurate.

3.2.4.2.3. **U.** Committed major deviations, omissions, or errors of sufficient magnitude to jeopardize mission effectiveness or safety of flight. Failure to ensure adequate O2 time (if applicable) and reception of takeoff clearance. Failed to position mobile to correctly assist pilot and calls were grossly inaccurate or untimely.

3.2.5. Area 6--Departure:

3.2.5.1. Instrument Departure:

3.2.5.1.1. **Q.** Performed departure as published or directed and complied with all restrictions.

3.2.5.1.2. **Q-.** Minor deviations in airspeed and/or navigation during completion of departure.

3.2.5.1.3. **U.** Failed to comply with departure procedure or restrictions.

3.2.5.2. Tactical Departure:

3.2.5.2.1. **Q.** Performed departure as directed and complied with all restrictions.

3.2.5.2.2. **Q-.** Minor deviations in airspeed and/or navigation during completion of departure.

3.2.5.2.3. **U.** Failed to comply with departure procedure or restrictions. Over controlled the aircraft while executing maneuver.

3.2.6. Area 7--Level Off:

3.2.6.1. **Q.** Levelled off smoothly and promptly established proper airspeed.

3.2.6.2. **Q-.** Level off was erratic. Slow to establish proper airspeed.

3.2.6.3. **U.** Exceeded Q- criteria. Failed to establish proper airspeed. Failed to input proper altimeter setting, if required.

3.2.7. Area 8--Cruise/Navigation:

3.2.7.1. **Q.** Demonstrated satisfactory capability to navigate using all available means. Properly recorded all flight data on the green card, (pilot's printed or digital flight form). Ensured navigational aids (NAVAIDs) were properly tuned, identified, and monitored. Complied with clearance instructions. Aware of position at all times and remained within the confines of assigned airspace.

3.2.7.2. **Q-.** Minor errors in procedures or use of navigation equipment. Minor errors or omissions on green card. Minor deviations in tuning, identifying, and monitoring NAVAIDs. Slow to comply with clearance instructions. Displayed difficulty in establishing exact position and course.

3.2.7.3. **U.** Exceeded Q- criteria. Major errors in use of navigation equipment or could not establish position. Major errors or omissions on green card. Did not remain within the confines of assigned airspace.

3.2.8. Area 10--In-Flight Checks:

3.2.8.1. **Q.** Performed all in-flight checks as required.

3.2.8.2. **Q-.** Minor deviations, omissions, or errors which did not preclude safe and effective mission accomplishment.

3.2.8.3. **U.** Major deviations, omissions, or errors which detracted from mission accomplishment. Did not perform in-flight checks. Did not adequately monitor system performance to the degree that an emergency condition would have developed if allowed to continue uncorrected.

3.2.9. Area 12--Communication/Navigation/IFF (CNI):

3.2.9.1. **Q.** Complete knowledge of, and compliance with, applicable Comm/Identification Friend of Foe (IFF)/Selective Identification Feature (SIF) procedures. Radio transmissions were concise and used proper terminology. Complied with and acknowledged all required instructions.

3.2.9.2. **Q-.** Occasional deviations, omissions, or errors in procedures which required retransmission of information or resetting of codes. Slow in initiating required actions. Communications contained extraneous material, were not in proper sequence, or used non-standard terminology.

3.2.9.3. **U.** Exceeded Q- criteria. Incorrect application of procedures, or poor performance, compromised mission effectiveness or jeopardized safety.

3.2.10. Area 14--Airwork (Flight Characteristics Demo):

3.2.10.1. **Q.** Aircraft control was smooth and positive. Maneuvering was performed in accordance with (IAW) procedures and techniques outlined in the flight manual, operational procedures, and local directives.

3.2.10.2. **Q-.** Aircraft control was adequate, but not always smooth or positive. Minor deviations, omissions, or errors in procedures.

3.2.10.3. **U.** Aircraft control was erratic and failed to demonstrate the desired or determined effect. Temporary loss of aircraft control during maneuvering.

3.2.11. Area 16--Equipment Operations.

3.2.11.1. Pilot:

3.2.11.1.1. **Q.** Operated equipment according to procedures IAW flight manuals, checklists, and governing directives. Accurately analyzed equipment malfunctions and efficiently applied appropriate corrective action with consistent results. No damage or significant system degradation resulted from operator inputs or lack of knowledge.

3.2.11.1.2. **Q-.** Operated equipment with deviations, omissions, or errors in procedures defined in the flight manual, checklists, and governing directives. Analysis of equipment malfunctions was faulty and inaccurate. Corrective actions were incorrectly or inefficiently applied. Actions did not damage equipment or jeopardize safety. The level of performance or knowledge was the minimum acceptable.

3.2.11.1.3. **U.** Exceed Q- criteria or damaged equipment. Could not achieve acceptable results due to incorrect application of procedure, inefficient analysis, and/or lack of knowledge.

3.2.11.2. Mobile:

3.2.11.2.1. **Q.** Operated equipment according to procedures IAW flight manuals, checklists, and governing directives. No damage, system degradation, or compromise of mission effectiveness resulted from operator inputs.

3.2.11.2.2. **Q-.** Operated equipment with minor deviations, omissions, or errors in procedures defined in the flight manual, checklists, and governing directives. Slow in initiating required actions. Communications contained extraneous material, were not in proper sequence, or used non-standard terminology. Actions did not damage equipment or jeopardize safety.

3.2.11.2.3. **U.** Exceeded Q- criteria or damaged equipment. Incorrect application of procedures, or poor performance, compromised mission effectiveness or jeopardized safety.

3.2.12. Area 18--Tactical Arrival:

3.2.12.1. **Q.** Performed the tactical arrival IAW governing directives and local procedures, and within aircraft limitations outlined in the flight manual. Complied with all restrictions. Made smooth and timely corrections.

3.2.12.2. **Q-.** Performed the tactical arrival with minor deviations, omissions, or errors. Complied with all restrictions. Slow to make corrections.

3.2.12.3. **U.** Performed the tactical arrival with major deviations. Corrections were erratic, excessive, or unsafe.

3.2.13. Area 19--Go-Around:

3.2.13.1. **Q.** Initiated and performed go-around promptly IAW procedures outlined in the flight manual, operational procedures, and local directives.

3.2.13.2. **Q-.** Go-around was performed with minor deviations, omissions, or errors in procedures outlined in the flight manual, operational procedures, and local directives. Slow to initiate go-around when appropriate or directed.

3.2.13.3. **U.** Exceeded Q- criteria. Did not initiate go-around when appropriate or directed. Aircraft control was erratic or unsafe, and/or exhibited large deviations from runway alignment.

3.2.14. Area 21--Emergency Traffic Patterns.

3.2.14.1. General. Ensure all sub-areas are evaluated, to include SFO patterns with and without flaps:

3.2.14.1.1. **Q.** Configured at the appropriate position and altitude. Executed the maneuver based on procedures outlined in the flight manual. Aircraft control was smooth and positive. Pattern was flown at the appropriate airspeed throughout, and ultimately resulted in the aircraft being in position for a safe landing. Properly assessed impacts of local conditions and tailored planned profile as necessary.

3.2.14.1.2. **Q-.** Configured at a position and altitude which allowed for a safe approach. Aircraft was under or over controlled. Pattern resulted in the aircraft ultimately being in position for a safe landing, but was executed with minor deviations, omissions, or errors in flight manual procedures, airspeeds, and/or altitudes, or required unnecessary maneuvering due to minor errors in planning or judgment.

3.2.14.1.3. **U.** Major deviations from procedures outlined in the flight manual. Aircraft control was erratic or unsafe, with major deviations from airspeed and/or altitude. Required excessive maneuvering due to inadequate planning or poor judgment. Aircraft was placed in a position from which a safe landing could not be made.

3.2.14.2. SFO or Precautionary Pattern. SFOs and precautionary patterns are graded from high key to 10 feet. High key can occur at any place/altitude depending on aircraft energy state and environmental factors but is typically a point over the intended landing zone. The examinee may use spoilers if necessary to ensure arrival at 10 feet within parameters, but the FE may request to see the maneuver repeated without the use of spoilers.

3.2.14.2.1. **Q.** Maintained proper airspeed within +10/-2 knots. Arrived at 10 feet within the first third of the runway. Aircraft control was smooth and positive, with aircraft placed in a safe position to land upon reaching 10 feet.

3.2.14.2.2. **Q-.** Maintained proper airspeed within +15/-5 knots. Arrived at 10 feet either prior to the runway threshold, or past the first third but before the runway midpoint. Aircraft was under or over controlled.

3.2.14.2.3. **U.** Exceeded Q- criteria. Required excessive maneuvering due to misjudgment of winds or energy state.

3.2.14.3. No-Flap Pattern. In order to evaluate the examinee's energy management, do not plan on using spoilers to execute a no-flap pattern. If the examinee uses spoilers to correct for a poorly planned or poorly flown no-flap pattern, the FE may request to see the maneuver repeated without the use of spoilers. In less-than-optimal environmental conditions, spoilers may be required to safely and correctly fly a no-flap pattern.

3.2.14.3.1. **Q.** Crossed the threshold with airspeed +5/-0 knots.

3.2.14.3.2. **Q-.** Crossed the threshold with airspeed +10/-1 knots.

3.2.14.3.3. **U.** Exceeded Q- criteria.

3.2.15. Area 23--VFR Pattern/Approach. Visual Flight Rules (VFR) patterns/approaches begin when the aircraft arrives on initial, initiates a closed pattern, or arrives on final for a visual straight-in approach. They are graded up to the point where power would normally be reduced for landing or a go-around is initiated:

3.2.15.1. **Q.** Performed patterns/approaches IAW procedures and techniques outlined in the flight manual, operational procedures, and local directives. Aircraft control was smooth and positive with accurate runway alignment. Maintained proper airspeed between +10/-3 knots.

3.2.15.2. **Q-.** Performed patterns/approaches with minor deviations, omissions, or errors in procedures and techniques outlined in the flight manual, operational procedures, and local directives. Aircraft control was safe, but not always smooth and/or with variations in runway alignment. Maintained proper airspeed within +15/-5 knots.

3.2.15.3. **U.** Exceeded Q- criteria. Patterns/approaches were not performed IAW procedures outlined in the flight manual, operational procedures, and local directives. Aircraft control was erratic or unsafe. Used bank angles greater than 30 degrees to fly the pattern and/or exhibited large deviations from runway alignment.

3.2.16. Area 25--Landing. Applicable to all landings, including minimum-run landings.

3.2.16.1. **Q.** Performed landings IAW procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown point was within the first third of the runway.

3.2.16.2. **Q-.** Performed landings with minor deviations, omissions, or errors in procedures and techniques outlined in the flight manual, operational procedures, and local directives. Touchdown attitude was slightly main gear first, and/or with small amounts of drift or crab which did not affect aircraft control. Skips or bounces did not exceed 2 feet. Touchdown point would have been beyond the first third of the runway if go-around was not initiated.

3.2.16.3. **U.** Exceeded Q- criteria. Landings were not performed IAW procedures outlined in the flight manual, operational procedures, and local directives. Aircraft landed main gear first and/or involved a pilot-induced oscillation (PIO).

3.2.17. Area 29--Knowledge. Evaluate all applicable subareas.

3.2.17.1. Aircraft General:

3.2.17.1.1. **Q.** Thorough knowledge of aircraft systems, limitations, and performance characteristics.

3.2.17.1.2. **Q-.** Knowledge of aircraft systems, limitations, and performance characteristics is sufficient to safely accomplish the mission. Deficiencies noted in either depth of knowledge or comprehension.

3.2.17.1.3. **U.** Exceeded Q- criteria. Knowledge level is unsatisfactory.

3.2.17.2. Emergency Procedures:

3.2.17.2.1. **Q.** Correct, immediate response to Boldface and non-Boldface emergency situations. Effectively used checklist or flight manual.

3.2.17.2.2. **Q-.** Response to Boldface emergencies was 100% correct. Response to certain areas of non-Boldface emergencies, or follow-on steps of Boldface emergencies, was slow or confused. Demonstrated appropriate use of the checklist or flight manual but was slow to locate required sections or data.

3.2.17.2.3. **U.** Incorrect response to a Boldface emergency. Unable to analyze malfunctions or take corrective action. Did not reference checklist or flight manual when appropriate or lacked familiarity with the manual's arrangement or content.

3.2.17.3. Flight Rules/Procedures:

3.2.17.3.1. **Q.** Thorough knowledge of flight rules and local area procedures.

3.2.17.3.2. **Q-.** Deficiencies in depth of knowledge. Minor deviations or errors in application of rules or procedures.

3.2.17.3.3. **U.** Exceeded Q- criteria. Knowledge level is unsatisfactory.

3.2.17.4. Mobile:

3.2.17.4.1. **Q.** Thorough knowledge of procedures and systems for both mobile and aircraft.

3.2.17.4.2. **Q-.** Knowledge level is sufficient to safely accomplish the mission. Deficiencies noted in either depth of knowledge or comprehension.

3.2.17.4.3. **U.** Exceeded Q- criteria. Knowledge level is unsatisfactory.

3.2.18. Area 30--Airmanship/Situational Awareness (Critical):

3.2.18.1. **Q.** Executed the assigned mission in a timely, efficient manner. Conducted the flight with a sense of understanding and comprehension. Made appropriate decisions based on available information. Recognized the need for action. Aware of on-going mission status. Recognized, verbalized, and correctly acted on unexpected events.

3.2.18.2. **U.** Decisions or lack thereof resulted in failure to accomplish the assigned mission. Misanalysed flight conditions and/or failed to recognize/understand mission developments, or demonstrated poor judgment to the extent that flight safety could have been compromised. Did not recognize the need for action. Not aware of on-going mission status. Failed to recognize, verbalize, and act on unexpected events.

3.2.19. Area 31--Safety (Critical):

3.2.19.1. **Q.** Aware of, and complied with, all safety factors required for operating the aircraft or mobile.

3.2.19.2. **U.** Was not aware of, or did not comply with, all safety factors required for operating the aircraft or mobile. Operated the aircraft or mobile in a dangerous manner. Failed to correctly accomplish a Boldface procedure.

3.2.20. Area 32--Flight Discipline (Critical):

3.2.20.1. **Q.** Provided required direction/information. Correctly adapted to meet new situational demands. Demonstrated strict professional flight and crew discipline throughout all phases of the mission.

3.2.20.2. **U.** Did not provide direction/information when needed. Did not correctly adapt to meet new situational demands. Failed to exhibit strict flight or pilot discipline. Violated or ignored rules or instructions.

3.2.21. Area 33--Instructor Performance (if applicable).

3.2.21.1. Briefing/Debriefing:

3.2.21.1.1. **Q.** Presented a comprehensive, instructional briefing/debriefing which encompassed all mission events. Made excellent use of training aids. Excellent analysis of all events/maneuvers. Clearly defined objectives. Gave positive and negative performance feedback at appropriate times—feedback was specific, objective, based on observable behavior, and given constructively. Re-capped key points/compared mission's results with objectives. When appropriate, took the initiative and time to share operational knowledge and experience.

3.2.21.1.2. **Q-.** Minor errors or omissions in briefing/debriefing or mission critique. Occasionally unclear in analysis of events or maneuvers. Some feedback given but was not always given at appropriate times and not always a positive learning experience for the entire formation. Debrief covered the mission highlights but was not specific enough.

3.2.21.1.3. **U.** Major errors or omissions in briefing/debriefing. Analysis of events or maneuvers was incomplete, inaccurate, or confusing. Did not use training aids/reference material effectively. Briefing/debriefing below the caliber of that expected of instructors. Failed to define mission objectives. Feedback not given or given poorly. Attempted to hide mistakes. Elected not to conduct flight debrief.

3.2.21.2. Demonstration of Maneuvers (Flight or Mobile):

3.2.21.2.1. **Q.** Performed required maneuvers within prescribed parameters. Provided concise, meaningful commentary while executing the maneuver. Demonstrated sound instructor proficiency.

3.2.21.2.2. **Q-.** Performed required maneuvers, with minor deviations, omissions, or errors in parameters. Commentary was occasionally unclear or confusing.

3.2.21.2.3. **U.** Unable to perform the required maneuvers. Major deviations, omissions, or errors in procedure. Did not provide commentary while executing the maneuver.

3.2.21.3. Instructor Knowledge:

3.2.21.3.1. **Q.** Demonstrated in-depth knowledge of procedures, aircraft systems and performance characteristics, mission, and tactics, beyond the knowledge level expected of non-instructors.

3.2.21.3.2. **Q-.** Deficiencies noted in depth of knowledge, comprehension of procedures, aircraft systems and performance characteristics, mission, and/or tactics.

3.2.21.3.3. **U.** Unfamiliar with procedures, aircraft systems and performance characteristics, mission and/or tactics. Lack of knowledge seriously detracted from instructor effectiveness.

3.2.21.4. Preparation of Training and Evaluation Forms:

3.2.21.4.1. **Q.** Accurately completed appropriate training records or evaluation forms. Adequately assessed and documented student performance. Comments were clear, concise, and pertinent.

3.2.21.4.2. **Q-.** Minor deviations, omissions, or errors in completed training records or evaluation forms. Comments were incomplete or confusing.

3.2.21.4.3. **U.** Did not complete appropriate training records or evaluation forms. Comments were invalid, unclear, or did not accurately document student performance.

3.2.21.5. Ability to Instruct:

3.2.21.5.1. **Q.** Demonstrated sound instructor ability. Clearly defined all mission requirements and any required additional training or corrective action. Instruction and evaluation were accurate, effective, and timely. Was completely aware of aircraft and mission situation at all times.

3.2.21.5.2. **Q-.** Minor deviations, omissions, or errors in communication or analysis degraded effectiveness of instruction.

3.2.21.5.3. **U.** Demonstrated inadequate or unsatisfactory ability to instruct. Unable to perform, instruct techniques, procedures, systems use, or tactics. Unable to assess student performance or provide pertinent feedback. Did not maintain awareness of aircraft and mission situation at all times.

3.2.22. Area 36--Task Prioritization:

3.2.22.1. **Q.** Correctly identified, prioritized, and managed tasks based on existing and new information that assured mission success. Used available resources to manage workload, communicated task priorities to other flight members. Asked for assistance when required. Displayed sound knowledge of systems. Effectively identified contingencies and alternatives. Gathered and crosschecked available data before acting. Clearly stated decisions and ensured they were understood. Investigated doubts and concerns of other flight members when necessary.

3.2.22.2. **Q-**. Made minor errors in prioritization, management of tasks, system knowledge which did not affect safe or effective mission accomplishment. Did not completely communicate task priorities to other flight members. Made minor errors in identifying contingencies, gathering data, or communicating a decision which did not affect safe or effective mission accomplishment.

3.2.22.3. **U**. Incorrectly prioritized or managed tasks. Displayed lack of systems knowledge causing task overload that seriously degraded mission accomplishment or safety of flight. Failed to communicate task priorities to other flight members. Failed to ask for assistance when overloaded. Improperly or ineffectively identified contingencies, gathered data, or communicated a decision that seriously degraded mission accomplishment or safety of flight.

3.2.23. Area 37--Cockpit/Crew Resource Management. Applicable between pilots in the TU-2S, and between the pilot and mobile. Reference AFMAN 11-290, *Cockpit/Crew Resource Management and Threat & Error Management*, and AF Form 4031 for CRM:

3.2.23.1. Pilot:

3.2.23.1.1. **Q**. Effectively coordinated with other pilot or mobile without misunderstanding. Effective use of CRM.

3.2.23.1.2. **Q-**. Coordinated with other pilot or mobile with minor exceptions. Intra-crew communications were not always clear or concise. CRM was the minimum acceptable.

3.2.23.1.3. **U**. Breakdown in coordination with other pilot or mobile, which compromised mission effectiveness or jeopardized safety. CRM was lacking to the extent mission accomplishment was significantly degraded.

3.2.23.2. Mobile:

3.2.23.2.1. **Q**. Effectively coordinated with the pilot without misunderstanding. Effective use of CRM.

3.2.23.2.2. **Q-**. Coordinated with the pilot with minor exceptions. Communication with the pilot was not always clear or concise. CRM was the minimum acceptable.

3.2.23.2.3. **U**. Breakdown in coordination with the pilot, which compromised mission effectiveness or jeopardized safety. CRM was lacking to the extent mission accomplishment was significantly degraded.

3.2.24. Area 819--High Speed Taxi Demo:

3.2.24.1. **Q**. Performed demonstration IAW procedures and techniques outlined in the flight manual, operational procedures, local directives, and syllabus guidance.

3.2.24.2. **Q-**. Performed demonstration with minor deviations, omissions, or errors in procedures and techniques outlined in the flight manual, operational procedures, local directives, and syllabus guidance.

3.2.24.3. **U**. Exceeded Q- criteria. Major deviations which rendered the demonstration ineffective or unsafe.

3.2.25. Area 820--Approach to Stall Recovery/Stall Recovery:

3.2.25.1. Approach to Stall Recovery:

3.2.25.1.1. **Q.** Accurate recognition of approach to stall indications. Smooth, positive recovery to level flight with minimal altitude loss. Used correct procedures.

3.2.25.1.2. **Q-.** Slow to recognize and recover from approach to stall indications. Correct recovery procedures used.

3.2.25.1.3. **U.** Unable to recognize approach to stall indications. Incorrect recovery procedures used or allowed aircraft to enter a fully stalled condition. Excessive altitude lost during recovery.

3.2.25.2. Stall Recovery:

3.2.25.2.1. **Q.** Accurate recognition of stall indications. Positive recovery to level flight with or without the use of power. Appropriate use of rudder and aileron during high angle of attack (AOA) flight regime.

3.2.25.2.2. **Q-.** Slow to recognize stall indications. Safe recovery to level flight with minor errors in recovery procedures.

3.2.25.2.3. **U.** Unable to recognize stall indications and/or incorrect recovery procedures used.

3.3. Aircrew Evaluation Criteria - Instruments.

3.3.1. Area 62--Instrument Penetration/Enroute Descent:

3.3.1.1. **Q.** Performed the penetration and approach, or enroute descent, as published or directed, and IAW procedures outlined in the flight manual. Complied with all restrictions. Made smooth and timely corrections.

3.3.1.2. **Q-.** Performed the penetration and approach, or enroute descent, with minor deviations, omissions, or errors. Complied with all restrictions. Slow to make corrections.

3.3.1.3. **U.** Performed the penetration and approach, or enroute descent, with major deviations. Corrections were erratic, excessive, or unsafe.

3.3.2. Area 64--Non-Precision Approach:

3.3.2.1. **Q.** Adhered to published procedure, or Air Traffic Control (ATC) instructions or restrictions. Smooth and timely response to approach controller's instructions. Used appropriate descent rate to arrive at minimum descent point (MDA) at or before the visual descent point (VDP) and missed approach point (MAP). Aircraft was placed in a position from which a safe landing could be made. Additional criteria:

3.3.2.1.1. Airspeed: +10/-5 knots

3.3.2.1.2. Altitude at MDA: +100/-25 feet

3.3.2.1.3. Course or heading:

3.3.2.1.3.1. Headings (Air Surveillance Radar [ASR]): $\pm 5^\circ$

3.3.2.1.3.2. Course: $\pm 5^\circ$ at MAP

3.3.2.1.4. Localizer: less than one dot deflection

3.3.2.2. **Q-**. Performed published procedure with minor deviations, omissions, or errors. Slow to comply with ATC instructions or restrictions. Arrived at MDA at, or before, the MAP, but past the VDP. Aircraft was placed in a position from which a safe landing could be made. Additional criteria:

3.3.2.2.1. Airspeed: +15/-10 knots

3.3.2.2.2. Altitude at MDA: +150/-50 feet

3.3.2.2.3. Course or heading:

3.3.2.2.3.1. Headings (ASR): $\pm 10^\circ$

3.3.2.2.3.2. Course: $\pm 10^\circ$ at MAP

3.3.2.2.4. Localizer: remained within two dot deflection

3.3.2.3. **U**. Exceeded Q- criteria. Did not comply with published procedure, or ATC instructions or restrictions. Maintained steady-state flight below the MDA. Aircraft was not placed in a position from which a safe landing was possible.

3.3.3. Area 65 and 66--Precision Approach:

3.3.3.1. **Q**. Adhered to published procedure, or ATC instructions or restrictions. Smooth and timely response to approach controller's instructions. Maintained glide path with only minor deviations and complied with Decision Height (DH). Aircraft was placed in a position from which a safe landing could be made. Additional criteria:

3.3.3.1.1. Airspeed: +10/-5 knots

3.3.3.1.2. Headings (PAR): $\pm 5^\circ$

3.3.3.1.3. ILS azimuth and glide slope within one dot

3.3.3.2. **Q-**. Performed published procedure with minor deviations, omissions, or errors. Slow to comply with approach controller's instructions. Improper glide path control or initiated appropriate action within ± 50 feet of DH. Aircraft was placed in a position from which a safe landing could be made. Additional criteria:

3.3.3.2.1. Airspeed: +15/-10 knots

3.3.3.2.2. Headings (PAR): $\pm 10^\circ$

3.3.3.2.3. ILS azimuth within two dot deflection

3.3.3.2.4. ILS glide slope within one dot low to two dots high

3.3.3.3. **U**. Exceeded Q- criteria. Did not comply with published procedure, or ATC instructions or restrictions. Course corrections or glide path control was erratic. Did not comply with DH. Aircraft was not placed in a position from which a safe landing was possible.

3.3.4. Area 67--Missed Approach/Climb Out:

3.3.4.1. **Q**. Executed missed approach or climb-out as published or directed. Completed maneuver IAW procedures outlined in the flight manual.

3.3.4.2. **Q-**. Executed missed approach or climb-out with minor deviations, omissions, or errors from procedures outlined in the flight manual. Slow to comply with published procedures or controller's instructions.

3.3.4.3. **U**. Executed missed approach or climb-out with major deviations. Did not comply with published procedures or controller's instructions.

3.3.5. Area 69--Instrument Cross-Check:

3.3.5.1. **Q**. Effective instrument cross-check. Aircraft control was smooth and positive during actual or simulated instrument conditions. Met Q criteria as specified in [Table 3.1](#), and for all instrument-related events evaluated.

3.3.5.2. **Q-**. Instrument cross-check was slow. Aircraft control was not always smooth and positive, with abrupt corrections to compensate for slow recognition of deviations or errors. Met Q- criteria as specified in [Table 3.1](#), and/or for any instrument-related events evaluated.

3.3.5.3. **U**. Exceeded Q- criteria. Instrument cross-check was unsatisfactory or unsafe. Aircraft control was erratic and/or exhibited excessive corrections.

3.4. Aircrew Evaluation Criteria - Mission.

3.4.1. Area 35--RADAR Scope/Sensor Interpretation:

3.4.1.1. **Q**. Correctly interpreted sensor display. Had no difficulties compensating for errors or unanticipated developments.

3.4.1.2. **Q-**. Slow to interpret sensor display. Had difficulties compensating for system errors or unanticipated developments.

3.4.1.3. **U**. Could not interpret sensor display. Could not compensate for or identify system errors or unanticipated developments.

3.4.2. Area 85—Radio Use/Tactical Communications (Primary/Backup, Combat/Sensitive Reconnaissance Operations (SRO) Communications Procedures):

3.4.2.1. **Q**. Thorough knowledge of communication procedures (including AFTTP 3-2.5, *Brevity*) applicable to both combat and SRO environments. Thorough knowledge of aircraft communication system capabilities and limitations.

3.4.2.2. **Q-**. Knowledge of communication procedures and aircraft communication system sufficient to safely perform the mission. Deficiencies noted in depth of knowledge, comprehension, or application.

3.4.2.3. **U**. Unsatisfactory knowledge level, with potential to seriously degrade mission accomplishment.

3.4.3. Area 88--Tactical Navigation (DR/Pilotage Navigation):

3.4.3.1. **Q**. Performed IAW procedures and techniques outlined in the flight manual, operational procedures, and local directives. Thorough knowledge of navigation system capabilities, limitations, and degraded/denied operations (e.g., Internal Navigation System only or with degraded GPS). Effectively utilized backup navigation system to determine position.

3.4.3.2. **Q-**. Knowledge of primary and backup navigation procedures and systems sufficient to safely perform the mission. Deficiencies noted in depth of knowledge, comprehension, or application.

3.4.3.3. **U**. Unsatisfactory knowledge level, with potential to compromise safety of flight, violate airspace, or seriously degrade mission accomplishment.

3.4.4. Area 89--Ingress (Combat/SRO NAV Procedures):

3.4.4.1. **Q**. Thorough knowledge of operating and navigation procedures applicable to both combat and SRO environments. Examinee should demonstrate a working knowledge of AFTTP 3-1.U-2 concepts in combat and SRO environments as well as practical application of theater specific Concept of Operations (CONOPS).

3.4.4.2. **Q-**. Knowledge of navigation procedures and aircraft navigation system sufficient to safely perform the mission. Deficiencies noted in depth of knowledge, comprehension, or application.

3.4.4.3. **U**. Unsatisfactory knowledge level, with potential to compromise safety of flight, violate airspace, or seriously degrade mission accomplishment.

3.4.5. Area 90--Egress (Combat/SRO NAV Procedure):

3.4.5.1. **Q**. Thorough knowledge of operating and navigation procedures applicable to both combat and SRO environments. Examinee should demonstrate a working knowledge of AFTTP 3-1.U-2 concepts in combat and SRO environments as well as practical application of theater specific CONOPS.

3.4.5.2. **Q-**. Knowledge of navigation procedures and aircraft navigation system sufficient to safely perform the mission. Deficiencies noted in depth of knowledge, comprehension, or application.

3.4.5.3. **U**. Unsatisfactory knowledge level, with potential to compromise safety of flight, violate airspace, or seriously degrade mission accomplishment.

3.4.6. Area 92--Dynamic Replanning/Timing Exercise. FE's may introduce additional injects (e.g., timing changes, threats, Destination Point [DP] sequences) during the exercise, provided the changes are introduced in a realistic manner and are coordinated (if necessary) with ATC:

3.4.6.1. **Q**. Replanning was performed IAW procedures and techniques outlined in the flight manual, operational procedures, and local directives. Timing events were met within 2 minutes of designated arrival time(s).

3.4.6.2. **Q-**. Replanning was performed with minor deviations, omissions, or errors in procedures outlined in the flight manual, operational procedures, and local directives. Timing events were met within 3 minutes of designated arrival time(s).

3.4.6.3. **U**. Exceeded Q- criteria.

3.4.7. Area 94--Evasive Action/Threat Reactions. Area includes U-2 specific threat awareness and reactions to Surf-to-Air Missile (SAM), altitude indicator (AI), Man Portable Air-Defense (MANPAD), cyber, and threats to communications and navigation. Examinee should demonstrate a working knowledge of AFTTP 3-1.U-2, inclusive of current threats in each

category, defensive maneuvers or reactions, Electronic Warfare System (EWS) operations, and degraded system capabilities and limitations:

3.4.7.1. **Q**. Threat reactions and countermeasures were appropriate, timely, and correct. Operated equipment IAW procedures and techniques outlined in the flight manual, checklists, operational procedures, and governing directives. Accurately and efficiently analyzed equipment malfunctions or degradation.

3.4.7.2. **Q-**. Threat reactions and countermeasures were slow or inconsistent. Operated equipment with deviations, omissions, or errors from procedures and techniques outlined in the flight manual, checklists, operational procedures, and governing directives. Equipment malfunctions were ignored, analyzed in error, or resulted from faulty operator techniques or erroneous data input. The level of performance or knowledge was the minimum acceptable.

3.4.7.3. **U**. Exceed Q- criteria. Threat reactions and/or countermeasures were omitted or incorrect. Examinee inputs or lack of knowledge resulted in system damage. Could not achieve acceptable results due to poor or incorrect application of procedures.

3.4.8. Area 96--Electronic Attack (EA)/Electronic Protection (EP)/All Aspect Missile Defense (AAMD):

3.4.8.1. **Q**. Thorough knowledge of EWS capabilities, limitations, and degraded system operations. Effectively interpreted displayed threat warning information.

3.4.8.2. **Q-**. Knowledge level and ability to interpret displayed threat warning data is sufficient to safely accomplish the mission. Deficiencies noted in depth of knowledge, comprehension, or application.

3.4.8.3. **U**. Exceeded Q- criteria. Knowledge level is unsatisfactory. Unable to interpret displayed threat warning information.

3.4.9. Area 98--Sensor Management:

3.4.9.1. **Q** . Correctly planned, briefed, prioritized, and executed a sound sensor management plan. Identified high task periods and primary/secondary/tertiary sensors based on mission priorities. Accounted for threats, changes in tasking, and weather. Re-prioritized sensor tasks based on existing and new information to ensure mission success. Displayed sound knowledge of sensor systems.

3.4.9.2. **Q-** . Made minor errors in planning, prioritization, and management of sensor tasks. Did not completely account for threats, changes in tasking, or weather.

3.4.9.3. **U** . Incorrectly prioritized or managed sensor tasks in a manner which seriously degraded mission accomplishment or safety of flight. Displayed lack of knowledge of sensor systems.

3.4.10. Area 161--Degraded/Denied GPS:

3.4.10.1. **Q** . Properly adapted to degradation/loss of GPS. Mission accomplishment not affected.

3.4.10.2. **Q-** . Slow to adapt to or recognize degradation/loss of GPS systems. Mission accomplishment not affected.

3.4.10.3. **U** . Unable to adapt to degradation/loss of GPS systems. Mission accomplishment affected.

3.4.11. Area 164--Datalink Operation:

3.4.11.1. **Q**. All systems manipulation demonstrated thorough comprehension and execution of all datalink capabilities, limitations, and lost link procedures.

3.4.11.2. **Q-**. Systems manipulation demonstrated minor lapses in understanding of systems/datalinks, and/or was slow to execute procedures.

3.4.11.3. **U**. Induced errors due to lack of systems/datalinks knowledge.

3.5. Aircrew Evaluation Criteria – Mobile.

3.5.1. Area 817--Run-Ins. High angle run-ins are defined as those with an angular difference of greater than 60 degrees off runway centerline. Long distance run-ins are defined as those where the distance from the starting point to runway entry is greater than 500 feet:

3.5.1.1. High Angle Run-Ins (Long and Short Distance):

3.5.1.1.1. **Q**. Consistently demonstrated the ability to place the mobile in a position to provide effective support to the pilot. Vehicle control was positive at all times, with the demonstrated ability to remain in position once joined with the aircraft.

3.5.1.1.2. **Q-**. Demonstrated minimum acceptable ability to place the mobile in a position to provide effective support to the pilot. Vehicle control was acceptable and safe.

3.5.1.1.3. **U**. Exceeded Q- criteria. Consistently failed to place the mobile in an acceptable position. Vehicle control was lacking or unsafe. Unable to perform mobile duties.

3.5.1.2. Low Angle Run-Ins (Long and Short Distance):

3.5.1.2.1. **Q**. Consistently demonstrated the ability to place the mobile in a position to provide effective support to the pilot. Vehicle control was positive at all times, with the demonstrated ability to remain in position once joined with the aircraft.

3.5.1.2.2. **Q-**. Demonstrated minimum acceptable ability to place the mobile in a position to provide effective support to the pilot. Vehicle control was acceptable and safe.

3.5.1.2.3. **U**. Exceeded Q- criteria. Consistently failed to place the mobile in an acceptable position. Vehicle control was lacking or unsafe. Unable to perform mobile duties.

3.5.1.3. Area 818--Calls:

3.5.1.3.1. 10 Feet to 5 Feet:

3.5.1.3.1.1. **Q**. Altitude calls were largely accurate. Any advisory or directive calls were timely, accurate, and correct.

3.5.1.3.1.2. **Q-**. Altitude calls were occasionally accurate. Advisory and directive calls were slow, or occasionally inaccurate or incorrect. Deviations, omissions, or errors did not affect safety or mission accomplishment.

3.5.1.3.1.3. **U.** Exceeded Q- criteria. Altitude calls were consistently inaccurate. Failed to make advisory or directive calls which affected safety of flight.

3.5.1.3.2. 4 Feet to Touchdown:

3.5.1.3.2.1. **Q.** Altitude calls were largely accurate. Any advisory or directive calls were timely, accurate, and correct. Analysis of any issues with the landing were correct.

3.5.1.3.2.2. **Q-.** Altitude calls were occasionally accurate. Advisory and directive calls were slow, or occasionally inaccurate or incorrect. Analysis of any issues with the landing were mostly correct. Deviations, omissions, or errors did not affect safety or mission accomplishment.

3.5.1.3.2.3. **U.** Exceeded Q- criteria. Altitude calls were consistently inaccurate. Failed to make advisory or directive calls which affected safety of flight. Unable to analyze any issues with the landing.

3.6. Emergency Procedures Evaluation (EPE) Criteria – General.

3.6.1. Area 29--Aircraft General Knowledge. See [paragraph 3.2.17](#).

3.6.2. Area 37--Cockpit/Crew Resource Management. See [paragraph 3.2.23](#).

3.6.3. Area 301--Emergency Procedures/Aircraft Malfunctions (General):

3.6.3.1. **Q.** Correct, immediate response to non-Boldface malfunction. Recognized and analyzed malfunction in a timely manner. Effectively used checklist.

3.6.3.2. **Q-.** Response to certain required steps in emergency procedure was slow or confused. Slow to recognize or analyze malfunction. Used the checklist when appropriate, but slow to locate required sections or data.

3.6.3.3. **U.** Unable to analyze malfunction or take corrective action. Did not reference checklist when appropriate or lacked familiarity with the arrangement or content.

3.7. EPE Criteria – Pre-Takeoff.

3.7.1. Area 412 is graded using the criteria for Boldface Procedures (Critical):

3.7.1.1. **Q.** Correct, immediate response to Boldface.

3.7.1.2. **U.** Incorrect response to Boldface.

3.7.2. The following items are graded using the same criteria as Area 301.

3.7.2.1. Area 321--Hydraulic Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.2. Area 331--Electrical Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.3. Area 341--Fuel Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.4. Area 351--Environment Control System (ECS)/Oxygen Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.5. Area 361--Engine Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.6. Area 362--Fire.

- 3.7.2.7. Area 364--Hot Start.
- 3.7.2.8. Area 366--Hung Start/No Start/Tailpipe Fire.
- 3.7.2.9. Area 371--Avionics Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).
- 3.7.2.10. Area 372--Battery Charger Control Unit (BCCU) Fault – Ground Ops.
- 3.7.2.11. Area 381--Weapons Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).
- 3.7.2.12. Area 391--Flight Control System (FCS) Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).
- 3.7.2.13. Area 401--Brakes/Landing Gear Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).
- 3.7.2.14. Area 411--Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.8. EPE Criteria – Takeoff.

- 3.8.1. Areas 454 and 474 are graded using the criteria for Boldface Procedures (Critical):
 - 3.8.1.1. **Q.** Correct, immediate response to Boldface.
 - 3.8.1.2. **U.** Incorrect response to Boldface.
- 3.8.2. The following items are graded using the same criteria as Area 301.
 - 3.8.2.1. Area 421--Hydraulic Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.2. Area 431--Electrical Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.3. Area 441--Fuel Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.4. Area 451--Environment Control System (ECS)/Oxygen Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.5. Area 461--Engine Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.6. Area 462--Engine Failure on Takeoff.
 - 3.8.2.7. Area 463--Abort.
 - 3.8.2.8. Area 466--Fire or Overheat Warning Light.
 - 3.8.2.9. Area 467--Low Thrust or Partial Power Loss.
 - 3.8.2.10. Area 471--Avionics Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.11. Area 481--Weapons Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.12. Area 491--Flight Control System (FCS) Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.13. Area 501--Brakes/Landing Gear Emergency Procedures/Aircraft Malfunctions (Takeoff).
 - 3.8.2.14. Area 507--Hung Pogo.
 - 3.8.2.15. Area 511--Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.9. EPE Criteria – In-Flight.

3.9.1. Areas 559, 617, 626, and 627 are graded using the criteria for Boldface Procedures (Critical):

3.9.1.1. **Q.** Correct, immediate response to Boldface.

3.9.1.2. **U.** Incorrect response to Boldface.

3.9.2. The following items are graded using the same criteria as Area 301.

3.9.2.1. Area 521--Hydraulic/Airframe Mounted Accessory Drive (AMAD) Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.2. Area 523--Hydraulic System Failure.

3.9.2.3. Area 525--AMAD/PTO Shaft Failure.

3.9.2.4. Area 526--AMAD Oil Pressure Low.

3.9.2.5. Area 527--AMAD Oil Temp High.

3.9.2.6. Area 528--Partial Hydraulic Pressure Loss.

3.9.2.7. Area 531--Electrical Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.8. Area 532--Complete Electrical Failure.

3.9.2.9. Area 541--Fuel Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.10. Area 544--Fuel Cross Transfer Pump Failure.

3.9.2.11. Area 545--Fuel Boost Pump Failure.

3.9.2.12. Area 551--Environment Control System (ECS)/Oxygen Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.13. Area 552--Cockpit Temperature Control Failure.

3.9.2.14. Area 553--Cockpit Smoke.

3.9.2.15. Area 557--Pressurization System Emergency Operation.

3.9.2.16. Area 559--Oxygen System Malfunction.

3.9.2.17. Area 561--Engine Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.18. Area 564--Flameout Procedures (Configuration Through Rollout).

3.9.2.19. Area 569--Oil System Malfunctions.

3.9.2.20. Area 571--Avionics Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.21. Area 581--Weapons Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.22. Area 591--Flight Control System (FCS) Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.9.2.23. Area 592--Controllability Check.

3.9.2.24. Area 601—Brakes/Landing Gear Emergency Procedures/Aircraft Malfunctions (In-Flight).

- 3.9.2.25. Area 611--Emergency Procedures/Aircraft Malfunctions (In-Flight).
- 3.9.2.26. Area 613--Spin/Out of Control.
- 3.9.2.27. Area 618--Before Ejection/Bailout.
- 3.9.2.28. Area 620--Ditching.
- 3.9.2.29. Area 628--Emergency Descent.
- 3.9.2.30. Area 629--Uncommanded Scramble Handle Initiation.
- 3.9.2.31. Area 630--Equipment Bay (Q-Bay) Altitude High.
- 3.9.2.32. Area 614--AFMAN 11-202 Volume 3, *Flight Operations*, paragraph A5.11, "Fixed-wing Unusual Attitudes – AI Inoperative."
 - 3.9.2.32.1. **Q.** Smooth, positive recovery to level flight with correct recovery procedures.
 - 3.9.2.32.2. **Q-** Slow to analyze attitude, or erratic in recovery to level flight. Correct recovery procedures used.
 - 3.9.2.32.3. **U.** Unable to determine attitude. Improper recovery procedures were used.
- 3.9.2.33. Area 616--Alternate/Divert Airfields.
 - 3.9.2.33.1. **Q.** Made proper divert decision and correctly performed initial actions required for diverting.
 - 3.9.2.33.2. **Q-** Slow to make divert decision, and/or slow to perform initial actions required for diverting.
 - 3.9.2.33.3. **U.** Failed to make proper divert decision, and/or failed to perform initial actions required for diverting.

3.10. EPE Criteria – Landing.

- 3.10.1. The following items are graded using the same criteria as Area 21.
 - 3.10.1.1. Area 678--Flameout Landing/Precautionary Pattern – Flaps Down.
 - 3.10.1.2. Area 679--Flameout Landing – Flaps Up.
 - 3.10.1.3. Area 706--Landing with less than 20 Degrees Flap.
- 3.10.2. The following items are graded using the same criteria as Area 301.
 - 3.10.2.1. Area 631--Hydraulic Emergency Procedures/Aircraft Malfunctions (Landing).
 - 3.10.2.2. Area 641--Electrical Emergency Procedures/Aircraft Malfunctions (Landing).
 - 3.10.2.3. Area 651--Fuel Emergency Procedures/Aircraft Malfunctions (Landing).
 - 3.10.2.4. Area 661--Environment Control System (ECS)/Oxygen Emergency Procedures/Aircraft Malfunctions (Landing).
 - 3.10.2.5. Area 671--Engine Emergency Procedures/Aircraft Malfunctions (Landing).
 - 3.10.2.6. Area 681--Avionics Emergency Procedures/Aircraft Malfunctions (Landing).
 - 3.10.2.7. Area 691--Weapons Emergency Procedures/Aircraft Malfunctions (Landing).

3.10.2.8. Area 701--Flight Control System (FCS) Emergency Procedures/Aircraft Malfunctions (Landing).

3.10.2.9. Area 711--Brakes/Landing Gear Emergency Procedures/Aircraft Malfunctions (Landing).

3.10.2.10. Area 714--Landing with landing Gear Unsafe.

3.10.2.11. Area 721--Emergency Procedures/Aircraft Malfunctions (Landing).

3.10.2.12. Area 723--Landing on Unprepared Surface.

3.10.2.13. Area 724--Landing with X-Wind in Excess of Max Recommended Value.

3.11. EPE Criteria – Mission.

3.11.1. Area 35--RADAR Scope/Sensor Interpretation. See [paragraph 3.4.1](#).

3.11.2. Area 85--Radio Use/Tactical Communications (Primary/Backup, Combat/SRO Communications Procedures). See [paragraph 3.4.2](#).

3.11.3. Area 88--Tactical Navigation (DR/Pilotage Navigation). See [paragraph 3.4.3](#).

3.11.4. Area 89--Ingress (Combat/SRO NAV Procedures). See [paragraph 3.4.4](#).

3.11.5. Area 90--Egress (Combat/SRO NAV Procedures). See [paragraph 3.4.5](#).

3.11.6. Area 92--Dynamic Replanning/Timing Exercise. See [paragraph 3.4.6](#).

3.11.7. Area 94--Evasive Action/Threat Reactions. See [paragraph 3.4.7](#).

3.11.8. Area 96-- Electronic Attack (EA)/Electronic Protection (EP)/All Aspect Missile Defense (AAMD). See [paragraph 3.4.8](#).

3.11.9. Area 98--Sensor Management. See [paragraph 3.4.9](#).

3.11.10. Area 161--Degraded/Denied GPS. See [paragraph 3.4.10](#).

3.11.11. Area 164--Datalink Operations. See [paragraph 3.4.11](#).

3.12. EPE Criteria – Instructor.

3.12.1. Area 821—MPT Operation.

3.12.1.1. **Q.** Operated MPT efficiently and effectively. Demonstrated in-depth knowledge of MPT procedures and functions. Able to accurately administer scenarios and emergency situations and assess student performance. Navigation of MPT menus, controls and options was smooth and efficient.

3.12.1.2. **Q-.** Minimum level of knowledge to effectively operate MPT. Minor deficiencies noted in ability to operate MPT, administer emergency and mission scenarios, and/or assess student performance.

3.12.1.3. **U.** Unfamiliar with MPT procedures and operation. Lack of knowledge seriously detracted from instructor effectiveness.

ADRIAN L. SPAIN, Lt Gen, USAF
Deputy Chief of Staff, Operations

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

AFMAN 11-202V2, Aircrew Standardization and Evaluation Program, 30 August 2021

AFMAN 11-202V2 ACC SUP, Aircrew Standardization and Evaluation Program, 19 August 2022

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

AFMAN 11-290 ACC SUP, Cockpit/Crew Resource Management and Threat & Error Management Program, 10 June 2022

CJCSI 3250.01 (U) Intelligence Surveillance and Reconnaissance Management, 10 May 2023

DAFMAN 90-161, Publishing Processes and Procedures, 18 October 2023

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

AFMAN 11-202V3, Flight Operations, 10 January 2022

AFMAN 11-2U-2V1, *U-2 Aircrew Training*, 31 May 2023

AFTTP 3-1.U-2, (U) *Combat Aircraft Fundamentals--U-2*, 1 December 2023

AFTTP 3-2.5, *Brevity*, 26 July 2016

Adopted Forms

AF Form 8, *Certificate of Aircrew Qualification*

DAF Form 847, *Recommendation for Change of Publication*

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

Abbreviations and Acronyms

AAMD—All Aspect Missile Defense

ACC—Air Combat Command

AF—Air Force

AFB—Air Force Base

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFTTP—Air Force Tactics, Techniques, and Procedures

AI—Altitude Indicator

AMAD—Airframe Mounted Accessory Drive

AOA—Angle of Attack

ASR—Airport Surveillance Radar
ATC—Air Traffic Control
ATD—Aircrew Training Device
BCCU—Battery Charger Control Unit
BQ—Basic Qualification
CJCSI—Chairman, Joint Chiefs of Staff Instruction
CNI—Communication, Navigation, and IFF
CONOPS—Concept of Operations
CRM—Cockpit/Crew Resource Management
CRO—Criterion Reference Objectives
CTP—Companion Trainer Program
DAF—Department of the Air Force
DAFI—Department of the Air Force Instruction
DAFMAN—Department of the Air Force Manual
DH—Decision Height
DP—Destination Point
DOC—Designed Operational Capability
DR—Dead Reckoning
DRU—Direct Reporting Unit
EA—Electronic Attack
ECS—Environmental Control System
EP—Electronic Protection
EPE—Emergency Procedures Evaluation
EWS—Electronic Warfare System
FCS—Flight Control System
FE—Flight Examiner
FOA—Field Operating Agency
FOL—Forward Operating Location
GPS—Global Positioning System
HHQ—Higher Headquarters
IAW—In Accordance With
IFF—Identification, Friend or Foe

ILS—Instrument Landing System
IMA—Individual Mobility Augmentee
INIT—Initial (in reference to evaluation type)
INSTM—Instrument (in reference to evaluation type)
INSTR—Instructor (in reference to evaluation type)
IP—Instructor Pilot
MAJCOM—Major Command
MANPAD—Man Portable Air-Defense
MAP—Missed Approach Point
MDA—Minimum Descent Altitude
MPT—Mission Procedures Trainer
MSN—Mission (in reference to evaluation type)
NAV—Navigation
NAVAID—Navigational Aid
NM—Nautical Mile(s)
O2—Oxygen
OCONUS—Outside the Continental United States
OPR—Office of Primary Responsibility
PAR—Precision Approach Radar
PIO—Pilot-Induced Oscillation
Q-BAY—Equipment Bay
QUAL—Qualification (in reference to evaluation type)
RADAR—Radio Detection and Ranging
RQ—Requalification
SAM—Surface-to-Air Missile
SFO—Simulated Flame-Out
SIF—Selective Identification Feature
SQ/CC—Squadron Commander
SRO—Sensitive Reconnaissance Operation
Stan/Eval—Standardization and Evaluation
TACAN—Tactical Air Navigation
TO—Tasking Order

USAF—United States Air Force

VDP—Visual Descent Point

VFR—Visual Flight Rules

Office Symbols

ACC/A3TV—ACC Standardization and Evaluation Branch

AF/A3T—Director, Air Force Readiness and Training

AFFSA/XOF—Air Force Flight Safety Agency Flight Directives

Terms

Deviation—Performing an action not in sequence with current procedures, directives, or regulations. Do not consider performing an action or actions out of sequence due to unusual or extenuating circumstances a deviation. In some cases, momentary deviations may be acceptable; however, consider cumulative momentary deviations in determining the overall qualification level.

Emergency Procedures Evaluation—An evaluation of crew general knowledge and responsiveness to critical and non-critical emergency procedures conducted by a FE in an approved Aircrew Training Device (ATD). An EPE may be administered orally if an appropriate training device is not available.

Error—Departure from standard procedures. Performing incorrect actions or recording incorrect information.

Instrument Approach—Precision or non-precision instrument approach procedure flown using instrument guidance to navigate from the final approach fix to a landing (full stop or touch-and-go) or missed approach.

Key Words and Definitions—“Will” indicates a mandatory requirement. “Should” is normally used to indicate a preferred, but not mandatory, method of accomplishment. “May” indicates an acceptable or suggested means of accomplishment.

Landing, Rear Cockpit (TU-2S IP)—Landing accomplished by a qualified TU-2S IP from the rear cockpit.

Major—Detracted from mission accomplishment, adversely affected use of equipment, or violated safety.

Minor—Did not detract from mission accomplishment, adversely affect use of equipment, or violate safety.

Missed Approach—A maneuver performed as specified on an instrument approach procedure when the approach cannot be completed to a landing. May be logged for an actual missed approach, or when simulating a safe landing is not possible.

Mission Procedures Trainer—U-2 specific ATD that provides part-task training for avionics operations, normal procedures, mission procedures and limited flight characteristics and instrument work. Does not provide visuals and is not suitable for training or evaluating taxi, takeoff, landing, airwork, stalls, spins, or other visual maneuvers.

Mobile Officer—A current, qualified or “Mobile Only” qualified U-2 pilot who provides safety-of-flight supervision, coordination, and assistance to the pilot, especially during landing and in-flight emergencies. The Mobile Officer performs the pre-flight inspection and cockpit setup for the pilot and monitors the progress of the mission.

Chase Vehicle—A high-performance chase vehicle with two-way radio communication and operated by a Mobile Officer.

No-Flap Landing—Landing with a flap setting of less than 20 degrees, inclusive of landings in a gust-up configuration.

Non-Precision Approach—A non-precision instrument approach procedure flown using instrument guidance (course only) to navigate from the final approach fix to a landing (full stop or touch-and-go), missed approach, or circling maneuver.

No Voice Landing—A landing executed without altitude calls from the mobile officer.

Omission—To leave out a required action or annotation.

Precision Approach—A precision instrument approach procedure flown using instrument guidance (course and glidepath) to navigate from the final approach fix to a landing (full stop or touch-and-go) or missed approach.

Simulated Flame-out Pattern—Visual pattern flown while simulating an engine malfunction. Includes precautionary patterns.

Weather Penetration—Accomplished by flying either a low-altitude instrument approach procedure, or high-altitude weather penetration. May not include radar vectors after arrival at the initial approach fix, unless defined as a required portion of the defined procedure.