

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



**AIR FORCE MANUAL 11-2F-15E,
VOLUME 2**

20 MAY 2019

Flying Operations

***F-15E--AIRCREW EVALUATION
CRITERIA***

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: ACC/A3TV

Certified by: AF/A3T
(Maj Gen Scott F. Smith)

Supersedes: AFI11-2F-15EV2,
7 December 2011

Pages: 55

This volume establishes criteria and procedures for F-15E flight evaluations, implements AFPD 11-2, *Aircrew Operations*, and references AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, and AFI 11-202V2, *Aircrew Standardization/Evaluation Program*. It applies to all F-15E units, including those in the Air Force Reserve (AFR). This publication requires the collection and or maintenance of information protected by the Privacy Act (PA) of 1974. The authorities to collect and or maintain the records prescribed in this publication are Title 10 United States Code, Chapter 857 and Executive Order 9397, Numbering System for Federal Accounts Relating to Individual Persons, 30 Nov 1943. Forms affected by the PA have an appropriate PA statement. System of Records Notice F011 AF XO A, Aviation Resource Management System (ARMS) covers required information. The authority for maintenance of ARMS is Title 37 U.S.C. 301a (Incentive Pay), Public Law 92-204, Section 715 (Appropriations Act for 1973), Public Laws 93-570 (Appropriations Act for 1974), 93-294 (Aviation Career Incentive Act of 1974), and Executive Order 9397 as amended by Executive Order 13478, Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers, November 18, 2008. Major Commands (MAJCOM), Direct Reporting Units (DRU), and Field Operating Agencies (FOA) will forward proposed supplements to this volume through ACC/A3TV to AF/A3O-AI for coordination prior to publication. NOTE: The terms DRU and FOA as used in this paragraph refer only to those DRUs/FOAs that report directly to USAF. Submit suggested improvements to this volume on AF Form 847, Recommendation for Change of Publication, through standardization/evaluation (Stan/Eval) 2

AFMAN11-2F-16V2 8 FEBRUARY 2019 channels, to the parent MAJCOM Stan/Eval. Parent MAJCOM Stan/Eval will forward approved recommendations to lead command OPR (HQ ACC/A3TV, 204 Dodd Blvd, Suite 133, JBLE, VA 23665-2789). The authorities to waive wing/unit level requirements in this publication are identified with a Tier (“T-0, T-1, T-2, T-3”) number following the compliance statement. See Table 1.1 of AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the MAJCOM Stan/Eval office for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS)

SUMMARY OF CHANGES

This publication has been substantially revised and must be thoroughly reviewed. Major changes include the identification of authorities to waive wing or unit level requirements with a Tier number following the compliance statement IAW AFI 33-360, and Area 82 (Air-to-Surface Weapons Employment) now includes “un-assessable” as a score criteria. This revision clarifies and reorganizes air-to-surface employment criteria, adding flight examiner (FE) judgment in <50% success rate, and removes data link weapons criteria. Changes have been made to area titles in the evaluation section and the emergency procedures evaluation (EPE) section has been reorganized for standardization across all fighter platforms for trend data collection. This document removes all references to the Video Tape Recorder System (VTRS) and replaces them with the Digital Video Recording System (DVRS). Evaluation criteria for Operational Test and Evaluation units is included. This publication also authorizes the use of simulators to accomplish large portions of F-15E evaluations.

Chapter 1— ROLES AND RESPONSIBILITIES	4
1.1. Flight Examiners (FEs):.....	4
1.2. Examinees:.....	4
Chapter 2— EVALUATION REQUIREMENTS	5
2.1. General.....	5
2.2. Pilot INSTM/QUAL and WSO QUAL Evaluations.....	5
2.3. Mission (MSN) Evaluations.	7
2.4. Formal Course Evaluations.	8
2.5. Instructor Evaluations.	8
2.6. Formal Training Unit (FTU) Instructor and Weapons Instructor Course (WIC) Instructor, and Operational Test Mission Evaluations.	8
Table 2.1. Grading Areas.....	9

2.7.	Emergency Procedures Evaluations (EPEs).	13
Table 2.2.	EPE Grading Areas.	14
Chapter 3—	EVALUATION CRITERIA	19
3.1.	General Grading Standards.	19
3.2.	Not Used.	19
Table 3.1.	General Aircraft Control Criteria.	19
3.3.	Documentation of Weapons Employment Results.	19
Table 3.2.	Air-Surface Weapons Employment Scores.	20
Table 3.3.	Air-Air Weapons Employment Scores.	20
3.4.	General Aircrew Evaluation Criteria.	20
3.5.	Aircrew Evaluation Criteria—Instruments.	35
3.6.	Aircrew Evaluation Criteria—Tactical Employment.	38
3.7.	EPE Criteria.	48
Attachment 1—	GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION	52

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. **(T-1)**.
- 1.1.3. May assist in mission planning and briefing as tasked by the examinee.
- 1.1.4. May evaluate from any flight or formation position (to include chase and sensor trail) necessary to conduct a thorough evaluation.
- 1.1.5. Will apply the grading criteria contained in **Chapter 3**, as applicable. **(T-1)**.
- 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. **(T-1)**.
- 1.1.7. Should use all electronic means available to reconstruct, evaluate, and debrief the mission adequately.

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. **(T-1)**.
- 1.2.2. Will brief the mission if qualified as a flight lead, Tier-1 or Tier-2 weapons system officer (WSO), instructor pilot (IP), or instructor WSO (IW). **(T-1)**. For mission (MSN) evaluations a qualified flight lead (which may be the FE) will conduct the briefing for examinees qualified as wingmen unless the MSN evaluation is part of an upgrade program. **(T-1)**. Wingmen may conduct the briefing of instrument (INSTM)/qualification (QUAL) evaluations.

Chapter 2

EVALUATION REQUIREMENTS

2.1. General.

2.1.1. Publications Check or Currency of Flight Publications (FLIP). All QUAL evaluations include a currency and accuracy check on all flight-required publications/checklists/FLIP/in-flight guides. Unit commanders may specify additional publications to be evaluated in the unit supplement to AFI 11-202V2. At a minimum:

2.1.1.1. Technical Order (T.O.) 1F-15E-1CL-1;

2.1.1.2. T.O. 1F-15E-34-1-1CL-1;

2.1.1.3. the local in-flight guide;

2.1.1.4. any additional publications issued to aircrews and specified in the unit addendum to AFI 11-202V2.

2.1.2. Cockpit/Crew Resource Management (CRM). In accordance with AFI 11-290, *Cockpit/Crew Resource Management Program*, all evaluations include assessment of CRM skills. CRM skills are integral to all phases of flight, but evaluations include specific CRM grading under Area 37. As all the CRM skills listed on the AF Form 4031, *CRM Skills Criteria Training/Evaluation Form*, are embedded, use of the Form 4031 is unnecessary for evaluations in the F-15E. The Stan/Eval trend program can be used to measure the effectiveness of CRM training.

2.1.3. Combined Evaluations. With the approval of the squadron commander (SQ/CC), the INSTM/QUAL and 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 "SQ/CC has approved a combined evaluation." Combined evaluations include all current INSTM/QUAL and MSN evaluation requirements, including requisites. This combined evaluation will have a single expiration date in accordance with (IAW) AFI11-202V2.

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 (or in a simulator IAW [paragraphs 2.2.1.5](#) and [2.3.1.6](#)), an alternate method may be used in order to complete the evaluation. FEs document the reason and type of alternate method used in the "Additional Comments" portion of the Form 8. 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 annotated with an "R2" require evaluation of at least two of the items under the associated section.

2.1.4.3. Areas annotated with an "R3" require evaluation of at least three of the items under the associated section.

2.2. Pilot INSTM/QUAL and WSO QUAL Evaluations.

2.2.1. Pilot INSTM/QUAL Procedures.

2.2.1.1. A mission flown according to instrument flight rules (IFR), to the maximum extent practical, best fulfills the objective of the INSTM/QUAL evaluation.

2.2.1.2. To the maximum extent practical, this evaluation should include approaches at airfields other than the home airfield.

2.2.1.3. FEs may use non-published, practice approaches (e.g. Visual Flight Rules (VFR) conditions only approach) for evaluations if approved by operations group stan/eval shops (OGV). For these approaches, OGV shops will ensure that:

2.2.1.3.1. non-published approaches are built using the standards applied to published approach plates. **(T-1)**.

2.2.1.3.2. approval for use of such an approach on evaluation missions is documented in the local unit supplement to AFI 11-202V2. **(T-1)**.

2.2.1.4. Pilot INSTM/QUAL evaluations may be administered on any compatible training mission and should be flown with the FE as the wingman for the instrument portions of the flight.

2.2.1.5. With the approval of the Operations Group Commander (OG/CC), experienced pilots may accomplish many graded areas of periodic INSTM/QUAL evaluations in the simulator (SIM). Those items are annotated in [Table 2.1](#) Document approval on the AF Form 8, *Certificate of Aircrew Qualification*, by stating in the additional comments “OG/CC has approved a SIM evaluation” and having the OG/CC initial in the additional reviewer remarks, if his/her signature is not elsewhere on the Form 8.

2.2.1.5.1. This portion of the evaluation should be labeled “INSTM/QUAL (SIM)” on the Form 8 in the Flight Phase with an emergency procedures evaluation (EPE) documented as a requisite, even if the EPE is accomplished concurrently with the evaluation.

2.2.1.5.2. An in-flight evaluation is required for inexperienced pilots, initial (INIT) or re-qualification (RQ) evaluations or for evaluations to regain a qualification (e.g., after loss of qualification due to commander directed downgrade or failed checkride).

2.2.1.5.3. The graded areas that are not accomplished in the simulator must be completed in-flight. Document the evaluation of these items as an additional line entry on the Form 8 under Flight Phase as “INSTM/QUAL”. For example, the FE who conducts the preponderance of the evaluation in the “INSTM/QUAL (SIM)” line ensures the airborne VFR pattern/landing is accomplished, ensures the flight portion is annotated in the “INSTM/QUAL” line, and signs as the FE.

2.2.1.6. The minimum requisites for an INSTM/QUAL evaluation are:

2.2.1.6.1. an instrument examination;

2.2.1.6.2. a closed book examination;

2.2.1.6.3. an open book examination;

2.2.1.6.4. an EPE.

2.2.2. WSO QUAL Evaluations.

2.2.2.1. Procedures.

2.2.2.1.1. This evaluation is normally combined with the WSO mission evaluation for basic mission capable (BMC) and combat mission ready (CMR) WSOs.

2.2.2.1.2. A separate qualification evaluation will normally be administered to basic aircraft qualified (BAQ) WSOs who do not maintain qualification in the unit's tactical mission and WSOs going through initial qualification.

2.2.2.1.3. This evaluation may be administered on any compatible training mission with the approval of the unit Chief of Stan/Eval and the SQ/CC or Operations Officer's (SQ/DO) concurrence.

2.2.2.1.4. The minimum requisites for a QUAL evaluation are:

2.2.2.1.4.1. an instrument examination;

2.2.2.1.4.2. a closed book examination;

2.2.2.1.4.3. an open book examination;

2.2.2.1.4.4. an EPE.

2.3. Mission (MSN) Evaluations.

2.3.1. Procedures.

2.3.1.1. SQ/CCs ensure that FEs administer INIT MSN evaluations in the primary design operational capability (DOC) statement of the unit, unless that unit has a different assigned mission or contingency for which to prepare.

2.3.1.2. FEs:

2.3.1.2.1. should tailor MSN evaluations IAW current tactics, unit DOC statement, theater Area of Responsibility (AOR) scenarios, and should incorporate all appropriate evaluation requirements from [Table 2.1](#) The profiles should be designed to evaluate the training, flight position, and special qualifications, as well as basic airmanship of the examinee.

2.3.1.2.2. should normally evaluate examinees in the position of their highest certification or qualification (i.e. 2-ship flight lead, 4-ship flight lead, Tier-1/2 WSO, IP, IW, etc.), even if a portion of the evaluation is flown in another position.

2.3.1.2.2.1. Instructor aircrew may fly in any position, as long as they are in a position to provide instruction throughout the entire evaluation (i.e. examinee is an instructor pilot (IP) flying as #3 of a 4-ship, instructing an upgrading 4-ship flight lead).

2.3.1.2.2.2. 4-ship flight leads (4FL) and Tier-2 WSOs should normally fly a MSN evaluation as #1 of a 4-ship (3-ship minimum).

2.3.1.2.2.3. 2-ship flight leads (2FL) and Tier-2 WSOs may fly a MSN evaluation as #3 of a 4-ship.

2.3.1.2.3. may allow wingmen to brief and/or lead certain phases of the mission, but should not evaluate flight leadership.

2.3.1.3. Evaluations during exercises are encouraged.

2.3.1.4. Evaluations during contingency or combat deployments should be given as a last resort in order to maintain mission qualification status.

2.3.1.5. With the approval of the OG/CC, experienced pilots and WSOs may accomplish many graded areas of periodic pilot MSN and WSO MSN/QUAL evaluations in the Mission Training Center (MTC). Those items are annotated in [Table 2.1](#) The FE will document approval on the AF Form 8, *Certificate of Aircrew Qualification*, by stating in the additional comments “OG/CC has approved a SIM evaluation” and having the OG/CC initial in the additional reviewer remarks, if his/her signature is not elsewhere on the Form 8.

2.3.1.5.1. This portion of the evaluation should be labeled “MSN (SIM)” or “MSN/QUAL (SIM)” on the Form 8 in the Flight Phase with an EPE documented as a requisite, even if the EPE is accomplished concurrently with the evaluation.

2.3.1.5.2. An in-flight evaluation is required for inexperienced aircrew, INIT or RQ evaluations, or for evaluations to regain a qualification (e.g., after loss of qualification due to commander directed downgrade or failed checkride).

2.3.1.5.3. The graded areas that are not accomplished in the simulator are completed in-flight. The FE will document the evaluation of these items as an additional line entry on the Form 8 under Flight Phase as “MSN”. For example, the FE who conducts the preponderance of the evaluation in the “MSN (SIM)” line ensures the airborne VFR pattern/landing is accomplished, ensures the flight portion is annotated in the “MSN” line, and signs as the FE.

2.3.2. Minimum Requisites. The MSN EPE is the only MSN evaluation requisite.

2.4. Formal Course Evaluations. Syllabus evaluations should be flown IAW syllabus mission profile guidelines, if stated, or on a mission profile developed from syllabus training objectives. FEs may modify course guidelines based on other factors, such as local operating considerations, in order to complete the evaluation.

2.5. Instructor Evaluations. Except for Area 33, Instructor Performance, FEs determine specific profiles and events for instructor evaluations. Subsequent evaluations (for example, INSTM/QUAL, MSN) include instructor portions during the evaluations. If an instructional ride allows completion of all requirements for a periodic check, the evaluation may be used to update periodic evaluation providing all other requisites are completed.

2.6. Formal Training Unit (FTU) Instructor and Weapons Instructor Course (WIC) Instructor, and Operational Test Mission Evaluations.

2.6.1. Profiles. WIC and FTU IP periodic mission evaluation profiles should normally be IAW the formal course syllabus for any mission that the IP is qualified to instruct. The only required items for a WIC or FTU IP mission check are those items required by the syllabus for the specific syllabus sortie flown.

2.6.2. FTU IP initial qualification. FTU IP initial certification should be on a syllabus sortie IAW **Paragraph 2.6.1**. Document FTU IP certifications on a Form 8 as an instructor (INSTR) or INSTR/MSN evaluation and include in the additional comments: “This evaluation is the examinee’s FTU instructor certification.”

2.6.3. Operational test aircrew MSN evaluation profiles may be conducted on any test mission.

Table 2.1. Grading Areas.

AREA	NOTE	AREA TITLE	PILOT I/Q	MSN	WSO QUAL
AIRCREW EVALUATION CRITERIA - GENERAL					
1	5	MISSION PLANNING	R	R	R
2	5	BRIEFING (if applicable)	R	R	R
3	5	PRE-TAKEOFF	R	R	R
4	5	TAKEOFF	R	R	
6	5	DEPARTURE	R		
7	5	LEVEL OFF	R		
8	5	CRUISE/NAVIGATION	R		R
9		FORMATION		R	
10	5	IN-FLIGHT CHECKS	R	R	R
11	5	FUEL MANAGEMENT	R	R	
12	5	COMMUNICATION/NAVIGATION/IFF (CNI)	R	R	R
14	1	AIRWORK / AIRCRAFT HANDLING CHARACTERISTICS (AHC) / BASIC FIGHTER MANEUVERS (BFM)	R		
AREA	NOTE	AREA TITLE	PILOT I/Q	MSN	WSO QUAL
16	5	WEAPONS SYSTEM/BIT CHECKS		R	
17		AIR REFUELING			
18	5	DESCENT	R		
19	5	GO-AROUND			

20	5	RECOVERY			
21	2	EMERGENCY TRAFFIC PATTERNS	R		
22	2, 5	EMERGENCY APPROACH/LANDING	R		
23	5	VFR PATTERN/APPROACH	R		
24	5	FORMATION APPROACH			
25		LANDING	R		
26	5	AFTER LANDING	R		R
27	5	FLIGHT LEADERSHIP (if applicable)	R	R	
28	5	DEBRIEFING/CRITIQUE	R	R	R
29	5	KNOWLEDGE	R	R	R
30	Critical, 5	AIRMANSHIP/ SITUATIONAL AWARENESS	R	R	R
31	Critical, 5	SAFETY	R	R	R
32	Critical, 5	FLIGHT DISCIPLINE	R	R	R
33	5	INSTRUCTOR PERFORMANCE (if applicable)	R	R	R
34	5	INSTRUMENT INTERPRETATION	R		R
AREA	NOTE	AREA TITLE	PILOT I/Q	MSN	WSO QUAL
35	5	SENSOR INTERPRETATION		R	R
36	5	TASK PRIORITIZATION	R	R	R
37	5	COCKPIT RESOURCE MANAGEMENT	R	R	R
INSTRUMENTS					
61	5	HOLDING			
62	5	INSTRUMENT PENETRATION/EN-ROUTE DESCENT	R		

63	5	INSTRUMENT PATTERNS	R		
64	5	NONPRECISION APPROACH	R		
65	4, 5	PRECISION APPROACH (PAR)	R		
66	4, 5	PRECISION APPROACH (ILS)	R		
67	5	MISSED APPROACH/CLIMB-OUT	R		
68	5	CIRCLING/SIDESTEP APPROACH			
69	5	INSTRUMENT CROSS-CHECK	R		
TACTICAL EMPLOYMENT					
GENERAL					
81	5	TACTICAL/MISSION PLAN		R	
82	5	AEROSPACE CONTROL ALERT (ACA) TASKING (Air Defense Units)			
83	5	TACTICAL/MISSION EXECUTION		R	
84	5	COMPOSITE FORCE INTERFACE			
85	5	TACTICAL COMMUNICATION		R	
86	5	VISUAL/SENSOR LOOKOUT		R	
87	5	MUTUAL SUPPORT		R	
AREA	NOTE	AREA TITLE	PILOT I/Q	MSN	WSO QUAL
88	5	TACTICAL NAVIGATION			
89	5	INGRESS			
90	5	EGRESS			
91	5	COMBAT SEPARATION			
92	5	TIMING			
93	5	TRAINING RULES/ROE		R	
94	5	THREAT REACTIONS		R	

95	5	IN-FLIGHT REPORT			
96	5	EW/EXCM/AAMD			
98	5	SENSOR MANAGEMENT		R	
99	5	SIGNATURE MANAGEMENT		R	
100	5	WEAPONS MANAGEMENT		R	
AIR-TO-AIR					
111	5	SENSOR SEARCH/SORTING		R	
112	5	TACTICAL INTERCEPT		R	
113	5	AIR COMBAT MANEUVERING			
115	5	AIR-TO-AIR WEAPONS EMPLOYMENT		R	
116	5	AIR-TO-AIR SYSTEMS INTEGRATION			
117	5	COMMAND AND CONTROL INTEGRATION			
AIR-TO-SURFACE					
131	5	TARGET/THREAT ACQUISITION/VALIDATION		R	
132	5	AIR-TO-SURFACE WEAPONS EMPLOYMENT		R	
AREA	NOTE	AREA TITLE	PILOT I/Q	MSN	WSO QUAL
133	5	RANGE/AIRSPACE PROCEDURES			
134	5	AIR-TO-SURFACE SENSOR OPERATIONS			
139	5	DYNAMIC TARGETING			
151	5	ELECTRONIC THREAT/ORDER OF BATTLE MANAGEMENT			
153	5	ELECTRONIC ATTACK			

161		DEGRADED/DENIED GLOBAL POSITIONING SYSTEM (GPS)			
162	5	DEGRADED/DENIED COMMUNICATIONS			
163	5	DEGRADED/DENIED DATALINK			

Notes:

1. Airwork or Advanced Handling Characteristics (AHC)/Tactical Maneuvering. Maneuvers can be:
 - a. Aerobatics, to include a G-awareness exercise.
 - b. Advanced handling characteristics and/or confidence maneuvers.
 - c. Any Air-to-Air mission (e.g., Basic Fighter Maneuvers (BFM), Air Combat Maneuvering (ACM), Air Combat Training (ACT), adversary training aid etc.).
 - d. Threat reaction.
2. Unusual attitude recoveries are not performed in the aircraft and are evaluated in the simulator.
3. Emergency Traffic Patterns/Approach/Landing is evaluated in the EPE. If an actual emergency occurs in-flight, these areas may be evaluated in-flight at the discretion of the FE.
4. Precision Approach. FEs ensure that at least one precision approach (precision approach radar (PAR) or instrument landing system (ILS)) is flown and annotated to complete the flight evaluation.
5. This item may be evaluated in the F-15E simulator, configured with the most current MTC suite.
6. Mission evaluations should be conducted in the primary designed operational capability (DOC) statement of the unit. The flight should be planned to evaluate performance in a mission in which the unit may be tasked IAW guidance from the SQ/CC/DO or weapons officer. Annotate mission type and document weapons employment on the Form 8.
7. Evaluation on formation tasks in the simulator are limited to day formation only.
8. ACM or ACT evaluations in the simulator is limited to beyond visual range (BVR) tasks.

2.7. Emergency Procedures Evaluations (EPEs).

2.7.1. The EPE should be conducted in the highest fidelity training device available, and via table-top verbal evaluation if necessary. Grading criteria for each required item are listed in [Chapter 3](#).

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

- 2.7.2.1. Aircraft General Knowledge,
- 2.7.2.2. Cockpit/Crew Resource Management (CRM),
- 2.7.2.3. Emergency Procedures/Aircraft Malfunctions,

2.7.2.3.1. The FE will evaluate a minimum of two emergency procedures per the pre-takeoff, takeoff, and landing phases of flight. **(T-1)**. These areas count toward the requirement for two emergency procedures per phase of flight.

2.7.2.3.2. The FE will evaluate a minimum of three emergency procedures during the in-flight phase. **(T-1)**. These areas count toward the requirement for two emergency procedures per phase of flight.

2.7.2.4. Checklist Usage.

2.7.3. The following additional graded areas are required on all INSTM and/or QUAL EPEs:

2.7.3.1. Abort,

2.7.3.2. Instrument Flight Procedures, IAW AFMAN 11-217, Volume 1, *Instrument Flight Procedures*. This area includes a minimum of one Head's Up Display (HUD)–Out Approach, where the FE should focus on whether or not the approach permits landing, and the use of standby/emergency instruments.

2.7.3.3. Unusual Attitude Recoveries,

2.7.3.4. Alternate/Divert Airfields. This area includes a minimum of one approach at a divert/alternate airfield, other than home base.

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

2.7.4.1. Aerospace Alert (ACA) Tasking (ACA qualified pilots in wings that support a full-time ACA detachment (or home-station alert) are required to complete at least one ACA intercept during every MSN EPE),

2.7.4.2. Weapon System Operation, and

2.7.4.3. Weapons Employment and Switchology.

Table 2.2. EPE Grading Areas.

AREA	NOTES	AREA TITLE	I/Q	MSN
GENERAL				
29		AIRCRAFT GENERAL KNOWLEDGE	R	R
37		COCKPIT/CREW RESOURCE MANAGEMENT	R	R
64		TERRAIN FOLLOWING RADAR (TFR) PROCEDURES		
82		AEROSPACE ALERT (ACA) TASKING (Air Defense Units)		
94		THREAT REACTIONS		R
96		EW/EXCM/AAMD		

301		EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (GENERAL)		
302		CHECKLIST USAGE	R	R
305		WEAPON SYSTEM OPERATION		R
306		WEAPONS EMPLOYMENT AND SWITCHOLOGY		R
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		ECS/OXYGEN EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF)		
361		ENGINE/APU EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF)		
371		AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF)		
381		WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF)		
391		FLCS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF)		
401		BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF)		
411		EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (PRE-TAKEOFF)		
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)		
461		ENGINE/APU EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF)		
463		ABORT	R	
471		AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF)		
481		WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF)		
491		FLCS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF)		
501		BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF)		
511		EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (TAKEOFF)		
IN-FLIGHT			R3	R3
15		UNUSUAL ATTITUDE RECOVERIES	R	
521		HYDRAULIC EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN- FLIGHT)		
531		ELECTRICAL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN- FLIGHT)		

541		FUEL EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
551		ECS/OXYGEN EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
561		ENGINE/APU EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
571		AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
581		WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
591		FLCS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
601		BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
611		EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (IN-FLIGHT)		
615		AFMAN 11-217 PROCEDURES/HUD OUT APPROACH/USE OF STANDBY INSTRUMENTS	R	
616		ALTERNATE/DIVERT AIRFIELDS	R	
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/APU EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING)		
681		AVIONICS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING)		
691		WEAPONS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING)		
701		FLCS EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING)		
711		BRAKES/LANDING GEAR EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING)		
721		EMERGENCY PROCEDURES/AIRCRAFT MALFUNCTIONS (LANDING)		

Chapter 3

EVALUATION CRITERIA

3.1. General Grading Standards.

3.1.1. FEs assign appropriate area grades by comparing examinee performance against standards per descriptions 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."

3.1.3. If FEs assign a qualification level of unqualified (Q3), or if FEs assign a qualification level of qualified but assigns additional training (Q2), FEs recommend, and squadron commanders approve, whether or not such an examinee is allowed to fly before the additional training or re-evaluation is successfully completed.

3.2. Not Used.

Table 3.1. General Aircraft Control Criteria.

Aircraft Control Criteria. The following general criteria apply at all times unless more specific criteria from Table 2.1 or Table 2.2 apply.		
Q	Altitude	+/- 200 feet
	Airspeed	+/- 5%
	Course	+/- 5 degrees/3 NM (whichever is greater)
	TACAN Arc	<u><</u> 2 NM
Q-	Altitude	+/- 300 feet
	Airspeed	+/- 10%
	Course	+/- 10 degrees/5 NM (whichever is greater)
	TACAN Arc	≤ 3 NM > 2 NM
U		Exceeded Q- limits

3.3. Documentation of Weapons Employment Results.

3.3.1. FEs document weapons employment results in the Mission Description Section of the AF Form 8, *Certificate of Aircrew Qualification*, for MSN evaluations. Include entries for each type of actual and simulated ordnance employed.

3.3.2. Air-to-surface results should be recorded as Hit or Miss for each air-to-surface record delivery. Document results as in [Table 3.2](#)

3.3.3. The number of simulated air-to-air missile or gun firing attempts and valid attempts are recorded as in [Table 3.3](#).

3.3.4. FE judgment should be the determining factor in deciding the weapons employment grade. The FE may elect to award a higher area grade than warranted by the score(s), and include the justification in the Comments Section of the AF Form 8.

Table 3.2. Air-Surface Weapons Employment Scores.

Air-Surface (A/S) Scoring	
Precision Guided Munition (PGM)	Laser Guided Bomb (LGB)
*Hit	*Hit/Miss
Range or VTRS scoring is assumed. *Training Programmable Armament Control Set (PACS) DVRS assessment or simulator assessment.	

Table 3.3. Air-Air Weapons Employment Scores.

Air-Air (A/A) Scoring		
	ATTEMPTED	VALID
A/A Gun	2	1
Air Intercept Missile (AIM)- 120	2	2
AIM-9	1	1
Range or VTRS scoring is assumed. *Training PACS DVRS assessment or simulator assessment.		

3.4. General Aircrew Evaluation Criteria.

3.4.1. Area 1--Mission Planning:

3.4.1.1. Mission Preparation:

3.4.1.1.1. **Q.** Clearly defined the mission overview and mission goals. Effectively accomplished directed mission planning tasks. Developed a sound plan to accomplish the mission. Provided specific information on what needed to be done. Solicited feedback from others to ensure understanding of mission requirements. Thoroughly critiqued plans to identify potential problem areas and ensured all flight members understood possible contingencies. Checked all factors applicable to flight in accordance with applicable directives. When required, extracted necessary information from air tasking order. Aware of alternatives available if flight cannot be completed as

planned. Read and initialed for all items in the flight crew information file and read files. Prepared at briefing time.

3.4.1.1.2. **Q-**. Did not adequately define the mission overview and mission goals. Did not adequately address potential problem areas. Did not adequately solicit feedback or critique the plans to ensure understanding of possible contingencies. Minor error(s) or omission(s) detracted from mission effectiveness, but did not affect mission accomplishment. Demonstrated limited knowledge of performance capabilities or approved operating procedures and/or rules in some areas.

3.4.1.1.3. **U**. Did not define the mission overview and goals. Did not accomplish directed mission planning tasks. Lack of specific information on required items. Did not solicit feedback from other crewmembers to ensure understanding. Did not critique plans to identify potential problem areas. Major error(s) or omission(s) would have prevented a safe or effective mission. Displayed unsatisfactory knowledge of operating data or procedures. Did not review or initial Go/No Go items. Not prepared at briefing time.

3.4.1.2. Publications:

3.4.1.2.1. **Q**. Publications were current and usable for any of the unit's combat taskings. Contained only minor deviations, omissions, and/or errors.

3.4.1.2.2. **Q-**. Publications contained deviations, omissions, and/or errors; however, contained everything necessary to effectively accomplish the mission and did not compromise safety of flight.

3.4.1.2.3. **U**. Not up to "Q-" standards. Contained major deviations, omissions, and/or errors.

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

3.4.2.1. Organization:

3.4.2.1.1. **Q**. Well organized, included all applicable information and presented in a logical sequence. Briefed flight member responsibilities, de-confliction contracts, combat mission priorities and sensor management. Concluded briefing in time to allow for element briefing (if applicable) and preflight of personal equipment, aircraft and ordnance.

3.4.2.1.2. **Q-**. Events out of sequence, hard to follow, some redundancy. Not fully prepared for briefing.

3.4.2.1.3. **U**. Confusing presentation, poorly organized and not presented in a logical sequence. Did not allow time for element briefing (if applicable) and preflight of personal equipment, aircraft and ordnance. Failed to brief required areas.

3.4.2.2. Presentation:

3.4.2.2.1. **Q**. Presented briefing in a professional manner covering all pertinent items. Effectively used available briefing aids. Flight members clearly understood mission requirements.

3.4.2.2.2. **Q-** Some difficulty communicating clearly. Did not make effective use of available briefing aids. Dwelt on nonessential mission items.

3.4.2.2.3. **U.** Failed to conduct or attend required briefings. Failed to use available briefing aids. Redundant with lack of continuity. Lost interest of flight members. Demonstrated lack of knowledge of subject. Presentation created doubts or confusion.

3.4.2.3. Mission Coverage:

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

3.4.2.3.2. **Q-** Omitted items pertinent, but not critical, to the mission. Limited discussion of training events or special interest items. Dwelt on non-essential items. Limited discussion of valid techniques.

3.4.2.3.3. **U.** Did not establish relevant objectives for the mission. Omitted essential items. Failed to discuss training events or special interest items. Presented erroneous information and/or did not correct erroneous information that would affect safe and/or effective mission accomplishment. Omitted major training events. Did not discuss valid techniques.

3.4.2.4. Flight Member Consideration:

3.4.2.4.1. **Q.** Properly assessed the abilities of all flight members. Briefed corrective action from previous mission and probable problem areas when appropriate.

3.4.2.4.2. **Q-** Did not correctly assess all flight members' abilities. Did not identify probable problem areas.

3.4.2.4.3. **U.** Ignored flight members' abilities and past problem areas.

3.4.3. Area 3--Pre-Takeoff:

3.4.3.1. **Q.** Established and adhered to step, start, taxi and take-off times to assure thorough preflight, check of personal equipment, etc. Accurately determined readiness of aircraft for flight. Performed all checks and procedures prior to takeoff in accordance with approved checklists and applicable directives.

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

3.4.3.3. **U.** Omitted major item(s) of the appropriate checklist. Major deviations in procedure which would preclude safe mission accomplishment. Failed to accurately determine readiness of aircraft for flight. Pilot errors directly contributed to a late takeoff which degraded the mission or made it non-effective.

3.4.4. Area 4--Takeoff:

3.4.4.1. **Q.** Maintained smooth aircraft control throughout takeoff. Performed takeoff in accordance with T.O. 1F-15E-1 and Air Force Tactics, Techniques, and Procedures (AFTTP) 3-3.F-15E, *Combat Aircraft Fundamentals, F-15E*.

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

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

3.4.5. Area 5—Formation Takeoff:

3.4.5.1. Lead:

3.4.5.1.1. **Q.** Smooth on controls. Excellent wing-man consideration.

3.4.5.1.2. **Q-.** Occasionally rough on controls. Not unsafe; however, lack of wingman consideration made it difficult for the wingman to maintain position.

3.4.5.1.3. **U.** Rough on the controls. Did not consider the wingman.

3.4.5.2. Wingman:

3.4.5.2.1. **Q.** Maintained position with only momentary deviations. Maintained appropriate separation and complied with procedures and leader's instructions.

3.4.5.2.2. **Q-.** Over-controlled the aircraft to the extent that formation position varied considerably.

3.4.5.3. **U.** Abrupt position corrections. Did not maintain appropriate separation or formation position throughout the takeoff.

3.4.6. Area 6--Departure:

3.4.6.1. Instrument/Visual Flight Rules:

3.4.6.1.1. **Q.** Performed departures as published/directed and complied with all restrictions.

3.4.6.1.2. **Q-.** Minor deviations in airspeed and navigation occurred during completion of departure.

3.4.6.1.3. **U.** Failed to comply with published/directed departure instructions.

3.4.6.2. Trail Departure/Rejoin:

3.4.6.2.1. **Q.** Effective use of sensors. Trail departure/rejoin accomplished using proper procedures and techniques. Provided efficient commentary throughout departure and/or rejoin.

3.4.6.2.2. **Q-.** Minor deviations from established or appropriate procedures. Slow to obtain sensor acquisition and/or contact due to poor technique. Delayed rejoin due to poor sensor technique or inefficient commentary.

3.4.6.2.3. **U.** Unable to accomplish trail departure or rejoin. Gross overshoot or excessively slow rejoin caused by poor technique. Missed rejoin.

3.4.7. Area 7--Level Off:

3.4.7.1. **Q.** Leveled off smoothly. Promptly established proper cruise airspeed.

3.4.7.2. **Q-.** Level off was erratic. Slow in establishing proper cruise airspeed. Slow to set/reset altimeter, as required.

3.4.7.3. **U.** Level off was erratic. Exceeded Q- limits. Excessive delay or failed to establish proper cruise airspeed. Failed to set or reset altimeter, as required.

3.4.8. Area 8--Cruise/Navigation:

3.4.8.1. **Q.** Demonstrated satisfactory capability to navigate using all available means. Used appropriate navigation procedures. Ensured navigation aids were properly tuned, identified, and monitored. Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.

3.4.8.2. **Q-.** Minor errors in procedures/use of navigation equipment. Some deviations in tuning, identifying, and monitoring navigation aids. Slow to comply with clearance instructions. Had some difficulty in establishing exact position and course.

3.4.8.3. **U.** Major errors in procedures/use of navigation equipment. Could not establish position. Failed to recognize checkpoints or adjust for deviations in time and course. Did not remain within the confines of assigned airspace. Exceeded parameters for Q-.

3.4.9. Area 9--Formation:

3.4.9.1. Flight Lead:

3.4.9.1.1. **Q.** Established and maintained appropriate formations utilizing published and briefed procedures. Maintained positive control of flight or element. Smooth control and considered the wingman appropriately. Planned ahead and made timely decisions. Ensured wingman position and adherence to de-confliction contracts. Effectively coordinated with other flight members throughout the mission. Ensured smooth and efficient flight operation.

3.4.9.1.2. **Q-.** Made minor deviations from published and/or briefed procedures. Demonstrated limited flight management. Occasionally rough on the controls. Maneuvered excessively, making it difficult for wingman to maintain position. Did not always plan ahead and/or hesitant in making decisions. Flight coordination was adequate to accomplish the mission. Deficiencies in communication or interaction resulted in degraded flight or mission efficiency.

3.4.9.1.3. **U.** Formation flight not accomplished in accordance with published and/or briefed procedures. Did not establish appropriate formations. Continually rough on the controls. Maneuvered erratically causing wingman to break out or overshoot formation. Provided little consideration for wingman. Indecisive. Failed to ensure wingman maintained proper position. Failed to maintain de-confliction contracts. Poor flight coordination seriously degraded mission accomplishment or safety of flight.

3.4.9.2. Wingman:

3.4.9.2.1. **Q.** Maintained position in accordance with published and briefed procedures with only momentary deviations. Demonstrated smooth and immediate position corrections. Maintained appropriate separation and complied with leader's instructions. Rejoin was smooth and timely. Contributed to the smooth and efficient operation of the flight. Maintained mutual support during the entire sortie.

3.4.9.2.2. **Q-.** Made minor deviations to published procedures. Slow to comply with leader's instructions. Varied position considerably. Over-controlled. Slow to rejoin.

Made minor mistakes reducing mutual support. Minor errors in performing assigned flight tasks.

3.4.9.2.3. **U.** Formation flight not accomplished in accordance with published and/or briefed procedures. Did not comply with leader's instructions. Unable to maintain a formation position. Failed to maintain de-confliction contracts. Made abrupt position corrections. Did not maintain appropriate separation. Rejoin was unsafe. Poor flight coordination seriously degraded mission accomplishment or safety of flight.

3.4.10. Area 10--In-Flight Checks:

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

3.4.10.2. **Q-.** Same as qualified, except for minor deviations or omissions during checks. Did not detract from mission accomplishment.

3.4.10.3. **U.** Did not perform in-flight checks or monitor systems to the degree that an emergency condition would have developed if allowed to continue uncorrected or would have severely degraded mission accomplishment.

3.4.11. Area 11--Fuel Management:

3.4.11.1. **Q.** Properly managed fuel throughout the mission. Complied with all established fuel requirements. Adhered to briefed Joker and Bingo calls (IAW Army Techniques Publication (ATP) 1-02.1, Marine Corps Reference Publication (MCRP) 3-30B.1, Navy Tactics Techniques and Procedures (NTTP) 6-02.1, AFTTP 3-2.5, Multi-Service Tactics, Techniques, and Procedures (MTTP) for Multi-Service Brevity Codes).

3.4.11.2. **Q-.** Errors in fuel management procedures that did not preclude mission accomplishment.

3.4.11.3. **U.** Failed to monitor fuel status or comply with established fuel requirements. Poor fuel management precluded mission accomplishment or required intervention for safety. Did not adhere to briefed fuel requirements.

3.4.12. Area 12—Communications, Navigation, and IFF (CNI) Usage:

3.4.12.1. **Q.** Complete knowledge of and compliance with correct communication and Identification, Friend, or Foe (IFF) procedures. Transmissions concise, accurate and utilized proper terminology. Complied with and acknowledged all required instructions. Thoroughly familiar with communications security requirements, HAVE QUICK and secure voice equipment (if applicable).

3.4.12.2. **Q-.** Occasional deviations from correct procedures required retransmissions or resetting codes. Slow in initiating or missed several required calls. Minor errors or omissions did not significantly detract from situational awareness, threat warning or mission accomplishment. Transmissions contained extraneous matter, were not in proper sequence or used nonstandard terminology. Demonstrated limited knowledge of communications security requirements, HAVE QUICK and secure voice equipment (if applicable).

3.4.12.3. **U.** Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Omitted numerous required radio calls. Inaccurate or confusing terminology significantly detracted from situational awareness, threat warning or mission

accomplishment. Displayed inadequate knowledge of communications security requirements, HAVE QUICK and secure voice equipment (if applicable).

3.4.13. Area 14—Airwork/AHC/BFM:

3.4.13.1. **Q.** Aircraft control during maneuvers was positive and smooth. Maneuvers performed IAW directives and appropriate to the tactical situation and environment. Adhered to established procedures.

3.4.13.2. **Q-.** Aircraft control during maneuvers not always smooth and positive, but adequate. Minor procedure deviations or lack of full consideration for the tactical situation.

3.4.13.3. **U.** Aircraft control erratic. Aircraft handling caused unsatisfactory accomplishment of maneuvers. Exceeded Q- criteria. Failed to consider the tactical situation. Temporary loss of aircraft control.

3.4.14. Area 15--Unusual Attitude Recoveries:

3.4.14.1. **Q.** Smooth, positive recovery to level flight with correct recovery procedures.

3.4.14.2. **Q-.** Slow to analyze attitude, or erratic in recovery to level flight. Correct recovery procedures used.

3.4.14.3. **U.** Unable to determine attitude. Improper recovery procedures were used.

3.4.15. Area 16--Weapons System/Built In Test (BIT) Checks:

3.4.15.1. **Q.** Completed all checks. Thorough knowledge and performance of weapons system checks.

3.4.15.2. **Q-.** Completed most weapons system checks. Limited knowledge of checks. Unsure of systems degradation due to check failure.

3.4.15.3. **U.** Failed to complete weapons system checks. General lack of knowledge on how to perform weapons system checks. Unable to determine systems degradation due to check failures.

3.4.16. Area 17--Air Refueling:

3.4.16.1. Air Refueling Rendezvous:

3.4.16.1.1. **Q.** Rendezvous effectively accomplished using proper procedures. Demonstrated effective use of radio communications. Used proper communication procedures for briefed emission control level.

3.4.16.1.2. **Q-.** Rendezvous delayed by improper techniques, procedures or radio communications.

3.4.16.1.3. **U.** Displayed lack of knowledge or familiarity with procedures to the extent that air refueling was or could have been jeopardized. Failed rendezvous as a result of improper procedures. Gross overshoot, spent excessive time in trail or safety of flight jeopardized due to poor judgment.

3.4.16.2. Air Refueling Procedures/Techniques:

3.4.16.2.1. **Q.** Expeditiously established and maintained proper position. Used proper procedures. Aircraft control was positive and smooth. Refueled without pilot-induced disconnects.

3.4.16.2.2. **Q-.** Slow to recognize and apply needed corrections to establish and maintain proper position. Aircraft control was not always positive and smooth, but adequate. Accomplished published or directed procedures with deviations or omissions that did not affect the successful completion of air refueling.

3.4.16.2.3. **U.** Erratic in the pre-contact or refueling position. Made deviations or omissions that affected flight safety and/or the successful completion of the air refueling. Used unacceptable procedures. Excessive time to hookup delayed mission accomplishment. Performance caused excessive and unnecessary pilot-induced disconnects and/or delayed mission accomplishment.

3.4.17. Area 18--Descent:

3.4.17.1. **Q.** Performed descent as directed, complied with all restrictions.

3.4.17.2. **Q-.** Performed descent as directed with minor deviations.

3.4.17.3. **U.** Performed descent with major deviations.

3.4.18. Area 19--Go-Around:

3.4.18.1. **Q.** Initiated and performed go-around promptly in accordance with flight manual and operational procedures and directives.

3.4.18.2. **Q-.** Slow to initiate go-around or procedural steps.

3.4.18.3. **U.** Did not self-initiate go-around when appropriate or directed. Applied incorrect procedures.

3.4.19. Area 20--Recovery:

3.4.19.1. **Q.** Performed recovery IAW applicable procedures using proper techniques. Effective use of sensors during sensor-assisted trail recovery. Provided efficient commentary throughout recovery.

3.4.19.2. **Q-.** Performed recovery with minor deviations from established or appropriate procedures. Slow to obtain sensor track and/or contact due to poor technique during sensor-assisted trail recovery. Inefficient commentary.

3.4.19.3. **U.** Recovery not performed IAW applicable procedures. Unable to accomplish sensor-assisted trail recovery (if applicable) due to poor technique.

3.4.20. Area 21--Emergency Traffic Patterns (Prior to configuration):

3.4.20.1. **Q.** Complied with all T.O., AFTTP 3-3.F-15E, and other applicable procedures. Maintained safe maneuvering airspeed/Angle of Attack (AOA). Flew approach compatible with the situation. Adjusted approach for type of emergency.

3.4.20.2. **Q-.** Minor procedural errors. Erratic airspeed/AOA control. Errors did not detract from safe handling of the situation but were inappropriate for the situation/emergency.

3.4.20.3. **U.** Did not comply with applicable procedures. Erratic airspeed/AOA control compounded problems associated with the emergency. Flew an approach that was incompatible with the simulated emergency. Did not adjust approach for the emergency.

3.4.21. Area 22--Emergency Approach/Landing (Configuration through rollout):

3.4.21.1. **Q.** Used sound judgment and safely landed. Configured at the appropriate position/altitude for the situation and emergency. Flew final, based on recommended procedures, airspeed/AOA and glide path, that was appropriate for the situation and emergency. Smooth, positive control of aircraft. Touchdown point was IAW T.O. and other guidance and/or permitted safe stopping on available runway. Arrestment gear was safely used (if applicable).

3.4.21.2. **Q-.** Safety not compromised. Configured at a position and altitude which allowed for a safe approach. Could have landed safely, however deviations from recommended procedures, airspeed/AOA and altitudes were not appropriate for the situation or emergency. Unnecessary maneuvering due to minor errors in planning or judgment.

3.4.21.3. **U.** Major deviations from recommended procedures, airspeed/AOA and altitudes. Required excessive maneuvering due to inadequate planning or judgment. Could not have landed safely. Touchdown point was not IAW applicable guidance and did not or would not allow for safe stopping on available runway. Arrestment gear could not have been used. Did not attempt go-around if approach was unsuccessful.

3.4.22. Area 23--VFR Pattern/Approach:

3.4.22.1. **Q.** Performed patterns/approaches IAW T.O. and AFTTP 3-3.F-15E procedures, techniques, and local directives. Aircraft control was smooth and positive. Accurately aligned with runway. Maintained proper/briefed airspeed/AOA. Airspeed -5/+10 knots.

3.4.22.2. **Q-.** Performed patterns/approaches with minor deviations to T.O. and AFTTP 3-3.F-15E procedures, techniques, and local directives. Aircraft control was not consistently smooth, but safe. Alignment with runway varied. Slow to correct to proper/briefed airspeed/AOA. Airspeed -5/+15 knots.

3.4.22.3. **U.** Approaches not performed IAW T.O. and AFTTP 3-3.F-15E procedures, techniques, and local directives. Erratic aircraft control. Large deviations in runway alignment. Exceeded Q- parameters.

3.4.23. Area 24--Formation Approach:

3.4.23.1. Flight Lead:

3.4.23.1.1. **Q.** Smooth on controls and considered wingman. Flew approach as published/directed.

3.4.23.1.2. **Q-.** Occasionally rough on the controls. Made it difficult for wingman to maintain position. Some procedural deviations. Slow to comply with published procedures.

3.4.23.1.3. **U.** Did not monitor wingman's position or configuration. Rough on the controls. No consideration for wingman. Major deviations in procedures. Did not fly approach as published/directed. Flight could not land from approach.

3.4.23.2. Wingman:

3.4.23.2.1. **Q.** Maintained position with only momentary deviations. Smooth and immediate corrections. Maintained appropriate separation and complied with procedures and leader's instructions.

3.4.23.2.2. **Q-.** Varied position considerably. Over-controlled.

3.4.23.2.3. **U.** Abrupt position corrections. Did not maintain appropriate separation. Erratic wing position and/or procedural deviations.

3.4.24. Area 25--Landing. Listed criteria only applicable to normal VFR approaches. Where runway configuration, arresting cable placement or applicable guidance requires an adjustment to the desired touchdown point, a simulated runway threshold should be identified and the grading criteria applied accordingly. For instrument approaches, the examinee should utilize a normal glideslope from either the decision height or from a point where visual acquisition of the runway environment is made.

3.4.24.1. **Q.** Performed landings IAW T.O. and AFTTP 3-3.F-15E procedures, techniques, and local directives. Touchdown Point 0' to 1500' from the runway threshold.

3.4.24.2. **Q-.** Performed landings with minor deviations to T.O. and AFTTP 3-3.F-15E procedures, techniques, and local directives. Touchdown Point 1501' to 2000' from the runway threshold.

3.4.24.3. **U.** Landing not performed IAW T.O. and AFTTP 3-3.F-15E procedures, techniques, and local directives. Touchdown Point exceeded Q- criteria or departed the prepared surface.

3.4.25. Area 26--After Landing:

3.4.25.1. **Q.** Appropriate after landing checks and aircraft taxi procedures accomplished in accordance with T.O. and applicable directives. Completed all required forms accurately.

3.4.25.2. **Q-.** Same as qualified except some deviations or omissions noted in performance of after landing check and/or aircraft taxi procedures in which safety was not jeopardized. Required forms completed with minor errors.

3.4.25.3. **U.** Major deviations or omissions were made in performance of after-landing check or aircraft taxi procedures which could have jeopardized safety. Data recorded inaccurately or omitted.

3.4.26. Area 27--Flight Leadership (if applicable):

3.4.26.1. **Q.** Positively and effectively led the flight and made timely comments to correct discrepancies when required. Made sound and timely in-flight decisions. Provided direction/information when needed. Adapted effectively to meet new situational demands. Knew assigned tasks of other flight members. Asked for inputs and made positive statements to motivate flight members/other agencies when appropriate. Coordinated

effectively with other flight members/other agencies without misunderstanding, confusion, or undue delay.

3.4.26.2. **Q-** In-flight decisions delayed mission accomplishment or degraded training benefit. Flight coordination was limited though adequate to accomplish the mission. Provided limited direction/information when needed. Slow to adapt to meet new situational demands. Demonstrated only limited knowledge of assigned tasks of other flight members. Did not consistently seek inputs from other flight members/other agencies when appropriate. Limited effort to motivate flight members/other agencies through positive statements.

3.4.26.3. **U.** Did not accomplish the mission or failed to correct in-flight discrepancies. In-flight decisions were unsafe and/or jeopardized mission accomplishment. Failed to maintain briefed formation roles and responsibilities. Did not provide direction/information when needed. Did not adapt to meet new situational demands. Did not know the assigned tasks of other flight members. Did not ask for inputs when appropriate. Made no effort to make positive statements to motivate flight members/other agencies. Lack of flight/other agency coordination resulted in significant degradation of mission accomplishment.

3.4.27. Area 28--Debriefing/Critique:

3.4.27.1. **Q.** Thoroughly debriefed the mission (or applicable portions) in a timely manner. Correctly analyzed mission results with respect to established objectives. Provided specific, objective, non-threatening positive and negative feedback on team and individual performance. Debriefed deviations. Offered corrective guidance as appropriate. Thoroughly debriefed any breakdowns in de-confliction contracts, roles and responsibilities. Asked for reactions/inputs from other mission participants. Re-capped key points and compared mission results with mission objectives.

3.4.27.2. **Q-** Limited debriefing. Did not thoroughly discuss performance relative to mission objectives. Minor time management problems. Debriefed mission without specific, non-threatening positive and negative feedback on individual and team performance. Did not debrief significant deviations to an acceptable level. Did not consistently seek input from other mission participants. Incomplete or inadequate re-cap of key points and comparison of mission results to mission objectives.

3.4.27.3. **U.** Did not correctly debrief mission deviations or offer corrective guidance. Used excessive time to debrief. Failed to debrief breakdowns in de-confliction contracts, roles and responsibilities. Did not provide non-threatening positive and negative feedback during debriefing. Did not seek input from other mission participants. Did not re-cap key mission points nor compare mission results to mission objectives.

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

3.4.28.1. Aircraft General:

3.4.28.1.1. **Q.** Demonstrated thorough knowledge of aircraft systems, limitations and performance characteristics.

3.4.28.1.2. **Q-**. Knowledge of aircraft systems, limitations, and performance characteristics sufficient to perform the mission safely. Demonstrated deficiencies either in depth of knowledge or comprehension.

3.4.28.1.3. **U**. Demonstrated unsatisfactory knowledge of aircraft systems, limitations or performance characteristics.

3.4.28.2. Emergency Procedures:

3.4.28.2.1. **Q**. Displayed correct, immediate response to emergency situations. Effectively used checklist.

3.4.28.2.2. **Q-**. Response to certain emergencies was slow/confused. Used the checklist when appropriate, but slow to locate required data.

3.4.28.2.3. **U**. Unable to analyze problems or take corrective action. Did not use checklist, or lacks acceptable familiarity with its arrangement or contents.

3.4.28.3. Flight Rules/Procedures:

3.4.28.3.1. **Q**. Thorough knowledge of flight rules and procedures.

3.4.28.3.2. **Q-**. Deficiencies in depth of knowledge.

3.4.28.3.3. **U**. Inadequate knowledge of flight rules and procedures.

3.4.28.4. Weapon/Tactics/Threat:

3.4.28.4.1. **Q**. Thorough knowledge of all aircraft weapons systems, weapons effects, tactics and threats applicable to the unit mission.

3.4.28.4.2. **Q-**. Deficiencies in depth of knowledge or comprehension of weapons systems, weapons effects, tactics and threat knowledge which would not preclude successful mission accomplishment.

3.4.28.4.3. **U**. Insufficient knowledge of weapons, tactics and threat contributed to ineffective mission accomplishment.

3.4.28.5. Local Area Procedures:

3.4.28.5.1. **Q**. Thorough knowledge of local procedures.

3.4.28.5.2. **Q-**. Limited knowledge of local procedures.

3.4.28.5.3. **U**. Inadequate knowledge of local procedures.

3.4.28.6. Plans/Alert Procedures:

3.4.28.6.1. **Q**. Adequate knowledge of plans applicable to the unit mission. Thoroughly familiar with alert procedures and contingencies.

3.4.28.6.2. **Q-**. Deficiencies in depth of knowledge or comprehension of plans or alert procedures applicable to the unit.

3.4.28.6.3. **U**. Knowledge of plans/alert procedures insufficient to ensure effective mission accomplishment.

3.4.28.7. Authentication Procedures:

3.4.28.7.1. **Q.** Performed authentication with no errors.

3.4.28.7.2. **Q-.** Minor errors in authentication. Required numerous attempts to complete authentication.

3.4.28.7.3. **U.** Unable to authenticate or authenticated incorrectly.

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

3.4.29.1. **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 performance of self and other flight members. Aware of on-going mission status. Recognized, verbalized and correctly acted on unexpected events.

3.4.29.2. **U.** Decisions or lack thereof resulted in failure to accomplish the assigned mission. Mis-analyzed flight conditions and/or failed to recognize or 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 performance of self and other flight members. Not aware of on-going mission status. Failed to recognize, verbalize and act on unexpected events.

3.4.30. Area 31--Safety (Critical):

3.4.30.1. **Q.** Aware of and complied with all safety factors required for safe aircraft operation and mission accomplishment.

3.4.30.2. **U.** Was not aware of or did not comply with all safety factors required for safe operation or mission accomplishment. Did not adequately clear aircraft flight path. Operated the aircraft in a dangerous manner.

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

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

3.4.31.2. **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.

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

3.4.32.1. Briefing/Debriefing:

3.4.32.1.1. **Q.** Presented a comprehensive, instructional briefing or debriefing which encompassed all mission events. Made excellent use of training aids. Excellent analysis of all events and 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.

3.4.32.1.2. **Q-.** Minor errors or omissions in briefing or 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.

3.4.32.1.3. **U.** Major errors or omissions in briefing or debriefing. Analysis of events or maneuvers was incomplete, inaccurate or confusing. Did not use training aids or reference material effectively. Briefing or 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.

3.4.32.2. Instructor Knowledge:

3.4.32.2.1. **Q.** Demonstrated in-depth knowledge of procedures, requirements, aircraft systems/performance characteristics, mission and tactics beyond that expected of non-instructors.

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

3.4.32.2.3. **U.** Unfamiliar with procedures, requirements, aircraft systems/performance characteristics, mission or tactics. Lack of knowledge in certain areas seriously detracted from instructor effectiveness.

3.4.32.3. Ability to Instruct:

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

3.4.32.3.2. **Q-.** Problems in communication or analysis degraded effectiveness of instruction or evaluation.

3.4.32.3.3. **U.** Demonstrated inadequate ability to instruct or evaluate. Unable to perform, teach or assess techniques, procedures, systems use or tactics. Did not remain aware of aircraft and/or mission situation at all times.

3.4.32.4. Training/Evaluation Forms Preparation:

3.4.32.4.1. **Q.** Completed appropriate training/evaluation records accurately. Adequately assessed and recorded performance. Comments were clear and pertinent.

3.4.32.4.2. **Q-.** Minor errors or omissions in training/evaluation records. Comments were incomplete or slightly unclear.

3.4.32.4.3. **U.** Did not complete required forms or records. Comments were invalid, unclear, or did not accurately document performance.

3.4.33. Area 34--Instrument Interpretation:

3.4.33.1. **Q.** Demonstrated satisfactory knowledge of basic instrument procedures, in-flight penetration and approach procedures. Quickly analyzed flight instruments.

3.4.33.2. **Q-.** Demonstrated limited knowledge of instrument procedures. Slow to interpret instruments.

3.4.33.3. **U.** Displayed faulty or insufficient knowledge of instrument procedures. Unable to properly interpret instruments.

3.4.34. Area 35--Sensor Interpretation:

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

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

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

3.4.35. Area 36--Task Prioritization:

3.4.35.1. **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.

3.4.35.2. **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.

3.4.35.3. **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.

3.4.36. Area 37--Cockpit Resource Management:

3.4.36.1. **Q.** Effectively employed available resources to mitigate identified and/or emerging risks during the mission.

3.4.36.2. **Q-.** Adequately employed available resources to mitigate identified and/or emerging risks during the mission.

3.4.36.3. **U.** Failed to employ available resources to mitigate identified and/or emerging risks during the mission.

3.4.37. Area 38--Takeoff and Landing Data:

3.4.37.1. **Q.** Accurately computed and checked all required takeoff and landing data. Complete understanding of abort considerations, runway condition, and impact of weather on takeoff and landing operations. All distances computed to within ± 500 feet and all speeds ± 5 knots.

3.4.37.2. **Q-**. Computed and checked required takeoff data with minor omissions or errors, which did not detract from mission accomplishment or safety. Limited understanding of abort considerations, runway condition, and impact of weather on takeoff and landing operations. Computed distances within ± 800 feet and speeds ± 8 knots.

3.4.37.3. **U**. Major errors or omissions that compromised safety. Faulty or improper knowledge of takeoff and landing data. Computed distances and speeds outside tolerances for Q- parameters.

3.5. Aircrew Evaluation Criteria—Instruments.

3.5.1. Area 61--Holding:

3.5.1.1. **Q**. Performed entry and holding IAW published procedures and directives. Holding pattern limit exceeded by not more than: Leg Timing ± 15 seconds, tactical air navigation (TACAN) ± 2 nautical miles (NM).

3.5.1.2. **Q-**. Minor deviations to procedures or directives. Holding pattern limit exceeded by not more than: Leg Timing ± 20 seconds, TACAN ± 3 NM.

3.5.1.3. **U**. Holding was not IAW published procedures and directives. Exceeded criteria for Q- or holding pattern limits.

3.5.2. Area 62--Instrument Penetration (Initial Approach Fix to Final Approach Fix/Descent Point)/En-route Descent (Radar Vectors To Final Approach):

3.5.2.1. **Q**. Performed the penetration or en-route descent and approach as published or directed and IAW applicable flight manuals. Complied with all restrictions. Made smooth and timely corrections.

3.5.2.2. **Q-**. Performed the penetration or en-route descent and approach with minor deviations. Complied with all restrictions. Slow to make corrections.

3.5.2.3. **U**. Performed the penetration or en-route descent and approach with major deviations. Erratic corrections.

3.5.3. Area 63--Instrument Patterns (Downwind/Base Leg):

3.5.3.1. **Q**. Performed procedures as published or directed and IAW TO procedures. Smooth and timely response to controller instruction.

3.5.3.2. **Q-**. Performed procedures with minor deviations. Slow to respond to controller instruction.

3.5.3.3. **U**. Performed procedures with major deviations or erratic corrections. Failed to comply with controller instruction.

3.5.4. Area 64—Non-Precision Approach:

3.5.4.1. **Q**. Adhered to all published/directed procedures and restrictions. Used appropriate descent rate to arrive at Minimum Descent Altitude (MDA) at or before Visual Descent Point (VDP)/Missed Approach Point (MAP). Position would have permitted a safe landing. Maintained proper/briefed AOA.

3.5.4.1.1. Airspeed $+10/-5$ knots.

3.5.4.1.2. Heading $+/-5$ degrees Air Surveillance Radar (ASR).

3.5.4.1.3. Course +/-5 degrees at MAP.

3.5.4.1.4. Localizer less than one dot deflection.

3.5.4.1.5. Minimum Descent Altitude +100/-0 feet.

3.5.4.2. **Q-** Performed approach with minor deviations. Arrived at MDA at or before the MAP, but past the VDP. Position would have permitted a safe landing. Slow to correct to proper/briefed AOA.

3.5.4.2.1. Airspeed +15/-5 knots.

3.5.4.2.2. Heading +/-10 degrees (ASR).

3.5.4.2.3. Course +/-10 degrees at MAP.

3.5.4.2.4. Localizer within two dots deflection.

3.5.4.2.5. Minimum Descent Altitude +150/-50 feet.

3.5.4.3. **U.** Did not comply with published/directed procedures or restrictions. Exceeded Q- limits. Maintained steady-state flight below the MDA, even though the 50-foot limit was not exceeded. Could not land safely from the approach. **Note:** The 50-foot tolerance applies only to momentary excursions.

3.5.5. Area 65--Precision Approach (PAR) (See **Note 4**, [Table 2.1](#)):

3.5.5.1. **Q.** Performed procedures as directed and IAW T.O. procedures. Smooth and timely response to controller's instructions. Complied with decision height. Position would have permitted a safe landing. Maintained proper/briefed AOA. Maintained glide path with only minor deviations.

3.5.5.1.1. Airspeed +10/-5 knots.

3.5.5.1.2. Heading within 5 degrees of controller's instructions.

3.5.5.1.3. Initiated missed approach (if applicable) at decision height.

3.5.5.2. **Q-** Performed procedures with minor deviations. Slow to respond to controller's instructions. Position would have permitted a safe landing. Slow to correct to proper/briefed AOA. Improper glide path control.

3.5.5.2.1. Airspeed +15/-5 knots.

3.5.5.2.2. Heading within 10 degrees of controller's instructions.

3.5.5.2.3. Initiated missed approach (if applicable) at decision height, +50/-0 ft.

3.5.5.3. **U.** Performed procedures with major deviations. Did not respond to controller's instructions. Erratic corrections. Exceeded Q- limits. Did not comply with decision height and/or position would not have permitted a safe landing. Erratic glide path control.

3.5.6. Area 66--Precision Approach (Instrument Landing System [ILS]) (See **Note 5**, [Table 2.1](#)):

3.5.6.1. **Q.** Performed procedures as published and IAW T.O. procedures. Smooth and timely corrections to azimuth and glide slope. Complied with decision height and position would have permitted a safe landing. Maintained proper/briefed AOA.

3.5.6.1.1. Airspeed +10/-5 knots.

3.5.6.1.2. Glide Slope/Azimuth within one dot.

3.5.6.1.3. Initiated missed approach (if applicable) at decision height.

3.5.6.2. **Q-** Performed procedures with minor deviations. Slow to make corrections or initiate procedures. Position would have permitted a safe landing. Slow to correct to proper/briefed AOA.

3.5.6.2.1. Airspeed +15/-5 knots.

3.5.6.2.2. Glide Slope within one dot low/two dots high.

3.5.6.2.3. Azimuth within two dots.

3.5.6.2.4. Initiated missed approach (if applicable) at decision height, +50/-0 ft.

3.5.6.3. **U.** Performed procedures with major deviations. Erratic corrections. Exceeded Q-limits. Did not comply with Decision Height or position at Decision Height would not have permitted a safe landing.

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

3.5.7.1. **Q.** Executed missed approach/climb-out as published/directed. Completed all actions IAW T.O. procedures.

3.5.7.2. **Q-** Executed missed approach/climb-out with minor deviations. Slow to comply with published procedures, controller's instructions or flight manual procedures.

3.5.7.3. **U.** Executed missed approach/climb-out with major deviations, or did not comply with applicable directives.

3.5.8. Area 68--Circling/Sidestep Approach:

3.5.8.1. **Q.** Performed circling/sidestep approach in accordance with procedures and techniques outlined in the T.O. and AFMAN 11-217, Volume 1. Aircraft control was positive and smooth. Proper runway alignment.

3.5.8.2. **Q-** Performed circling/sidestep approach with minor deviations to procedures and techniques outlined in the technical order (T.O.) and AFMAN 11-217, Volume 1. Aircraft control was not consistently smooth, but safe. Runway alignment varied, but go-around not required.

3.5.8.3. **U.** Circling/sidestep approach not performed in accordance with procedures and techniques outlined in the T.O. and AFMAN 11-217, Volume 1. Erratic aircraft control. Large deviations in runway alignment required go-around.

3.5.9. Area 69--Instrument Cross-Check:

3.5.9.1. **Q.** Effective instrument cross-check. Smooth and positive aircraft control throughout flight. Meets "Q" criteria listed in General Criteria, applicable special events or instrument final approaches.

3.5.9.2. **Q-** Slow instrument cross-check. Aircraft control occasionally abrupt to compensate for recognition of errors. Meets "Q-" criteria listed in General Criteria, applicable special events or instrument final approaches.

3.5.9.3. **U.** Inadequate instrument cross-check. Erratic aircraft control. Exceeded Q-limits.

3.6. Aircrew Evaluation Criteria—Tactical Employment.

3.6.1. General:

3.6.1.1. Area 81--Tactical/Mission Plan:

3.6.1.1.1. **Q.** Realistic, well-developed plan that encompassed mission objectives, threats and capabilities of all flight members. Addressed contingencies in development of plan.

3.6.1.1.2. **Q-.** Minor omissions in the plan resulted in less than optimum achievement of objectives and detracted from mission effectiveness. Planned tactics resulted in unnecessary difficulty.

3.6.1.1.3. **U.** Major errors in the plan precluded accomplishment of the stated objectives.

3.6.1.2. Area 82—Aerospace Control Alert (ACA) Tasking (Air Defense Units):

3.6.1.2.1. **Q.** Responded properly to directive commentary. Completed all required armament safety checks. Successfully completed visual identification pass. Properly performed procedures for air defense operations.

3.6.1.2.2. **Q-.** Slow response to directive commentary contributed to delayed completion of a visual identification pass or required large position corrections to complete a firing pass. Completed all required armament safety checks. Minor deficiencies during performance of procedures for air defense operations.

3.6.1.2.3. **U.** Failed to complete intercepts or visual identification passes because of improper procedures. Did not complete an armament safety check. Failed to perform proper procedures for air defense operations.

3.6.1.3. Area 83--Tactical/Mission Execution:

3.6.1.3.1. **Q.** Applied tactics consistent with the threat, current directives, and good judgment. Executed the plan and achieved mission goals. Quickly adapted to changing environment. Maintained situational awareness.

3.6.1.3.2. **Q-.** Minor deviations from tactical plan which did not result in an ineffective mission. Slow to adapt to changing environment. Low situational awareness.

3.6.1.3.3. **U.** Unable to accomplish the mission due to major errors of commission or omission during execution of the plan. Situational awareness lost.

3.6.1.4. Area 84--Composite Force (CF) Interface:

3.6.1.4.1. **Q.** Effectively planned for and used CF assets to enhance mission and achieve objectives.

3.6.1.4.2. **Q-.** Minor confusion between CF assets and fighters. Less than optimum use of Composite Force Assets which did not affect the fighter's offensive advantage.

3.6.1.4.3. **U.** Inadequate or incorrect use of CF assets resulted in loss of offensive potential.

3.6.1.5. Area 85--Tactical Communication:

3.6.1.5.1. **Q.** Radio communications were concise, accurate and effectively used to direct maneuvers or describe the tactical situation.

3.6.1.5.2. **Q-.** Minor terminology errors or omissions occurred, but did not significantly detract from situational awareness, mutual support or mission accomplishment. Extraneous comments over primary or secondary radios presented minor distractions.

3.6.1.5.3. **U.** Radio communications over primary or secondary radios were inadequate or excessive. Inaccurate or confusing terminology significantly detracted from mutual support, situational awareness or mission accomplishment.

3.6.1.6. Area 86—Visual/Sensor Lookout:

3.6.1.6.1. **Q.** Demonstrated thorough knowledge and effective application of visual lookout techniques and integration of sensor information throughout all phases of flight. Maintained de-confliction contracts.

3.6.1.6.2. **Q-.** Demonstrated limited knowledge of visual lookout techniques. Slow to establish lookout responsibilities for all phases of flight. Slow to integrate visual lookout and sensor information to acquire threats to flight or targets to be attacked. Made minor deviations in de-confliction contract adherence.

3.6.1.6.3. **U.** Demonstrated unsatisfactory knowledge and/or application of visual lookout and sensor integration. Allowed threat to penetrate to short range undetected. Failed to maintain de-confliction contracts.

3.6.1.7. Area 87--Mutual Support (if applicable):

3.6.1.7.1. **Q.** Maintained mutual support during entire engagement thus sustaining an offensive posture and/or negating all attacks. Adhered to all engaged and supporting responsibilities and de-confliction contracts.

3.6.1.7.2. **Q-.** Mutual support occasionally broke down resulting in temporary confusion or the loss of an offensive advantage. Demonstrated limited knowledge of engaged and supporting responsibilities or de-confliction contracts.

3.6.1.7.3. **U.** Mutual support broke down resulting in the flight being put in a defensive position from which all attacks were not negated. Demonstrated inadequate knowledge of engaged and supporting responsibilities and de-confliction contracts. Caused an unsafe de-confliction issue.

3.6.1.8. Area 88--Tactical Navigation:

3.6.1.8.1. **Q.** Navigated to desired destination and remained geographically oriented during the tactical portion of the mission. Altitude and route of flight reflected consideration for enemy threats. Maintained terrain awareness. Complied with established altitude minimums. Adhered to airspace restrictions.

3.6.1.8.2. **Q-** Deviations from planned route of flight were recognized and corrected. Maintained terrain awareness. Altitude control contributed to exposure to threats for brief periods.

3.6.1.8.3. **U.** Failed to locate desired destination. Deviations from planned route of flight exposed flight to threats. Violated airspace restrictions or altitude minimums. Poor airspeed/altitude control contributed to disorientation. Inadequate terrain awareness.

3.6.1.9. Area 89--Ingress:

3.6.1.9.1. **Q.** Aware of all known threats and defenses. Employed effective use of evasive maneuvers, and/or route and altitude selection.

3.6.1.9.2. **Q-** Ignored some of the known threats and defenses. Improper use of evasive maneuvers, and/or route and altitude selection resulted in unnecessary exposure.

3.6.1.9.3. **U.** Failed to honor known threats and defenses, significantly reducing survivability. Failed to employ effective evasive maneuvers, and/or route or altitude threat de-confliction.

3.6.1.10. Area 90--Egress:

3.6.1.10.1. **Q.** Effectively used evasive maneuvers to complete an expeditious egress from the target area. Formation was reestablished as soon as possible without undue exposure to enemy defenses.

3.6.1.10.2. **Q-** Egress contributed to unnecessary exposure to threats and delayed return to formation and departure from target area.

3.6.1.10.3. **U.** Egress caused excessive exposure to threats. Return to formation was not accomplished or resulted in excessive exposure to threats.

3.6.1.11. Area 91--Combat Separation:

3.6.1.11.1. **Q.** Adhered to briefed/directed separation procedures. Positive control of flight/element during separation. Adversary was unable to achieve valid simulated missile or gun firing parameters.

3.6.1.11.2. **Q-** Minor deviations from briefed/directed separation procedures. Allowed mutual support to break down intermittently.

3.6.1.11.3. **U.** Did not adhere to briefed/directed separation procedures to the degree that an emergency fuel condition would have developed if allowed to continue uncorrected. Could not effectively separate from the engagement or could not regain mutual support.

3.6.1.12. Area 92--Timing. Time should be based on preplanned time on target (TOT), time to target (TTT) for ordnance impact or vulnerability period (VUL) (Suppression of Enemy Air Defenses (SEAD)/Defensive Counter Air (DCA)) or push time (Offensive Counter Air (OCA) Sweep). Adjustments in TOT should be made for non-pilot caused delays. The FE may widen this timing criterion if the examinee was forced to maneuver

extensively along the ingress route due to simulated enemy air or ground defense reactions, air traffic control (ATC) instructions, and/or weather.

3.6.1.12.1. Conventional attack:

3.6.1.12.1.1. **Q.** ± 1 minute.

3.6.1.12.1.2. **Q-.** ± 2 minutes.

3.6.1.12.1.3. **U.** Exceeded Q- parameters.

3.6.1.12.2. Air-to-Air Escort/Sweep/DCA:

3.6.1.12.2.1. **Q.** Arrived on station not more than 1 minute late. Covered VUL.

3.6.1.12.2.2. **Q-.** Arrived on station not more than 2 minutes late. Covered VUL.

3.6.1.12.2.3. **U.** Exceeded Q- parameters. Failed to cover VUL due to inadequate planning or use of resources.

3.6.1.13. Area 93--Training Rules/Rules of Engagement (ROE):

3.6.1.13.1. **Q.** Adhered to and knowledgeable of all training rules/ROE.

3.6.1.13.2. **Q-.** Minor deviations. Made timely and positive corrections. Did not jeopardize safety of flight.

3.6.1.13.3. **U.** Significant deviations indicating a lack of knowledge of training rules/ROE. Jeopardized safety of flight.

3.6.1.14. Area 94--Threat Reactions:

3.6.1.14.1. **Q.** Threat reactions were timely and correct. Accomplished appropriate countermeasures and performed maneuvers to counter threat.

3.6.1.14.2. **Q-.** Threat reactions were slow or inconsistent. Slow to accomplish appropriate countermeasures or perform maneuvers to counter threat.

3.6.1.14.3. **U.** Numerous threat reactions were omitted or incorrect. Failed to accomplish countermeasures or perform maneuvers to counter threat.

3.6.1.15. Area 95--In-Flight Report:

3.6.1.15.1. **Q.** Gave accurate, precise in-flight reports in correct format.

3.6.1.15.2. **Q-.** Deviated from established procedures or format. Completed reports.

3.6.1.15.3. **U.** Failed to make in-flight reports. Unfamiliar with in-flight reporting procedures.

3.6.1.16. Area 96—Electronic Warfare (EW)/Expendable Countermeasures (EXCM)/All Aspect Missile Defense (AAMD)

3.6.1.16.1. **Q.** Displayed thorough knowledge and operation of Electronic Attack (EA)/Electronic Protection (EP) systems.

3.6.1.16.2. **Q-.** Displayed limited knowledge and/or minor errors in operation of EA/EP systems.

3.6.1.16.3. **U.** Displayed unsatisfactory knowledge and/or minor errors in operation of EA/EP systems.

3.6.1.17. Area 98--Sensor Management:

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

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

3.6.1.17.3. **U.** Incorrectly prioritized or managed sensor tasks in a manner which seriously degraded mission accomplishment or safety of flight. Overtasked other flight members or failed to communicate task overload. Displayed lack of knowledge of sensor systems.

3.6.1.18. Area 99--Signature Management:

3.6.1.18.1. **Q.** Correctly planned, briefed, prioritized and executed a sound signature management plan. Accounted for threats, changes in tasking, and weather. Displayed sound knowledge of aircraft signature.

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

3.6.1.18.3. **U.** Incorrectly prioritized or managed aircraft signature in a manner which seriously degraded mission accomplishment or safety of flight. Displayed lack of knowledge of aircraft signature.

3.6.1.19. Area 100--Weapons Management:

3.6.1.19.1. **Q.** Correctly planned, briefed, prioritized, and executed a sound weapons management plan. Operated weapons IAW all technical requirements. Executed effective troubleshooting when required. Accounted for threats, weather and changes in tasking. Re-prioritized tasks based on existing and new information to ensure mission success. Displayed weapons systems knowledge. Successfully placed the air vehicle in position to allow optimum weapons employment IAW mission requirements.

3.6.1.19.2. **Q-.** Made minor errors in planning, prioritization, management and troubleshooting of weapons without seriously degrading mission accomplishment. Did not completely account for threats, changes in tasking, weather, Air vehicle maneuvering or poor positioning affected or reduced weapons employment.

3.6.1.19.3. **U.** Incorrectly prioritized or managed weapons in a manner which seriously degraded mission accomplishment or safety of flight. Displayed lack of weapons systems knowledge. Unable to troubleshoot and follow technical directives

for weapons abnormal conditions. Air vehicle maneuvering or poor positioning affected or reduced weapons employment.

3.6.1.20. Area 64--Terrain Following Radar (TFR) Procedures:

3.6.1.20.1. **Q.** Followed all prescribed procedures and performed all TFR system checks correctly prior to beginning TFR operations. TFR procedures were IAW applicable directives.

3.6.1.20.2. **Q-.** Performed required checks of the TFR system with only minor deviations which would not affect terrain following performance. Minor procedural deviations which did not detract from mission accomplishment.

3.6.1.20.3. **U.** Major deviations in required TFR system checks. Significant procedural errors which could cause inadequate terrain clearance during TFR operations.

3.6.2. Air-to-Air:

3.6.2.1. Area 111--Sensor Search/Sorting:

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

3.6.2.1.2. **Q-.** Made minor errors in planning, prioritization and management of sensor tasks. Minor deviations in sensor timeline. Did not completely account for threats, changes in tasking, weather or flight member experience.

3.6.2.1.3. **U.** Incorrectly prioritized or managed sensor tasks in a manner that seriously degraded mission accomplishment or safety of flight. Inadequate adherence to sensor timeline that led, or could have led, to mission failure. Overtasked other flight members or failed to communicate task overload. Displayed lack of knowledge of sensor systems.

3.6.2.2. Area 112--Tactical Intercept:

3.6.2.2.1. **Q.** Thorough knowledge and correct employment of tactical intercept procedures. Effective aircraft positioning and sensor use resulting in successful threat identification and intercept, if applicable. Successfully engaged all factor threats.

3.6.2.2.2. **Q-.** Limited knowledge of tactical intercept procedures. Intercept resulted in successful threat identification; however, excessive corrections were required to complete the intercept and/or threat engagement. Sensor use or aircraft positioning could have been more effective.

3.6.2.2.3. **U.** Did not adequately cover designated airspace. Threat identification and/or intercept unsuccessful due to poor techniques and/or improper procedures. Engagement terminated in a defensive position.

3.6.2.3. Area 113--Offensive Maneuvering:

3.6.2.3.1. **Q.** Effective use of basic fighter maneuvering and air combat maneuvering or Beyond Visual Range (BVR) weapons employment IAW the ROE to engage successfully opposing aircraft. Effectively managed energy level during engagements. Maintained offensive advantage.

3.6.2.3.2. **Q-.** Limited maneuvering proficiency. Did not effectively counter opposing aircraft. Occasionally mismanaged energy levels, jeopardizing offensive advantage.

3.6.2.3.3. **U.** Unsatisfactory knowledge or performance of maneuvers, aircraft handling or energy management. Lost offensive advantage.

3.6.2.4. Area 114--Defensive/Counteroffensive Maneuvering:

3.6.2.4.1. **Q.** Performed correct initial move to counter attack of opposing aircraft. Used correct maneuvers to negate the threat. Effectively gained counteroffensive advantage.

3.6.2.4.2. **Q-.** Some hesitation or confusion concerning the defensive situation. Minor errors in energy management or maneuvering delayed negating the attack of opposing aircraft.

3.6.2.4.3. **U.** Unable to negate attack of opposing aircraft.

3.6.2.5. Area 115--Air-to-Air Weapons Employment. Snapshots assessed as misses may be discounted from computations if attacks were tactically sound and attempted within designated parameters.

3.6.2.5.1. **Q.** Demonstrated proper knowledge of weapons employment procedures and attack parameters. Simulated weapons employment was accomplished at each opportunity and within designated parameters. 75%, or two of three (i.e., 67% if only three shots), or one of two (i.e., 50% if only two shots) of all attempted weapons employment were valid.

3.6.2.5.2. **Q-.** Demonstrated limited knowledge of weapons employment or attack parameters. Simulated weapons employment was successful but slow to recognize appropriate parameters. Did not meet Q criteria for attempted shots, but minor errors did not affect mission accomplishment.

3.6.2.5.3. **U.** Demonstrated inadequate knowledge of weapons employment procedures or attack parameters. All attempts to simulate weapons employment were unsuccessful due to pilot error.

3.6.2.6. Area 116--Air-to-Air Systems Integration:

3.6.2.6.1. **Q.** Effective use and integration of sensors. Optimized information flow to other flight members and Mission Design Series (MDSs).

3.6.2.6.2. **Q-.** Slow to integrate use of sensors. Passed sub-optimal information to other flight members and MDSs.

3.6.2.6.3. **U.** Failed to integrate sensors effectively. Failed to pass appropriate information to other flight members and MDSs.

3.6.2.7. Area 117--Command and Control (C2) Integration:

3.6.2.7.1. **Q.** Effectively integrated Airborne Warning and Control System (AWACS)/Ground Control Intercept (GCI) information into tactical plan when necessary. Requested threat declarations when required. Communicated changes in the tactical situation, weather and threats to C2 agencies.

3.6.2.7.2. **Q-.** Slow to integrate AWACS/GCI information into tactical plan when necessary. Slow to request threat declarations. Incomplete communication of changes in the tactical situation, weather and threats to C2 agencies.

3.6.2.7.3. **U.** Failed to integrate AWACS/GCI information into tactical plan when necessary. Failed to request or did not abide by threat declarations. Inadequate communication of changes in the tactical situation, weather and threats to C2 agencies.

3.6.3. Air-to-Surface:

3.6.3.1. Area 131--Target (TGT)/Threat Acquisition:

3.6.3.1.1. **Q.** Target acquired on the first attack with radar, if missed due to safety, clearance to expend, or difficult target identification features, a successful re-attack was accomplished. For multiple target scenarios, all targets were acquired on the first attack or with a successful re-attack.

3.6.3.1.2. **Q-.** Late to acquire the target with radar, degraded the initial attack or re-attack. For multiple target scenarios, 50% or more of the targets were acquired on the first attack or with a successful re-attack.

3.6.3.1.3. **U.** Target was not acquired. For multiple target scenarios, less than 50% of the targets were acquired on the first attack or with a successful re-attack. **Note:** A successful re-attack is defined as being within parameters to effectively employ the planned weapons against the target.

3.6.3.2. Area 132--Air-to-Surface Weapons Employment:

3.6.3.3. **Note 1.** Scorable Ranges. When weapons deliveries are performed on different ranges during the same mission, or like deliveries constituting separate events are performed on the same range, all events count for evaluation, and the area grade should be predicated upon the criteria below.

3.6.3.4. **Note 2.** Unscorable Ranges. The FE should determine Hit/Miss based on impact of the ordnance and/or desired weapons effects for the attack.

3.6.3.5. **Note 3.** Simulated Releases. FEs determine Hit(s)/Miss(es) based on video debrief review.

3.6.3.6. **Note 4.** FEs determine Hit/Miss by reference to video debrief in cases where unexplained weapons delivery misses occur (e.g., wind shears, weapons malfunctions, etc.).

3.6.3.6.1. Single Weapon Event:

3.6.3.6.1.1. **Q.** Demonstrated complete knowledge of weapons delivery procedures, attack parameters, weapons computations and error analysis for the events performed. At least 50% of all weapons were within hit criteria.

3.6.3.6.1.2. **Q-.** Minor errors in knowledge of weapons delivery procedures, attack

parameters, weapons computations, or error analysis for the events performed. At least 50% of all weapons were within hit criteria.

3.6.3.6.1.3. **U.** Demonstrated inadequate knowledge of weapons delivery procedures, attack parameters, weapons computations or error analysis for the events flown. Less than 50% of all weapons were within hit criteria.

3.6.3.6.2. Multiple Weapon Events:

3.6.3.6.2.1. **Q.** Qualified within the applicable criteria in all events attempted. At least 50% of all bombs in each event were within hit criteria.

3.6.3.6.2.2. **Q-.** Minor errors in knowledge of weapons delivery procedures, attack parameters, weapons computations, or error analysis for the events performed. Less than Q criteria.

3.6.3.6.2.3. **U.** Demonstrated inadequate knowledge of weapons delivery procedures, attack parameters, weapons computations, or error analysis for the events flown. Unqualified in greater than 50% of all events attempted.

3.6.3.7. Area 133—Range/Airspace Procedures:

3.6.3.7.1. **Q.** Used proper procedures for entering and exiting the range. Range operations followed established procedures.

3.6.3.7.2. **Q-.** Minor deviations from established procedures for range entry, exit or operations.

3.6.3.7.3. **U.** Major deviations from established procedures for range entry, exit or operations.

3.6.3.8. Area 134—Air-to-Surface Sensor Operation:

3.6.3.8.1. **Q.** Correctly operated the sensor to acquire the target. Was able to properly search and set up the sensor display to permit weapons delivery.

3.6.3.8.2. **Q-.** Poor use of sensor hindered target identification degrading weapons delivery. Did not thoroughly understand system set-up procedures.

3.6.3.8.3. **U.** Improper search technique resulted in late or no target acquisition. Improper set-up of sensor created an unusable picture and prevented target identification or weapons delivery.

3.6.3.9. Area 139—Dynamic Targeting

3.6.3.9.1. **Q.** Effective coordination with outside agencies and contract execution within the flight resulted in prompt employment IAW the ROE, given restrictions or tactical situation.

3.6.3.9.2. **Q-.** Minor errors during contract execution or slow/confused coordination with outside agencies resulted in delayed employment IAW the ROE, given restrictions or tactical situation.

3.6.3.9.3. **U.** Major errors during contract execution or ineffective coordination with outside agencies resulted in employment outside the ROE, given restrictions or tactical situation.

3.6.4. Suppression of Enemy Air Defenses (SEAD):

3.6.4.1. Area 151--Electronic Threat/Order of Battle Management:

3.6.4.1.1. **Q.** Effective detection, analysis, and prioritization of factor threats. Efficient and timely use of available on or off-board systems to effectively detect, engage, and/or suppress threat emitters. Identified factor threats IAW pre-briefed tactical plan. Effectively reacted to pop-up threats or unplanned threats.

3.6.4.1.2. **Q-.** Slow to detect, prioritize, target, or suppress briefed or pop-up factor threat emitters. Inefficient use of on or off-board systems.

3.6.4.1.3. **U.** Failed to detect, prioritize, or target to effectively suppress factor threats. Incorrect identification of threats. Ineffective reactions to pop-up threats.

3.6.4.2. Area 153—Electronic Attack:

3.6.4.2.1. **Q.** Employment parameters and settings were correct.

3.6.4.2.2. **Q-.** Minor deviations noted in employment parameters.

3.6.4.2.3. **U.** Excessive deviations noted in employment parameters. Incorrect settings led to failure to achieve mission objectives.

3.6.5. Electronic Warfare:

3.6.5.1. Area 161--Degraded/Denied GPS:

3.6.5.1.1. **Q.** Properly adapted to degradation or loss of GPS. Mission accomplishment not affected.

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

3.6.5.1.3. **U.** Unable to adapt to degradation or loss of GPS systems. Mission accomplishment affected.

3.6.5.2. Area 162--Degraded/Denied Communications:

3.6.5.2.1. **Q.** Properly adapted to degradation or loss of Comm. Mission accomplishment not affected.

3.6.5.2.2. **Q-.** Slow to adapt to or recognize degradation or loss of Comm systems. Mission accomplishment not affected.

3.6.5.2.3. **U.** Unable to adapt to degradation or loss of Comm systems. Mission accomplishment affected.

3.6.5.3. Area 163--Degraded/Denied Datalink:

3.6.5.3.1. **Q.** Properly adapted to degradation or loss of Datalink. Mission accomplishment not affected.

3.6.5.3.2. **Q-.** Slow to adapt to or recognize degradation or loss of Datalink systems. Mission accomplishment not affected.

3.6.5.3.3. **U.** Unable to adapt to degradation or loss of Datalink systems. Mission accomplishment affected.

3.7. EPE Criteria.

3.7.1. General:

3.7.1.1. See above for the following criteria:

3.7.1.1.1. Area 29--Aircraft General Knowledge.

3.7.1.1.2. Area 37--Cockpit/Crew Resource Management.

3.7.1.1.3. Area 82—Aerospace Control Alert (ACA) Tasking (Air Defense Units).

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

3.7.1.2.1. **Q.** Recognized and analyzed malfunction in a timely manner. Displayed correct, immediate response to emergency situations. Effectively used checklist.

3.7.1.2.2. **Q-.** Slow to recognize and/or analyze malfunction. Response to certain required steps in emergency procedures was slow or confused. Used the checklist when appropriate, but slow to locate required data and implement guidance.

3.7.1.2.3. **U.** Unable to analyze problems or take corrective action. Did not use checklist and/or lacked acceptable familiarity with its arrangement or contents.

3.7.1.3. Area 302—Checklist Usage

3.7.1.3.1. **Q.** Effectively used checklist. Effectively coordinated with other flight members or crew members (if applicable) without misunderstanding.

3.7.1.3.2. **Q-.** Slow to use proper checklist. Coordinated with other flight members or crew members (if applicable) with minor exceptions.

3.7.1.3.3. **U.** Failed to follow checklist procedures or used incorrect checklist. Breakdown in coordination with other flight members (or crewmembers, if applicable) precluded mission accomplishment or jeopardized safety.

3.7.1.4. Area 305--Weapons System Operation:

3.7.1.4.1. **Q.** Displayed thorough knowledge of aircraft weapons systems capabilities, limitations and backups or workarounds in event of malfunctions.

3.7.1.4.2. **Q-.** Displayed deficiencies in depth of knowledge or comprehension of aircraft weapons systems capabilities, limitations and backups or workarounds in event of malfunctions which would not preclude successful mission accomplishment.

3.7.1.4.3. **U.** Displayed insufficient knowledge or comprehension of aircraft weapons systems capabilities, limitations and backups or workarounds in event of malfunctions which could preclude successful mission accomplishment.

3.7.1.5. Area 306--Weapons Employment and Switchology:

3.7.1.5.1. **Q.** Displayed thorough knowledge of aircraft weapons systems effects, tactics and switchology, when employing weapons in degraded modes of operation.

3.7.1.5.2. **Q-.** Displayed deficiencies in depth of knowledge or comprehension of aircraft weapons systems effects, tactics and switchology, when employing weapons in degraded modes of operation, which would not preclude successful mission accomplishment.

3.7.1.5.3. U. Displayed insufficient knowledge or comprehension of aircraft weapons systems effects, tactics and switchology, when employing weapons in degraded modes of operation, which could preclude successful mission accomplishment.

3.7.2. **Pre-Takeoff.** 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/Auxiliary Power Unit (APU) Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.6. Area 371--Avionics Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.7. Area 381--Weapons Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.8. Area 391--Flight Control System (FLCS) Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.9. Area 401—Brakes/Landing Gear Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.2.10. Area 411--Emergency Procedures/Aircraft Malfunctions (Pre-Takeoff).

3.7.3. **Takeoff.** The following items are graded using the same criteria as Area 301.

3.7.3.1. Area 421--Hydraulic Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.2. Area 431--Electrical Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.3. Area 441--Fuel Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.4. Area 451--Environment Control System (ECS)/Oxygen Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.5. Area 461--Engine/APU Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.6. Area 463--Abort.

3.7.3.7. Area 471--Avionics Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.8. Area 481--Weapons Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.9. Area 491--Flight Control System (FLCS) Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.10. Area 501—Brakes/Landing Gear/ Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.3.11. Area 511--Emergency Procedures/Aircraft Malfunctions (Takeoff).

3.7.4. In-Flight.

3.7.4.1. See above for the following criteria:

3.7.4.1.1. Area 94--Threat Reactions.

3.7.4.1.2. Area 99--Signature Management.

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

3.7.4.2.1. Area 521--Hydraulic Emergency Procedures/Aircraft Malfunctions (In-Flight).

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

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

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

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

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

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

3.7.4.2.8. Area 591--Flight Control System (FLCS) Emergency Procedures/Aircraft Malfunctions (In-Flight).

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

3.7.4.2.10. Area 611--Emergency Procedures/Aircraft Malfunctions (In-Flight).

3.7.4.3. Area 614--Unusual Attitude Recoveries.

3.7.4.3.1. **Q.** Smooth, positive recovery to level flight with correct recovery procedures.

3.7.4.3.2. **Q-.** Slow to analyze attitude, or erratic in recovery to level flight. Correct recovery procedures used.

3.7.4.3.3. **U.** Unable to determine attitude. Improper recovery procedures were used.

3.7.4.4. Area 615--AFMAN 11-217, Procedures/Heads-Up Display (HUD)-Out Approach/Use of Standby Instruments.

3.7.4.4.1. **Q.** Performed approach in accordance with directives, published procedures and techniques outlined in the T.O. and AFMAN 11-217. Maintained proper/briefed AOA. Maintained desired glide path with only minor deviations.

3.7.4.4.2. **Q-.** Performed approach with minor deviations to directives, published procedures and techniques outlined in the T.O. and AFMAN 11-217. Slow to correct to proper/briefed AOA. Did not always maintain desired glide path control.

- 3.7.4.4.3. **U.** Performed procedures with major deviations to directives, published procedures and techniques outlined in the T.O. and AFMAN 11-217. Failed to attain and/or maintain proper/briefed AOA. Displayed erratic glide slope control.
- 3.7.4.5. Area 616--Alternate/Divert Airfields.
- 3.7.4.5.1. **Q.** Made proper divert decision and correctly performed initial divert execution actions.
- 3.7.4.5.2. **Q-.** Slow to make divert decision and/or slow to correctly perform initial divert execution actions.
- 3.7.4.5.3. **U.** Failed to make proper divert decision and/or correctly perform initial divert execution actions.
- 3.7.5. **Landing.** The following items are graded using the same criteria as Area 301.
- 3.7.5.1. Area 631--Hydraulic Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.2. Area 641--Electrical Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.3. Area 651--Fuel Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.4. Area 661--Environment Control System (ECS)/Oxygen Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.5. Area 671--Engine/APU Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.6. Area 681--Avionics Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.7. Area 691--Weapons Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.8. Area 701--Flight Control System (FLCS) Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.9. Area 711—Brakes/Landing Gear Emergency Procedures/Aircraft Malfunctions (Landing).
- 3.7.5.10. Area 721—Emergency Procedures/Aircraft Malfunctions (Landing).

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

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

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, 19 January 2012

AFI 11-202, Volume 2, *Aircrew Standardization/Evaluation Program*, 13 Sep 2010

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

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

AFTTP 3-3.F-15E, *Combat Aircraft Fundamentals, F-15E*, 9 Mar 2018

AFMAN 11-217, Volume 1, *Instrument Flight Procedures*, 22 Oct 2010

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

AFPD 11-2, *Aircrew Operations*, 19 Jan 2012

AFPD 11-4, *Aviation Service*, 1 Sep 2004

AFTTP 3-1.1, *General Planning and Employment Considerations*, 5 May 2008

ATP 1-02.1/MCRP 3-30B.1/NTTP 6-02.1/AFTTP 3-2.5, *MTTP for Multi-Service Brevity Codes*, June 2018

Forms Adopted

Form 8, *Certificate of Aircrew Qualification*

Abbreviations and Acronyms

AAMD—All Aspect Missile Defense

ACM—Air Combat Maneuvering

ACT—Air Combat Tactics

AF—Air Force

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFR—Air Force Reserve

AFRIMS—Air Force Records Information Management System

AHC—Aircraft Handling Characteristics

AIM—Air Intercept Missile

ANG—Air National Guard

AOA—Angle of Attack

ARMS—Aviation Resource Management System
ASR—Airport Surveillance Radar
ATC—Air Traffic Control
AWACS—Airborne Warning and Control System
BAQ—Basic Aircraft Qualified
BFM—Basic Fighter Maneuver
BIT—Built-in Test
BMC—Basic Mission Capable
C2—Command and Control
CAP—Combat Air Patrol
CF—Composite Force
CNI—Communication, Navigation, and IFF
CRM—Cockpit Resource Management
DCA—Defensive Counter-Air
DOC—Designed Operational Capability
DRU—Direct Reporting Unit
DVRS—Digital Video Recording System
EA—Electronic Attack
ECS—Environmental Control System
EP—Electronic Protection
EPE—Emergency Procedures Evaluation
EW—Electronic Warfare
EXCM—Expendable Countermeasures
FE—Flight Examiner
FLCS—Flight Control System
FLIP—Flight Information Publication
FOA—Field Operating Agency
FTU—Formal Training Unit
GCI—Ground Control Intercept
GPS—Global Positioning System
HUD—Heads Up Display
IAW—In Accordance With

IFF—Identification, Friend or Foe
ILS—Instrument Landing System
INS—Inertial Navigation System
INSTM—Instrument
IP—Instructor Pilot
I/Q—Instrument/Qualification
IR—Infrared
IW—Instructor Weapons System Officer
LGB—Laser-Guided Bomb
MAJCOM—Major Command
MAP—Missed Approach Point
MDA—Minimum Descent Altitude
MDS—Mission Design Series
MSN—Mission
NM—Nautical Mile
OCA—Offensive Counter-Air
OGV—Operations Group Standardization/Evaluation
OPR—Office of Primary Responsibility
PA—Privacy Act
PACS—Programmable Armament Control Set
PAR—Precision Approach Radar
PGM—Precision-Guided Munition
QUAL—Qualification
RDS—Records Disposition Schedule
ROE—Rules of Engagement
SEAD—Suppression of Enemy Air Defenses
TACAN—Tactical Air Navigation
TOT—Time on Target
USAF—United States Air Force
VDP—Visual Descent Point
VFR—Visual Flight Rules
VTRS—Video Tape Recording System

VUL—Vulnerability Period

WIC—Weapons Instructor Course

WSO—Weapons System Officer

WTT—Weapons and Tactics Trainer

WVR—Within Visual Range

Terms

Navaid—navigation aid

Sortie—an operational mission flown by a single military aircraft