BY ORDER OF THE COMMANDER
RAF MILDENHALL (USAFE)

AIR FORCE INSTRUCTION

11-2 KC-135, VOLUME 2

RAF MILDENHALL
Supplement

23 OCTOBER 2018

Flying Operations

KC-135 AIRCREW EVALUATION CRITERIA

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AMC/A3VK

Supersedes: AFI11-2KC-135V2, 26 May 2010

(MILDENHALL)

OPR: 100 OG/OGV

Certified by: 100 OG
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Pages: 68

This instruction implements Air Force Policy Directive (AFPD) 11-2, Air Crew Operations, supports Air Force Instruction (AFI) 11-200, Aircrew Training, Standardization/Evaluation, and General Operations Structure, and references AFI 11-202, Volume 3, General Flight Rules.. It establishes evaluation criteria for the operation of KC-135 aircraft to accomplish their worldwide mobility missions safely and successfully. It is used in conjunction with AFI 11-202, Volume 2, Aircrew Standardization/ Evaluation Program, and the appropriate MAJCOM supplement. This instruction applies to all commanders, operations supervisors, and aircrew assigned or attached to all flying activities of commands operating KC-135 aircraft. This publication is applicable to Air Mobility Command (AMC), Air Force Reserve Command (AFRC), Air National Guard (ANG), Pacific Air Forces (PACAF), United States Air Forces Europe (USAFE), and Air Education and Training Command (AETC) units. 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 the Air Force Records Disposition Schedule (RDS) in the Air Force Records Information Management System (AFRIMS) Records

Disposition Schedule (RDS). This publication requires the collection and or maintenance of information protected by Title 5 United States Code (USC) Section 552a, The Privacy Act of 1974. The authorities to collect or maintain the records prescribed in the publication are 37 USC § 301a, Incentive Pay; Public Law (PL) 92-204, Appropriation Act for 1973; PL 93-570 § 715, Appropriation Act for 1974; PL 93-294, Aviation Career Incentive Act of 1974; Executive Order 9397 (SSN), as amended; Department of Defense (DoD) Directive 7730.57, Aviation Career Incentive Act and Required Annual Report; and AFI 11-401, Aviation Management. The applicable SORN, F011 AF XO A, AviationResourceManagementSystem(ARMS),isavailableat: **http://dpcld.defense.gov/Privacy/SORNsIndex/tabid/5915/Category/11159/department-of-the-air-force.aspx**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication; route AF Forms 847 from the field through the appropriate functional's chain of command. See **Paragraph 1.7** of this publication. Waiver authority for this publication is detailed in **Paragraph 1.4** Supplemental publication information is detailed in **Paragraph 1.5**

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. Major changes include the clarification of Normal vs. Partial Flap Landing verbiage (**Paragraph 2.8.2.3,** Area 13), removal of Legacy Copilot guidance (Area 35), clarification of dual seat evaluation guidance, added references to electronic flight bag, stabilized approach criteria, pilot monitoring duties, and automation management. Tier waiver authorities (T-0, T-1, T-2, T-3) have been included to all mandated unit compliance items (Wing level and below) as prescribed by AFI 33-360, Publications and Forms Management.

(MILDENHALL) This document includes clarification for OME and EPE requirements, adds grading Area 42 Theater Specific Procedures, and aligns 3862 worksheets with current AFI11-2KC-135V2.

(MILDENHALL) AFI11-2KC-135 Volume 2, 4 August 2017, is supplemented as follows: This supplement implements and extends the guidance of Air Force Instruction (AFI) 11-2KC-135 Volume 2, 04 August 2017. This supplement implements local guidance for governing the KC-135 AIRCREW EVALUATION CRITERIA for the 100th Air Refueling Wing. This instruction is applicable to all KC-135 aircrew members assigned or attached to the 100 ARW for flying evaluations conducted in the 100 Air Refueling Wing, RAF Mildenhall, UK. It does not apply to USAF Reserve or Air National Guard Crews. Forward all recommended changes to this supplement to 100 OG/OGV. The Privacy Act of 1974 applies to certain information gathered pursuant to this instruction. The Privacy Act System Number F011 AF XO A, Aviation Resource Management Systems (ARMS) covers required information. The Paperwork Reduction Act of 1974 as amended in 1996 affects this instruction. Ensure that all records created as a result of processes prescribed in this publication are maintained In Accordance With (IAW) Air Force Manual (AFMAN) 33-363, Management of Records and disposed of IAW with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication

Chapter 1

GENERAL INFORMATION

1.1. General. This Air Force Instruction (AFI) provides flight examiners and aircrews with procedures and evaluation criteria/tolerances to be used during flight evaluations as specified in AFI 11-202V2, Aircrew Standardization/Evaluation Program. Specific areas for evaluation are prescribed to ensure an accurate assessment of the proficiency and capabilities of aircrews. Evaluators use this AFI when conducting aircrew evaluations. Instructors use this AFI when preparing aircrews for qualification.

1.2. Applicability. This AFI is applicable to all individuals operating KC-135 aircraft. Copies should be available to all aircrew members.

1.3. Key Words and Definitions.

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

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

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

1.3.4. "Note" indicates operating procedures, techniques, etc., which are considered essential to emphasize.

1.4. Deviations and Waivers. Directive guidance (will, shall, must, etc.) throughout this regulation are tiered IAW AFI 33-360, Publications and Forms Management. For examples of tiered waivers, see AFI 33-360. Director, MAJCOM/A3 is waiver authority for MAJCOM supplements to this instruction. MAJCOM/A3s will forward a copy of approved long-term waivers, to this instruction, to HQ AMC/A3VK for follow-on action. Do not deviate from the policies and guidance in this AFI, except for safety or when necessary to protect the crew or aircraft from a situation not covered by this AFI and immediate action is required. Report deviations or exceptions without waiver through channels to MAJCOM Stan/Eval function who in turn, notifies HQ AMC/A3V for follow-on action, if necessary.

1.4.1. Waiver Process. Coordination through HQ AFFSA/XOF (**hqaffsa.xof@us.af.mil**) is required for the initiation of Tier 0 and 1 waivers and is recommended prior to initiation of Tier 2 and 3 waivers. HQ AFFSA/XOF will provide only written waivers; verbal waivers are not authorized.

1.4.1.1. Tier 0: Annotated by "(T-0)". Determined by respective non-AF authority (e.g. Congress, White House, Secretary of Defense, Joint Staff, etc.). The waiver authority is external to AF.

1.4.1.1.1. HQ AFFSA/XOF will be contacted to initiate Tier 0 waivers. Following a MAJCOM/CC (delegable no lower than MAJCOM/A3) request, HQ AFFSA/XOF will request AFI Certifying Official approval for a Tier 0 waiver after concurrence from the external agency (i.e. an Exemption to the Code of Federal Regulations (CFRs) granted by the Federal Aviation Administration (FAA) Administrator). Tier 0 waiver renewal requests will only be accepted from MAJCOM Stan/Eval.

1.4.1.1.2. Tier 0 guidance may include FAA guidance from the CFRs or guidance from the ICAO Standards and Recommended Practices.

1.4.1.2. Tier 1: Annotated by "(T-1)". Non-compliance puts Airmen, commanders or the USAF strongly at risk of mission or program failure, death, injury, legal jeopardy or unacceptable fraud, waste or abuse.

1.4.1.2.1. HQ AFFSA/XOF will initiate Tier 1 waivers. Following a MAJCOM/CC (delegable no lower than MAJCOM/A3) request, HQ AFFSA/XOF will request AFI Certifying Official concurrence. Tier 1 waiver renewal requests will only be accepted from MAJCOM Stan/Eval.

1.4.1.2.2. Tier 1 includes guidance that lends to standardization across all USAF wings and platforms.

1.4.1.3. Tier 2: Annotated by "(T-2)". Non-compliance may degrade mission or program effectiveness or efficiency and has potential to create moderate risk of mission or program failure, injury, legal jeopardy or unacceptable fraud, waste, or abuse.

1.4.1.3.1. MAJCOM Stan/Eval will initiate Tier 2 waivers and will request MAJCOM/CC (delegable no lower than MAJCOM/A3) approval for all Tier 2 waivers. Tier 2 waivers only apply within the approving MAJCOM.

1.4.1.3.2. Tier 2 guidance includes instruction that lends to standardization across MAJCOM-specific wings and platforms. Once approved, MAJCOM Stan/Eval will send an informational copy to HQ AFFSA/XOF within 5 duty days.

1.4.1.4. Tier 3: Annotated by "(T-3)". Non-compliance may limit mission or program effectiveness or efficiency and has a relatively remote potential to create risk of mission or program failure, injury, legal jeopardy or unacceptable fraud, waste, or abuse.

1.4.1.4.1. Wing commanders, delegable no lower than operations group commanders or equivalent, will initiate and approve Tier 3 waiver requests. Once approved, wings will send an informational copy to MAJCOM Stan/Eval and HQ AFFSA/XOF within 5 duty days.

1.4.1.4.2. Tier 3 guidance includes instruction that is limited to wing- and location specified rules that do not affect AF-level standardization.

1.4.2. For the purposes of this instruction, flying MAJCOMS are: ACC, AETC, AFDW, AFGSC, AFMC, AFRC, AFSOC, AMC, DIA, NGB, PACAF, and USAFE. Commander Air Force forces (COMAFFORs) in the grade of O-8 or higher in Combatant Commands (CCMDs) are considered MAJCOM commanders only for forces under their operational control.

1.5. Supplements. This AFI is a basic directive. Each user MAJCOM may supplement this AFI according to AFPD 11-2, Aircraft Rules and Procedures. MAJCOMs may specify unique evaluation items in their appropriate supplement. Supplements cannot be less restrictive than the provisions of this AFI or the appropriate flight manual (T-1).

1.5.1. Supplement Coordination Process. Forward MAJCOM/A3 approved supplements, with attached AF Form 673, Request to Issue Publication, to lead command (HQ AMC/A3) for review. HQ AMC/A3 will provide a recommendation and forward to HQ USAF/A3TF for approval (according to AFPD 11-2) (T-2).Use the following OPR's email and/or physical address: **AMC.A3VK.org@us.af.mil**; HQ AMC/A3V, 402 Scott Dr., Unit 3A1, Scott AFB IL,

62225-5302. When supplements are published, provide a final copy to HQ USAF/A3TF and HQ AMC/A3V (T-1).

1.5.2. If necessary, request and include approved long-term waivers to this AFI (including, approval authority, date, and expiration date) in the appropriate MAJCOM supplement.

1.5.3. Local Supplement Coordination. Units may supplement this instruction through OGI or with an official AFI Supplement; submit to the parent MAJCOM A3V and HQ AMC/A3V for coordination and approval. When local supplements are published, notify or send a final copy to parent MAJCOM, appropriate NAF, if applicable, and HQ AMC/A3V.

1.6. Requisition and Distribution Procedures. Unit commanders may provide copies for all aircrew members and associated support personnel.

1.7. Improvement Recommendations. Send comments and suggested improvements to this instruction on AF Form 847, Recommendation for Change of Publication, via the HQ AMC 847 Central website (**https://cs1.eis.af.mil/sites/amcedc/SitePages/847** Central). Routing procedures of the AF Form 847 for all Regular Air Force, Air Force Reserve and Air National Guard Units will be in accordance with (IAW) AFI 11-215, Flight Manual Procedures, and MAJCOM supplement and AFI 33-360, Publications and Forms Management (T-1).

1.8. Evaluations. This instruction establishes standardized instrument (INSTM), qualification (QUAL), mission (MSN), SPOT, and instructor (INSTR) evaluation criteria. It also establishes the areas/subareas necessary for the successful completion of evaluations, and which required areas/subareas are considered critical and/or non-critical.

1.9. Evaluation Requirements. Accomplish combined evaluations whenever practical. Crew Resource Management (CRM) skills will be evaluated on all evaluations (T-2). KC-135 aircrew members will complete the following evaluations (except SPOT evaluations), at 17-month frequency according to AFI 11-202V2, and the appropriate MAJCOM supplement (T-2). Units collocated with an operational simulator facility will conduct boom operator EPE in the boom simulator (T-2). Units will conduct pilot INSTM and QUAL flight evaluations in the flight simulator (T-2). The OG/CC is the waiver authority for conducting boom operator EPE and INSTM/QUAL evaluations in the aircraft due to simulator availability (T-2). Forward approved waivers to AMC/A3VK through AFRC/A3V and NGB/A3O. In addition, document waivers in standardization and evaluation board (SEB) minutes (T-2). Units without co-located simulators may elect to send crews to simulator locations to perform INSTM/QUAL evaluations.

1.9. (MILDENHALL) Evaluation Requirements. **Table 1.1** defines ground requisites for each type of evaluation.

Table 1.1. (MILDENHALL) Evaluation Ground Requisites.

	Closed Book	Open Book	Boldface	EPE	IRC
Pilot					
INSTM					X
QUAL	X	X	X	X[4]	
MSN				X[4]	
INSTR		X			
N/N SPOT	X		X	X[1]	
SPOT				X[2]	
Boom Operator					
QUAL	X	X	X	X	
MSN			X	X	
MSN (Cargo)				X	
INSTR		X			
N/N SPOT	X		X[3]	X[1]	
SPOT					

NOTES:

1. N/N SPOT will consist of verbal ground evaluation covering at least one boldface and one non-boldface emergency procedure. This will be documented in the ground phase on the Form 8 as "N/N EPE."
2. SPOT (OME) evaluations for Aircraft Commander upgrade will consist of a verbal ground evaluation. This will be documented in the ground phase on the Form 8 as "EPE."
3. Testing and Boldface are not required for evaluations that normally do not require testing and/or Boldface (e.g. Boom Operator MSN Cargo)
4. If QUAL and MSN are administered simultaneously, only 1 EPE is required

1.9.1. Instrument (INSTM) Evaluation. All KC-135 pilots will successfully complete a periodic instrument evaluation including an open-book, written instrument examination and an instrument simulator or flight evaluation (T-2).

1.9.2. Qualification (QUAL) Evaluation. All KC-135 crewmembers will successfully complete a periodic qualification evaluation including the requisite open-book, closed-book and Boldface written examinations, emergency procedures evaluation (EPE), publications check, and a simulator or flight evaluation (T-2). In addition to these requirements, navigators will also complete an open-book written instrument examination in conjunction with all QUAL evaluations (T-2).

1.9.2.1. Boom Operator EPE will be conducted in the Boom Operator Simulator System (BOSS)/Boom Operator Weapon System Trainer (BOWST) for collocated units (T-2). Evaluations will be conducted by an Air Force Flight Examiner (T-2).

1.9.3. Mission (MSN) Evaluations. The KC-135 primary mission is tanker air to air refueling. See crew position chapters for additional mission evaluations. All KC-135 crewmembers will complete a mission evaluation as required in AFI 11-202V2 and MAJCOM SUP (T-2). Except

as noted in the following crew position chapters, all crewmembers will be evaluated in designated areas/subareas required in the performance of a single operational or training sortie to successfully complete the MSN evaluation (T-2).

1.9.3.1. All primary crewmembers must be mission qualified in each specific mission prior to performing any maneuvers associated with that mission (example: A receiver air to air refueling qualified aircraft commander will not perform any receiver air to air refueling if the other primary pilot does not have a receiver air to air refueling mission qualification) (T-1). Exception: Crewmembers not qualified in the specific mission may perform maneuvers under the supervision of a mission qualified instructor. Refer to AFI 11-2KC-135V3, KC-135 Operations Procedures, to determine whether instructor supervision is required to be direct or indirect for the specific maneuver.

1.9.4. Instructor (INSTR) Evaluations. To initially qualify as an instructor in the KC-135, crewmembers will successfully complete an initial instructor qualification course and evaluation (T-1). Subsequently, aircrew members designated as instructors will be evaluated on their ability to instruct during all periodic evaluations (T-1). Individuals may accomplish a QUAL, INSTM, or MSN evaluation in conjunction with initial INSTR evaluation if all required items of the respective evaluation are accomplished. Refer to the specific aircrew chapter for requirements.

1.9.4.1. **(MILDENHALL)** Initial In-house Instructor Requisites. Individuals completing an in-house upgrade will take the Instructor Open Book test administered by CCV. The exam will be documented on the Form 8 as "INIT INSTR Open Book."

1.9.5. SPOT Evaluations. A SPOT evaluation is an evaluation not intended to satisfy the requirements of a periodic (e.g., INSTM, QUAL, MSN) evaluation. SPOT evaluations have no specific requisites or requirements unless specified in this AFI or MAJCOM/Unit supplement. See AFI 11-202V2 for options to convert a SPOT evaluation to meet requirements of a periodic evaluation.

1.9.6. Emergency Procedures Evaluations (EPE). See AFI 11-202V2 and the following: Evaluate MSN specific emergency procedures and system knowledge during MSN evaluations. A single EPE may be used for seperate evaluations (e.g. a MSN and INSTM/QUAL evaluation) but the combined EPE must be of a scope and duration to cover required areas and must be within the requisite zone for each evaluation. Refer to the specific aircrew chapter for requirements and the following:

1.9.6.1. Units will develop EPE program requirements (topics, special interests, etc.) and publish in unit supplements (T-2). The EPE will include areas commensurate with the examinee's level of training, qualification (e.g. initial, line, instructor, evaluator) or as specified in AFI 11-202V2 and MAJCOM Supplement (T-2). Units may utilize EPs demonstrated during simulator evaluations to fulfill this requirement. Collocated units with a BOSS/BOWST will conduct the EPE in the WST (T-2).

1.9.6.1.1. **(MILDENHALL)** Emergency Procedures Evaluations (EPE). EPEs, in conjunction with periodic evaluations, will be administered in the Aircrew Training Simulator (ATS) or BOSS/BOWST to the maximum extent possible. If an ATS or BOSS/BOWST is unavailable then the EPE will consist of a verbal ground evaluation. EPE scenarios are available in 351 ARS/CCV.

1.9.6.2. Examinees may use publications that are normally available in-flight. The examinee must be able to recite all Boldface items from memory and provide the initial actions of selected emergency procedures that would not allow time for reference (T-2).

1.9.6.3. Examinees receiving an overall EPE grade of unqualified will be placed in supervised status until recommended additional training and re-evaluation are completed (T-2). Examinees receiving an overall EPE grade of unqualified because of unsatisfactory Boldface procedures will not be permitted to fly in their aircrew position until a successful re-evaluation is accomplished (T-2). Accomplish additional training IAW AFI 11-202V2.

1.9.7. Evaluation Prefixes/Unique MSN Suffixes. Use AFI 11-202V2 evaluation prefixes for AF Form 8, Certificate of Aircrew Qualification, and AF Form 942, Record of Evaluation. Utilize "Cargo" or "ARR" (air refueling receiver) parenthetical (e.g. MSN (Cargo), MSN (ARR), MSN (ARRIP)) to distinguish unique MSN evaluations in the flight phase section of the AF Form 8 and AF Form 942 (T-2). The first entry of the AF Form 8, Examiners Remarks, A. Mission Description will describe the circumstances for any required evaluation prefix or unique mission suffix (T-2).

1.9.8. Manual Gear Extension and Manual Flap Lowering. Mandatory on all navigator initial mission and initial instructor evaluations (T-2). Mandatory on all boom operator initial qualification and initial instructor evaluations (T-2). For initial qualification and initial mission evaluations, flap lowering should be evaluated in-flight but at the discretion of the evaluator may be accomplished on the ground.

1.10. Grading Policies.

1.10.1. Use the grading criteria in this instruction in conjunction with AFI 11-202V2 to grade areas/subareas accomplished during an evaluation (T-2).

1.10.2. When in-flight or simulator evaluation of a required area is not possible, the area may be verbally evaluated. Flight examiners will make every effort to evaluate all required areas/subareas via flight, simulator or static training tools before resorting to this provision, to include scheduling an evaluation completion sortie/simulator (T-2). When a verbal evaluation is used, the evaluator will identify the area or items within the area that were verbally evaluated on AF Form 8 as an examiner remark (following the mission description) (T-2).

1.10.2.1. For pilots only, if the flight manual recommends a specific airspeed range for performance of a maneuver, the flight examiner will apply the grading criteria to the upper and lower limits of that range (T-2).

1.10.2.2. Flight examiners will use sound judgment in the application of the grading criteria in this instruction to determine the final grade (T-2).

1.11. Grading System. Refer to AFI 11-202V2.

1.12. Conduct of Evaluations.

1.12.1. Flight examiners will pre-brief the examinee on the conduct, purpose, requirements of the evaluation, and all applicable evaluation criteria (T-2). Flight examiners will then evaluate the examinee in each graded area/subarea (T-2).

1.12.1.1. Flight examiners will normally not evaluate personnel they have primarily trained, recommended for upgrade evaluation, or who render their effectiveness/performance reports (A).

1.12.1.2. Unless otherwise specified, flight examiners may conduct the evaluation in any crew position/seat which will best enable the flight examiner to observe the examinee's performance. As a last resort, evaluator pilots may conduct evaluations when scheduled as primary aircrew members and in this case will perform all duties required of that position (e.g., mandatory advisory calls, etc.).

1.12.2. Note discrepancies and deviations from prescribed tolerances and performance criteria during the evaluation (T-2). Compare the examinee's performance with the tolerances provided in the grading criteria and assign an appropriate grade for each area (T- 2).

1.12.2.1. An evaluation will not be changed to a training mission to avoid documenting substandard performance, nor will a training mission be changed to an evaluation after crew brief time unless to facilitate a SPOT evaluation. (T-2).

1.12.2.2. The judgment of the flight examiner, guidance provided in AFI 11-202V2, and this instruction will be the determining factors in assigning an overall grade (T-2). The flight examiner will thoroughly critique all aspects of the flight (T-2). During the critique, the flight examiner will review the examinee's overall rating, specific deviations, area/subarea grades assigned, and any additional training required (T-2).

1.12.2.3. In the event of unsatisfactory performance, the flight examiner will determine additional training requirements and restrictions, whether critical or non-critical (T-2). Normally, additional training should not be accomplished on the same flight (T-3). Exception: Additional training on the same flight is allowed when, in the evaluator's judgment, unique situations presenting valuable training opportunities (e.g., thunderstorm avoidance, crosswind landings) exist. This option requires utmost flight examiner discretion and judicious application. When used, the examinee must be informed of when the additional training begins and ends (T-2).

1.12.2.4. When evaluations are less than Q-1 performance, the flight examiner will debrief the examinee and examinee's commander or designated representative (T-2).

1.12.3. A certified simulator/training device will be used to accomplish additional training and re-checks when available and when criteria to be graded can be realistically accomplished in the device (T-2).

1.12.4. The flight examiner who administered the original evaluation will not administer the recheck, unless there is no other option available to ensure timely completion of evaluation (T-2).

1.13. Unsatisfactory Performance - NOTE: This **Paragraph** is for reference only and may duplicate information in AFI 11-202V2, allowing the evaluator a single-source instruction to conduct the evaluation. When a conflict occurs, use AFI 11-202V2.

1.13.1. Immediately correct breaches of flying safety or flight discipline. When an examinee jeopardizes safety of flight, the evaluator may assume the duties of that aircrew member. This does not mean the flight examiner must assume the examinee's position any time unsatisfactory performance is observed.

1.13.2. Conduct a thorough pre-mission briefing and post-mission debriefing to the examinee and applicable aircrew members on all aspects of the evaluation.

1.13.3. Assign a qualification level of "Q-3" for unsatisfactory performance in any critical area/sub-area or if the flight examiner assumes the examinee's duties.

1.13.4. Immediately notify the examinee's Squadron Commander/Operations Officer and Flight Commander, if available, when less than Q-1 performance is observed.

1.13.5. Unsatisfactory performance in a non-critical area/subarea will result in no higher than a qualification level "Q-2."

1.13.6. Annotate in the Examiner Remarks on the Form 8 what the cause of the discrepancy was, what recommended retraining is required, and what actions are required to regain qualification (flight or ground recheck, written examination, etc.).

1.13.7. Flight examiners observing unsatisfactory performance by a crewmember other than the examinee (including one in a different crew position) will comply with the requirements in AFI 11-202V2.

1.14. Use of AF Form 3862, Aircrew Evaluation Worksheet. Units (normally OGV) will overprint AF Form 3862 (or PEX/GTIMS equivalent), using the examples at **Attachment 2**, **Attachment 3**, or **Attachment 4**, to use as an evaluation worksheet (T-2). Copy each title, area number and text (in the order illustrated) to the appropriate blocks. Units may add special interest items and/or local evaluation requirements. Use the worksheet to ensure all required areas are evaluated. File the examiner-signed worksheet or draft copy of the AF Form 8 in the aircrew member's Flight Evaluation Folder (FEF) immediately after the flight evaluation as a temporary record of the evaluation results (T-2). Maintain until the finished AF Form 8 is added to the FEF, then discard.

1.14.1. Trends. Record performance data for tracking aircrew trends (T-2). Performance information is required only for major areas; units may optionally record information for sub-areas (example: a 40 flap landing followed by a touch-and-go can be recorded under the major area of "Landings" or can optionally be recorded under both "Normal Landing" and "Touch-and-Go").

1.14.2. **(MILDENHALL)** 100 ARW evaluators may use AF Form 3862, Aircrew Evaluation Worksheet, prescribed by AFI11-2KC-135V2 with **Attachments 5** and **6** of this instruction or the locally developed checkride notetaker during flight evaluations. Current worksheets are available in electronic publications (ePubs). All AFI 11-2KC-135V2 and local requirements are included. Theater Specific Procedures, HHQ, and local SIIs will be evaluated. Flight examiners will verify and annotate all applicable SIIs in the section provided and gather trend information accordingly. Once the checkride debrief has been accomplished, examiners will be responsible for ensuring the accuracy and completion of the final Form 8.

1.15. Aircrew Testing. For all initial and RQ evaluations, testing requirements are prerequisites. For all other evaluations, testing requirements are requisites. See specific testing requirements in AFI 11-202V2 and include the following:

1.15. (MILDENHALL) Aircrew Testing. Testing is a prerequisite for all 100 OG evaluations with the exception of N/N Spot evaluations. All requisite testing should be accomplished NLT 3 months into the eligibility zone.

1.15.1. Secure Question Bank (SQB, or PEX/GTIMS equivalent). Each unit will maintain a SQB from which Open Book and Instructor Open Book (if used by unit) exams will be derived (T-2). The unit SQB may be a single question bank (containing all questions for all crewmembers) or may be seperate question banks (seperate question banks for each crew position, mission, and/or

aircraft type; there may also be classified and unclassified SQBs). As a minimum, SQB questions will be drawn from appropriate information contained in FCIF Volumes I, II, III, and IV (per AFI 11-202 Volume 2); however, questions may come from any source deemed pertinent to the operation of unit aircraft and performance of the assigned mission (T-2).

1.15.2. Open Book Exam (Open Book). The open book examination will consist of a minimum of 40 questions from the SQB (T-2).

1.15.3. Closed Book (Closed Book). The closed book exam will consist of a minimum of 20 questions derived from the MAJCOM-produced Master Question File (MQF) (T-2). All crewmembers with Boldface responsibilities will complete a Boldface exam in conjunction with the closed book examination (T-2).

1.15.4. Instrument Exam. Pilots and navigators only, see AFI 11-202V2 instrument requirements.

1.15.5. Instructor Open Book. Units may maintain a seperate SQB for instructors.

1.16. Typical KC-135 Evaluation Profile.

1.16. (MILDENHALL) Typical KC-135 Evaluation Profile. All Pilot INSTM/QUAL evaluations will be accomplished in the ATS. Pilot MSN evaluations will be accomplished in the aircraft. To the maximum extent possible, all pilot MSN evaluations should be accomplished prior to the ATS portion for periodic evaluations.

1.16.1. Units determine a flight evaluation profile to maximize successful completion of all evaluation requirements on a single in-flight mission. A typical profile may include takeoff, cruise, rendezvous, air to air refueling (AAR), and transition when pilot QUAL and INSTM portions are to be accomplished in-flight along with the MSN evaluation. Aircrew training simulator (ATS) profiles will be used for accomplishment of simulator evaluations (T-2). Flight examiners may alter the order of maneuver accomplishment and may request to see additional maneuvers. Once an evaluation begins, it should not be terminated until the evaluation debrief except for emergencies, at the evaluator's discretion.

1.16.1. **(MILDENHALL)** The following are 100 OG recommended MSN evaluation criteria. 351 ARS/DO is the approval authority for evaluations outside these parameters.

1.16.1.1. **(MILDENHALL)** Aircrew show time – Later than 0500L.

1.16.1.2. **(MILDENHALL)** Total sortie duration – Less than 8 hours.

1.16.1.3. **(MILDENHALL)** 1 hour of transition to accommodate multiple full- stop landings for missions with multiple evaluations.

1.16.1.4. **(MILDENHALL)** Other than OMEs, Priority 1A and 1B missions should not be scheduled for flight evaluations. Missions with multiple receivers are encouraged.

1.16.1.5. **(MILDENHALL)** MSN evaluations and INSTM/QUAL evaluations will not be scheduled for the same day.

1.16.1.6. **(MILDENHALL)** Evaluators will not be "A" coded flight crew during evaluations to the maximum extent possible.

1.16.2. **(MILDENHALL)** INSTM/QUAL will be accomplished in the ATS IAW AMC approved ATS courseware.

1.16.2.1. **(MILDENHALL)** Crews are not responsible for providing a flight plan (Form 200), chart, Form F, TOLD or DD175/1801 for the ATS portion.

1.16.3. **(MILDENHALL)** Crew actions conducted during an EPE will be evaluated IAW the aircrew briefing for the MSN check, therefore crews are not required to accomplish another crew briefing prior to the ATS portion. If the ATS portion is accomplished prior to the MSN check, ACs will ensure that a crew briefing is accomplished with the evaluator present prior to commencing the evaluation in the ATS.

Chapter 2

PILOT EVALUATIONS

2.1. General. This chapter standardizes initial, periodic, and re-qualification evaluations, including the requirements for instrument, qualification, mission, and instructor pilot evaluations.

2.1.1. Events that are accomplished during ATS portion of the evaluation are not required to be evaluated again (e.g. if a non-precision approach is flown during a one engine inoperative approach and landing, it does not have to be re-accomplished during the instrument phase of the check ride); however a landing will be accomplished in flight in conjunction with the MSN evaluation (T-2). Events accomplished during the conduct of a normal MSN check profile are not required to be re-accomplished during the INSTM or QUAL check.

2.1.2. Examiner pilots will utilize the standard ATS evaluation profile (T-2). Ceiling for all simulator evaluations will be set no lower than 200 feet above the lowest compatible circling approach minimums (T-2). Visibility will be set no lower than 1 mile above the lowest compatible circling approach minimums (T-2). Crosswinds for simulator evaluations will not be greater than 10 knots (T-2).

2.2. Instrument Evaluations (Initial, Periodic and Re-qualifications). KC-135 instrument evaluations should be combined with a qualification evaluation. Include all items under GENERAL and INSTRUMENT.

2.3. Qualification Evaluations (Initial, Periodic and Re-qualification). KC-135 qualification evaluations should be combined with instrument evaluation. Include all areas under GENERAL, and QUALIFICATION. The OG/CC is the waiver authority for conducting INST/QUAL evaluations in the aircraft due to simulator availability. Forward approved waivers to MAJCOM/A3V and document waivers in unit SEB minutes (T-2).

2.3.1. FP (senior officer), FP (flight qualified mission ready MPD pilot), MP (mission pilot), IP (instructor pilot). Evaluate FP and MP on at least one landing in both left and right seats (T-2). IPs may receive all periodic evaluations in either seat, but are not required to be evaluated in both. If an IP evaluation takes place in the right seat, taxi and full-stop braking do not need to be evaluated.

2.3.2. Senior Officer and Flight Training Level E (FTL-E) Basic Qualification. Senior Officer and FTL-E initial, periodic and re-qualification evaluations include will a takeoff, precision approach, non-precision approach, VFR pattern, go-around, and a landing. Area 16, engine out operations and Area 28, circling approach are not required. Entire QUAL/INSTM evaluation will be conducted in simulator IAW **Paragraph 1.9** for collocated units (T-2).

2.3.2.1. Conduct an EPE in a random selection of Boldface procedures.

2.3.2.2. Testing requirements. Initial, periodic and re-qualification evaluations include the following requisites (T-2):

2.3.2.2.1. Instrument exam.

2.3.2.2.2. KC-135 Open book test.

2.3.2.2.3. KC-135 Closed book test.

2.3.2.2.4. Boldface exam.

2.3.2.3. Annotate AF Form 8 crew position as "FP," type of evaluation is QUAL/INSTM and include an expiration date. Add the following restriction in the remarks: "RESTRICTION: This evaluation permits operating the aircraft from a primary crew position only under direct supervision of an instructor pilot during all critical-phases-of- flight."

2.3.2.4. SOC graduates and FTL-E pilots must complete a MSN, INST, and QUAL evaluation to gain full mission ready status. See AFI 11-2KC-135 Volume 1 for training requirements.

2.4. Mission Evaluations (Initial, Periodic, and Re-qualifications). Mission evaluations will be flown IAW current tactics, unit taskings, and theater Area of Responsibility scenarios (T-2). Scenarios that represent unit Designated Operational Capability (DOC) or OPLAN taskings and current AEF requirements satisfy the requirements of this evaluation. Evaluations may be conducted during exercises, deployments, or contingency operations; however, units should apply operational risk management principles to the scheduling of the evaluation.

2.4.1. Include all areas under GENERAL and MISSION (Tanker AAR) (T-2). Rendezvous is required (T-2). Receiver must maintain the contact position (minimum duration determined by evaluator) but an actual offload is not required. Autopilot-off AAR is required on at least one contact (minimum duration determined by evaluator) (T-2).

2.4.2. Pilots can be evaluated in either seat and will be evaluated on AAR and a breakaway. Breakaway may be evaluated as either the pilot flying or the pilot monitoring (T-2). Each pilot will be graded based on procedures applicable to their crew position (T-2). Breakaway procedures can be evaluated with receiver not in contact, but within the AAR envelope. Each evaluatee must perform a landing (T-2).

2.5. Additional Qualification/Mission Evaluations.

2.5.1. Receiver AAR. Include all areas under GENERAL and MISSION (Receiver AAR). For initial/re-qualification evaluations, rendezvous or closure from a minimum of 1 NM is required. Initial and re-qualification pilots will demonstrate 15 minutes of contact time within a 30-minute period of arriving in the astern position (T-2). Evaluate aircraft commanders in left seat (T-2). Evaluate instructors in either seat. During periodic evaluations, pilots will perform 10 minutes of contact time within a 20-minute period of arriving in the astern position (T-2). Evaluate limits demonstrations for instructor pilots, inadvertent disconnect tolerances and breakaway procedures (T-2). Conduct a portion of the evaluation with tanker autopilot off. Annotate "Receiver AAR Qualified" in the remarks section.

2.5.1.1. Annotate AF Form 8 as "INIT MSN (ARR)" for initial and "MSN (ARR)" for recurring receiver AAR evaluations. Annotate the AF Form 8 with "INIT MSN (ARRIP)" for initial receiver AAR instructor evaluations. Subsequent recurring MSN evaluations for air refueling instructor pilots will be annotated as "MSN (ARR)" (T-2).

2.5.2. Operational Mission Evaluation (OME). An OME is a flight evaluation given to prospective aircraft commanders prior to aircraft commander certification. The profile must be balanced between mission availability and the imperative to not delay aircraft commander certification. The evaluation profile is at the discretion of the operations group commander as defined locally. With OG/CC or equivalent approval, a full qualification/instrument and/or mission evaluation administered just prior to aircraft commander certification may satisfy this

requirement. If a qualification/instrument and/or mission evaluation is used, the focus for the evaluation shall be on decision making and CRM (T-2).

2.5.2.1. **(MILDENHALL)** Suggested Profile for OME. The following are 100 OG recommended OME profiles, in order of preference. NOTE: *The profile for an OME is at the discretion of the 351 ARS/CC or designated representative.*

2.5.2.1.1. **(MILDENHALL)** Operational Missions with an AAR that remain overnight (RON) off station (e.g. CORONETS)

2.5.2.1.2. **(MILDENHALL)** OperationalMissionswithoutAARthat remain overnight (RON) off station (e.g. Channel, JGOs, etc.)

2.5.2.1.3. **(MILDENHALL)** Off Station Trainers that RON (e.g. Business Efforts, AE Trainers, etc.)

2.5.2.1.4. **(MILDENHALL)** Out and Back Trainers (e.g. Lajes Out and Back, Ramstein Out and Back, etc.)

2.5.2.1.5. **(MILDENHALL)** Local Trainer profile: taxi, takeoff/departure, rendezvous/air refueling, descent/arrival/landing, and practice divert.

2.5.2.2. Documentation. If documenting an OME on the AF Form 8, use the "SPOT" evaluation and include the following comment in the remarks section, "This OME was conducted in conjunction with aircraft commander certification."

2.5.2.2.1. **(MILDENHALL)** The crew complement for OMEs will be at the discretion of the FE and is subject to 351 ARS/DO approval.

2.5.2.3. If this evaluation is intended to satisfy the requirements of a periodic qualification/instrument and/or mission evaluation, comply with the requirements in AFI 11-202V2 and this AFI (T-2). Annotate with "INIT" prefix and include the remark "This evaluation was conducted in conjunction with aircraft commander certification."

2.6. Instructor Evaluation. Flight examiners will place particular emphasis on the examinee's ability to recognize student difficulties and provide timely, effective and corrective action (T-2). At a minimum, demonstrate and instruct a variety of approaches. Note: 1. Pilots who desire to realign their INSTM/QUAL/MSN evaluation during the initial instructor evaluation will complete (demonstrate) all required areas/subareas in GENERAL, QUALIFICATION, MISSION (Tanker AAR), INSTRUCTOR, and complete all required requisite written examinations (T-2). Note: 2. For Receiver AAR by an instructor pilot, limited inadvertent disconnects are permissible during a boom limits demonstration and will not be counted against the instructor pilot examinee at the examiner's discretion (T-2). Note: 3. Initial instructor evaluations combined with a QUAL or MSN evaluation that results in a Q3 requires successful completion of the failed QUAL or MSN evaluation before attempting another INIT INSTR evaluation (T-2).

2.6.1. Conduct initial or requalification instructor evaluations with a qualified pilot occupying the other seat (T-2). Initial instructor evaluations are to be conducted in the simulator whenever possible and may be completed in the traffic pattern. When conducted in the aircraft, initial instructor examinees will occupy the right seat and a qualified instructor (or evaluator) will sit in the other seat for IP-only maneuvers and demos (T-2).

2.6.2. Administer periodic instructor evaluations in conjunction with INSTM/QUAL/MSN evaluation. Include all areas under GENERAL, QUALIFICATION, MISSION (Tanker AAR), MISSION (Receiver AAR) (if applicable), INSTRUMENT, and INSTRUCTOR.

2.7. Emergency Procedures Evaluation (EPE). Unit determines EPE requirements. EPE will normally be conducted in certified simulator in conjunction with INSTM/QUAL evaluation (T-2). One-on-one discussions or on-aircraft evaluation methods may be utilized when certified simulator is not available to conduct the EPE. The EPE should cover a cross section of aircraft systems. Examinees should be able to demonstrate an understanding of aircraft systems in emergency scenarios. Include situations during takeoff/climb-out, cruise, and approach to landing phases. The EPE may also include emergency egress, aircrew flight equipment (AFE), and FCIF and/or special interest identified EPE topics.

2.7.1. **(MILDENHALL)** 100 OG/OGV will review the unit EPE requirements annually. The HQ AMC approved ATS standard courseware will provide the baseline profiles for the 100 OG.

2.8. Pilot Grading Criteria.

2.8.1. General.

2.8.1.1. Area 1, Directives and Publications.

2.8.1.1.1. Q. Possessed a high level of knowledge of all applicable aircraft directives and publications and understood how to apply both to enhance mission accomplishment. Required publications (paper or electronic) were current and properly posted. Electronic Flight Bag was in proper configuration IAW MAJCOM directives.

2.8.1.1.2. Q-. Unsure of some directives but could locate information in appropriate publications. Required publications (paper or electronic) were current but improperly posted. Electronic Flight Bag configuration was not IAW MAJCOM directives.

2.8.1.1.3. U. Unaware of established directives and/or could not locate them in the appropriate publication in a timely manner. Required publications (paper or electronic) were not current. Electronic Flight Bag configuration was not IAW MAJCOM directives and/or data was not current.

2.8.1.2. Area 2, Mission PREPARATION /Planning/Performance.

2.8.1.2.1. Q. Checked all factors applicable to flight such as: weather, NOTAMs, alternate airfields, airfield suitability, fuel requirements, charts, etc. High level of knowledge of performance capabilities and operating data. Evaluated data intended for use during takeoff/landing after final adjustments and corrections were made:

2.8.1.2.1.1. S1, Vrotate, Vclimbout, flap retract: +/-3 KIAS.

2.8.1.2.1.2. Power Setting: 1.5% N1.

2.8.1.2.1.3. Critical Field Length (CFL): +/-500 feet and suitable for takeoff.

2.8.1.2.1.4. Landing speeds: +/-3 KIAS

2.8.1.2.1.5. One engine inoperative climb gradient: +/- 10%

2.8.1.2.2. Q-. Made minor errors or omissions in checking all factors that could have detracted from mission effectiveness. Marginal knowledge of performance capabilities and/or operating data. Performance calculations exceeded Q limits but did not exceed:

2.8.1.2.2.1. S1, Vrotate, Vclimbout, flap retract: +/-5 KIAS

2.8.1.2.2.2. Power Setting: 2.0% N1

2.8.1.2.2.3. Critical Field Length (CFL): +/-800 feet and suitable for takeoff

2.8.1.2.2.4. Landing speeds: +/-5 KIAS

2.8.1.2.2.5. One engine inoperative climb gradient: +/- 20%

2.8.1.2.3. U. Made major errors or omissions which would have prevented a safe or effective mission. Unsatisfactory knowledge of performance capabilities and/or operating data. Performance calculations exceeded Q- limits.

2.8.1.3. Area 3, Use of Checklists. Note: Deviations from checklist order are approved for CRM, equipment malfunctions, or equipment limitations as long as it is understood why each step is performed and why it occurs in a certain sequence. Coordination with the evaluator is required.

2.8.1.3.1. Q. Consistently used and called for the correct checklist and gave the correct response at the appropriate time throughout the mission.

2.8.1.3.2. Q-. Checklist responses were untimely and/or crewmember required continual prompting for correct response.

2.8.1.3.3. U. Used incorrect checklist or consistently omitted checklist items. Unable to identify the correct checklist to use for a given situation. Did not complete checklist prior to event.

2.8.1.4. Area 4, Safety Consciousness (Critical).

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

2.8.1.4.2. U. Not aware of or did not comply with all safety factors required for safe aircraft operation or mission accomplishment. Operated aircraft in a dangerous manner.

2.8.1.5. Area 5, Judgment/Compliance (Critical).

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

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

2.8.1.6. Area 6, Crew Coordination/Crew Resource Management (CRM)/Threat and Error Management (TEM). See AFI 11-290, Cockpit/Crew Resource Management Training Program, and use AF Form 4031, CRM Skills Criteria Training/Evaluation, as a reference. Observe and/or discuss VVM practices/procedures and pilot monitoring duties. Evaluate both pilot flying and PM duties during all applicable evaluations.

2.8.1.6.1. Q. Effectively coordinated with other aircrew members throughout the assigned mission. Demonstrated knowledge of other crewmembers' duties and responsibilities.

Effectively applied CRM skills, Threat and Error Management practices, and mandatory call-outs throughout the mission.

2.8.1.6.2. Q-. Crew coordination adequate to accomplish mission. Demonstrated limited knowledge of other crewmembers' duties and responsibilities. Applied poor CRM skills or Threat and Error Management practices. Mandatory call-outs were inconsistent and or incorrect.

2.8.1.6.3. U. Poor crew coordination or unsatisfactory knowledge of other crewmembers' duties and responsibilities negatively affected mission accomplishment or safety of flight. Failed to apply CRM skills, Threat and Error Management practices, or mandatory call-outs.

2.8.1.7. Area 7, Communication Procedures.

2.8.1.7.1. Q. Complete knowledge of and compliance with correct communications procedures. Transmissions concise with proper terminology. Complied with and acknowledged all required instructions. Thoroughly familiar with and correctly operated, HAVE QUICK, IFF, and secure voice equipment, if required.

2.8.1.7.2. Q-. Occasional deviations from procedures that required re-transmissions or resetting codes. Slow in initiating or missed several required radio calls. Transmissions contained extraneous matter, were not in proper sequence, or used non-standard terminology. Displayed limited knowledge of HAVE QUICK, IFF, and secure voice equipment, if required.

2.8.1.7.3. U. Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Omitted numerous radio calls. Displayed inadequate knowledge of HAVE QUICK, IFF, and secure voice equipment, if required.

2.8.1.8. Area 8, Aircrew Flight Equipment Systems/Egress.

2.8.1.8.1. Q. Displayed thorough knowledge of location and use of AFE systems and equipment. Demonstrated and emphasized the proper operating procedures used to operate aircraft egress devices such as doors, windows, slide, rafts, and escape ropes, if used.

2.8.1.8.2. Q-. Limited knowledge of location and use of AFE systems and equipment. Unsure of the proper operating procedures used to operate some of the aircraft egress devices, if used.

2.8.1.8.3. U. Displayed unsatisfactory knowledge of location and use of AFE support systems and equipment. Unable to properly operate aircraft egress devices, if used.

2.8.1.9. Area 9, Knowledge/Completion of Forms.

2.8.1.9.1. Q. All required forms and/or flight plans were complete, accurate, readable, accomplished on time and IAW applicable directives. Reported an accurate debrief of significant events to applicable agencies (intelligence, maintenance, etc.).

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

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

2.8.1.10. Area 10, Airmanship/Situational Awareness (Critical).

2.8.1.10.1. Q. Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline throughout all phases of flight. Conducted the flight with a sense of understanding and comprehension.

2.8.1.10.2. U. Decisions or lack thereof, resulted in failure to accomplish the assigned mission.

2.8.2. Qualification. Use the following criteria in **Table 2.1**. as general tolerances for airspeed, altitude, and heading/course (T-2).

Table 2.1. General Pilot Tolerances.

Q	Altitude	+/-100 feet (+/-75 feet RVSM airspace)
	Airspeed	+5/-5 KIAS
	Heading/Course	+/-5 degrees
Q-	Altitude	+/-200 feet (+/-150 feet RVSM airspace)
	Airspeed	+15/-5 KIAS
	Heading/Course	+/-10 degrees
U		Exceeds Q- criteria
Notes: 1. Airspeed tolerances apply when a specific airspeed has been assigned by Air Traffic Control or prescribed in the flight manual. Airspeed "minus" tolerances are based on minimum maneuvering speed for aircraft configuration. 2. Add 50 feet (when practical), 2 degrees, and +5/-0 KIAS to criteria for one engine inoperative operations.		

2.8.2.1. Area 11, Takeoff.

2.8.2.1.1. Q. Maintained smooth, positive aircraft control throughout the takeoff. Performed the takeoff IAW flight manual and as published/directed.

2.8.2.1.2. Q-. Minor deviations from published procedures without affecting safety of flight. Control was rough or erratic. Hesitant in application of procedures/corrections.

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

2.8.2.2. Area 12, VFR Pattern (Weather Permitting or Certified Simulator).

2.8.2.2.1. Q. Performed traffic pattern and turn to final/final approach IAW published procedures. Aircraft control was smooth and positive. Constantly cleared area of intended flight.

2.8.2.2.2. Q-. Performed traffic pattern and turn to final/final approach with minor deviations to procedures as published/directed. Aircraft control was safe but not consistently smooth and positive. Over/under shot final approach, but was able to intercept normal glide path. Adequately cleared area of intended flight.

2.8.2.2.3. U. Did not perform traffic pattern and/or turn to final/final approach IAW published procedures. Displayed erratic aircraft control. Did not clear area of intended flight.

2.8.2.3. Area 13, Landings. Use the following criteria in **Table 2.2**. as general tolerances for airspeed, centerline and TCH (T-2). Subareas includes: Full Flap Landing (50 flap), Normal Landing (40 flap), and Partial Flap Landing (30 flap).

Table 2.2. Landing Tolerances

Q	Performed landings as published/directed IAW flight manual and met the following criteria.	
	Airspeed	+5/-5 KIAS (increased landing speed must consider landing distance)
	Centerline	+/-15 feet left or right
	TCH	+25/-10 feet
Q-	Performed landings with minor deviation to procedures as published/directed. Landed in a crab. Exceeded Q criteria but not the following:	
	Airspeed	+15/-5 KIAS (increased landing speed must consider landing distance)
	Centerline	+/-30 feet left or right
	TCH	+40/-10 feet
U	Landing not performed as published/directed. Exceeded Q- criteria.	
Notes: **1:** Specific items to evaluate include threshold altitude/airspeed, runway alignment, flare touchdown, and landing in a crab. Evaluate landing up to area 14, landing roll/braking. **2:** Airspeed tolerances apply to computed approach speed. **3:** Add 5 KIAS to all engines operating criteria for operations with an engine out criteria. **4:** FP and MPs will be evaluated in both seats (T-2).		

2.8.2.3.1. Subarea 13A, Full-Flap Landing (50 flap). A full-flap landing is required but may be accomplished in either seat.

2.8.2.3.1.1. Q. Touchdown zone: 1,000 to 3,000 feet. If computed flare distance is greater than 2,500 feet, use computed flare distance + 500 feet to determine the maximum touchdown point (example 2,600 + 500 = 3,100 feet, touchdown zone 1,000 to 3,100). Planned total landing distance will be less than runway available (T-2).

2.8.2.3.1.2. Q-. Touchdown zone: With computed flare distance of 2,500 feet or less, the touchdown was greater than 3,000 feet but less than 3,500 feet. With computed flare distance of 2,501 feet or more, the touchdown was greater than charted flare distance + 500 feet but less than charted flare distance + 1,000 feet.

2.8.2.3.1.3. U. Landing not performed as published/directed, or attempted when total landing distance was not computed or exceeded runway available. Exceeded Q- criteria.

2.8.2.3.2. Subarea 13B, Normal Landing (40 flap). A normal landing is required but may be accomplished in either seat.

2.8.2.3.2.1. Q. Touchdown zone: 1000 to 3000 feet. If computed flare distance is greater than 2,500 feet, use computed flare distance + 500 feet to determine the maximum touchdown point (example 2,600 + 500 = 3,100 feet, touchdown zone 1,000 to 3,100). Planned total landing distance will be less than runway available (T-2).

2.8.2.3.2.2. Q-. Touchdown zone: With computed flare distance of 2,500 feet or less, the touchdown was greater than 3,000 feet but less than 3,500 feet. With computed flare distance of

2,501 feet or more, the touchdown was greater than charted flare distance + 500 feet but less than charted flare distance + 1,000 feet.

2.8.2.3.2.3. U. Landing not performed as published/directed, or attempted when total landing distance was not computed or exceeded runway available. Exceeded Q- criteria.

2.8.2.3.3. Subarea 13C, Partial Flap Landing (30 flap). A partial-flap landing is required but may be accomplished in either seat.

2.8.2.3.3.1. Q. Touchdown zone: Computed flare distance +500 feet. Planned total landing distance will be less than runway available (T-2).

2.8.2.3.3.2. Q-. Touchdown zone: Computed flare distance +501 feet but less than computed flare distance +1,000 feet.

2.8.2.3.3.3. U. Landing not performed as published/directed, or attempted when total landing distance was not computed or exceeded runway available. Exceeded Q- criteria.

2.8.2.4. Area 14, Landing/Roll, Braking.

2.8.2.4.1. Q. Performed as published/directed IAW flight manual. Braking action was prompt and smooth.

2.8.2.4.2. Q-. Performed landings with minor deviation to procedures as published/directed. Braking action unnecessarily delayed or not smooth.

2.8.2.4.3. U. Landing not performed as published/directed. Braking actuated before touchdown. Exceeded Q- criteria.

2.8.2.5. Area 15, All Engine Go Around (If observed).

2.8.2.5.1. Q. Initiated and performed go-around promptly and IAW flight manual and directives. Applied smooth control inputs. Acquired and maintained a positive climb.

2.8.2.5.2. Q-. Slow or hesitant to initiate go-around. Slightly over-controlled the aircraft. Minor deviations did not affect mission accomplishment or compromise safety.

2.8.2.5.3. U. Did not initiate go-around when appropriate. Major deviations or misapplication of procedures could have led to an unsafe condition.

2.8.2.6. Area 16, Simulated Engine Out Operations. Notes: 1. Pilots will be evaluated on all Area 16 areas/subareas but may be accomplished in either seat (T-2). Notes: 2. Emergency set-up will include an actual malfunction when performed in the simulator (T-2).

2.8.2.6.1. Q. Proper control inputs were used to correct asymmetric condition. Aircraft was properly trimmed. Aircraft maneuvering and configuration was IAW aircraft flight manuals.

2.8.2.6.2. Q-. Minor deviations in aircraft control allowed the aircraft to occasionally fly uncoordinated flight.

2.8.2.6.3. U. Aircraft was not properly trimmed. Aircraft control was erratic and consistently resulted in uncoordinated flight. Aircraft maneuvering was potentially unsafe.

2.8.2.6.1.1. Subarea 16A, Engine Fire/Failure During Flight.

2.8.2.6.1.1.1. Q. Performed all required procedures IAW the flight manual and directives. Applied smooth, positive, and coordinated control inputs. Rudder and aileron inputs were in correct direction and proper thrust inputs were made.

2.8.2.6.1.1.2. Q-. Procedural errors were made which did not affect safety. Aircraft control was not consistently smooth and positive. Rudder and aileron inputs were in correct direction but some over/under control. Thrust inputs detracted from aircraft performance or control.

2.8.2.6.1.1.3. U. Thrust, rudder and/or aileron inputs were incorrect. Exceeded Q-criteria.

2.8.2.6.2.1. Subarea 16B, Engine Out Approach. Note: Use approach criteria for the type of approach being flown and the following:

2.8.2.6.2.1.1. Q. Performed all required procedures IAW the flight manual and directives. Applied proper configuration for the approach, smooth aircraft control, and thrust management.

2.8.2.6.2.1.2. Q-. Procedural errors were made which did not affect safety. Aircraft control was not consistently smooth and positive. Thrust inputs detracted from aircraft performance or control.

2.8.2.6.2.1.3. U. Configuration for the approach, thrust, rudder and/or aileron inputs were incorrect. Exceeded Q- criteria.

2.8.2.6.3.1. Subarea 16C, Engine Out Go-Around (GA).

2.8.2.6.3.1.1. Q. Initiated and performed go-around promptly and IAW flight manual and directives. Applied smooth control inputs. Acquired and maintained a positive climb.

2.8.2.6.3.1.2. Q-. Slow or hesitant to initiate go-around. Slightly over- controlled the aircraft. Minor deviations did not affect mission accomplishment or compromise safety.

2.8.2.6.3.1.3. U. Did not initiate go-around when appropriate or directed. Major deviations or misapplication of procedures could have led to an unsafe condition.

2.8.2.6.4.1. Subarea 16D, Engine Out Landing (Use Area 16 Criteria).

2.8.2.7. Area 17, Boldface Emergency Procedures (Critical).

2.8.2.7.1. Q. Correct, immediate responses. Maintained aircraft control. Coordinated proper crew actions.

2.8.2.7.2. U. Incorrect sequence, unsatisfactory response, or unsatisfactory performance of corrective actions.

2.8.2.8. Area 18, Other Emergency Procedures.

2.8.2.8.1. Q. Operated within prescribed limits and correctly diagnosed problems. Performed/explained proper corrective action for each type of malfunction. Effectively used available aids.

2.8.2.8.2. Q-. Operated within prescribed limits but slow to analyze problems or apply proper corrective actions. Did not effectively use and/or experienced delays, omissions, or deviations in use of checklist and/or available aids.

2.8.2.8.3. U. Exceeded limitations. Unable or failed to analyze problem or take proper corrective action. Did not use checklist and/or available aids.

2.8.2.9. Area 19, Systems Operations/ Knowledge/Limitations.

2.8.2.9.1. Q. Demonstrated/explained a complete knowledge of aircraft systems operations/limitations and proper procedural use of systems including aircraft model differences (if qualified).

2.8.2.9.2. Q-. Marginal knowledge of aircraft systems operations and limitations in some areas. Used individual technique instead of established procedure.

2.8.2.9.3. U. Unsatisfactory systems knowledge. Unable to demonstrate/explain the procedures for aircraft system operations.

2.8.2.10. Area 20, Automation Management

2.8.2.10.1. Q. Established/followed guidelines for the operation of automated systems; aware of when systems should be disabled. Established/followed Pilot Flying and Pilot Monitoring responsibilities with regard to automated systems including verbalize, verify, and monitor procedures. Periodically reviewed and verified the status of aircraft automated systems. Allowed sufficient time for programming the FMS. Used automated systems at appropriate levels to reduce workload, but reduced or disengaged level of automation when programming demands could have reduced situational awareness or created work overloads.

2.8.2.10.2. Q- Had limited knowledge of guidelines for the operation of automated systems; unclear as to when systems should be disabled. Slow to establish/follow Pilot Flying and Pilot Monitoring responsibilities with regard to automated systems including verbalize, verify, and monitor procedures. Slow to review and verify the status of aircraft automated systems. Did not always allow sufficient time for programming the FMS. Inconsistently used automated systems at appropriate levels.

2.8.2.10.3. U Did not establish/follow guidelines for the operation of automated systems; unaware of when systems should be disabled. Did not establish/follow Pilot Flying and Pilot Monitoring responsibilities with regard to automated systems including verbalize, verify, and monitor procedures. Did not periodically review and verify the status of aircraft automated systems. Failed to allow sufficient time for programming the FMS. Did not use automated systems at appropriate levels, to decrease workload. Did not reduce or disengage level of automation when programming demands reduced situational awareness or created work overloads.

2.8.3. Instrument. Use the following criteria in **Table 2.3**. as general tolerances for airspeed, level-off altitude, and heading/course with all engines operating (T-2):

Table 2.3. Instrument Tolerances.

Q	Level-off Altitude	+/-100 feet (+/-75 feet RVSM airspace)
	Airspeed	+5/-5 KIAS
	Heading/Course	+/-5 degrees
Q-	Level-off Altitude	+/-200 feet (+/-150 feet RVSM airspace)_
	Airspeed	+15/-5 KIAS
	Heading/Course	+/-10 degrees
U		Exceeds Q- criteria
Notes: 1. Airspeed tolerances apply when a specific airspeed has been assigned by Air Traffic Control or prescribed in the flight manual. Airspeed "minus" tolerances are based on minimum maneuvering speed for aircraft configuration. 2. Add 5 KIAS, 50 feet (when practical), and 2 degrees to all engines operating criteria for operations with an engine out criteria.		

2.8.3.1. Area 21, Instrument Departure/SID.

2.8.3.1.1. Q. Complied with all restrictions or controlling agency instructions. Made all required reports. Applied course/heading corrections promptly. Demonstrated smooth, positive control.

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

2.8.3.1.3. U. Failed to comply with published/directed departure, or controlling agency instructions. Accepted an inaccurate clearance. Failed to query an inaccurate or ambiguous clearance. Aircraft control was erratic.

2.8.3.2. Area 22, En Route Navigation/FMS.

2.8.3.2.1. Q. Satisfactory capability to navigate using all available means. Used appropriate navigation procedures. Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.

2.8.3.2.2. Q-. Minor errors in procedures/use of navigation equipment. Slow to comply with clearance instructions. Had some difficulty in establishing exact position and course. Slow to adjust for deviations in time and course. Exceeded Q criteria but not:

2.8.3.2.3. 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 Q- criteria.

2.8.3.3. Area 23, Holding. (If available, else verbally evaluate). Note: Not required for senior officers.

2.8.3.3.1. Q. Performed entry and holding IAW published procedures and directives. 2.8.3.3.1.1. Timing: +/-15 seconds

2.8.3.3.1.2. DME: +/-2 DME

2.8.3.3.1.3. EFC: +/- 2 minutes (if assigned)

2.8.3.3.2. Q-. Performed entry and holding procedures with minor deviations.

2.8.3.3.2.1. Exceeded Q criteria but not:

2.8.3.3.2.1.1. Timing: +/-20 seconds 2.8.3.3.2.1.2. DME: +/-3 DME

2.8.3.3.3. U. Holding was not IAW flight manual, directives, or published procedures. Exceeded Q- criteria.

2.8.3.4. Area 24, Use of NAVAIDS.

2.8.3.4.1. Q. Ensured NAVAIDS were properly tuned, identified, and monitored.

2.8.3.4.2. Q-. Some deviations in tuning, identifying, and monitoring NAVAIDS.

2.8.3.4.3. U. Did not ensure NAVAIDS were tuned, identified, and monitored.

2.8.3.5. Area 25, Descent/Arrival.

2.8.3.5.1. Q. Performed descent as directed. Complied with all flight manual, controlled/issued, or STAR restrictions in a proficient manner. Accomplished all required checks.

2.8.3.5.2. Q-. Performed descent as directed with minor deviations that did not compromise mission safety. Slow to accomplish required checks.

2.8.3.5.3. U. Performed descent with major deviations. Did not accomplish required checks. Erratic corrections. Exceeded flight manual limitations.

2.8.3.6. Area 26, Precision Approaches. One required. Use **Table 2.4**. as general tolerances for airspeed, altitude, heading, glide slope, and azimuth (T-2). Includes Subareas: ILS and PAR.

Table 2.4. Precision Approach Tolerances.

Q	Altitude	Initiated missed approach at decision height +50/-0 feet
	Airspeed	+10/-5 KIAS
	Heading (PAR)	+/-5 degrees of controller's instructions
	Azimuth (ILS)	Within one dot
	Glideslope(ILS)	Within one dot
Q-	Altitude	Initiated missed approach at decision height +100/-0 feet
	Airspeed	+15/-5 KIAS
	Heading (PAR)	+/-10 degrees of controller's instructions
	Azimuth (ILS)	Within two dots
	Glideslope	Within one dot low, two dots high
U		Exceeds Q- criteria

Notes:
1. Airspeed tolerances are based on computed approach speed.
2. Add 50 feet (when practical), 2 degrees, and +5/-0 KIAS to all engines operating criteria for operations with an engine out criteria.
3. If PAR is flown for precision approach credit, a radar approach will not be flown to satisfy non-precision approach requirement (T-2).

2.8.3.6.1. Subarea 26A, ILS.

2.8.3.6.1.1. Q. Approach was IAW published procedures. Smooth and timely corrections to azimuth and glide slope. Complied with decision height. Position would have permitted a safe landing. Maintained glide path with only minor deviations.

2.8.3.6.1.2. Q-. Performed approach with minor deviations. Slow to make corrections. Slow to comply with decision height. Position would have permitted a safe landing. Improper glide path control.

2.8.3.6.1.3. U. Approach not IAW flight manual, directives, or published procedures. Erratic corrections. Did not comply with decision height and/or position at decision height would not have permitted a safe landing.

2.8.3.6.2. Subarea 26B, PAR.

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

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

2.8.3.6.2.3. U. Approach not IAW flight manual, directives, or published procedures. Erratic corrections. Did not respond to controller's instructions. Did not comply with decision height and/or position would not have permitted a safe landing. Erratic glide path control. Exceeded Q-criteria.

2.8.3.7. Area 27, Non Precision Approaches. One Required. Use **Table 2.5**. grading criteria as general tolerances for airspeed, altitude at MDA/step-down fixes, heading, course, timing, and distance with all engines operating. Includes Subareas (T-2): 27A ASR, 27BGPS/RNAV, 27C Localizer (LOC)/VOR, and 27D TACAN.

Table 2.5. Non-Precision Approach Tolerances.

Q	MDA	+100/-0 feet
	Airspeed	+10/-5 KIAS
	Course	+/-5 degrees at MAP (NDB, TACAN, VOR), less than one dot deflection (GPS, LOC).
	Timing	Computed/adjusted timing to determine MAP within 20 seconds (when required).
	Distance	Determined MAP within +/-0.5 miles
	Approach was IAW published procedures. Used appropriate descent rate to arrive at MDA at or before VDP. Position would have permitted a safe landing. Smooth and timely response to controller's instructions (ASR).	
Q-	MDA	+150/-0 feet
	Airspeed	+10/-5 KIAS
	Course	+/-10 degrees at MAP (NDB, VOR, TACAN), more than one dot, but less than two dot deflection (LOC, GPS)
	Timing	Computed/adjusted timing to determine MAP within 30 seconds (when required).
	Distance	Determined MAP within +1/-0.5 miles
	Performed approach with minor deviations. Arrived at MDA at or before the MAP. Position would have permitted a safe landing. Slow to respond to controller's instructions and make corrections (ASR).	
U	Approach not IAW published procedures. Maintained steady-state flight below the MDA, even though the -50 foot limit was not exceeded. Position would not have permitted a safe landing. Failed to compute or adjust timing to determine MAP (when required). Exceeded Q- criteria.	

Notes:
1. Airspeed tolerances are based on computed approach speed.
2. Add 5 KIAS, 50 feet (when practical), and 2 degrees to all engines operating criteria for operations with an engine out criteria (T-2).
3. One non precision approach must be flown (T-2).

2.8.3.8. Area 28, Circling Approach (If available, else verbally evaluate.) Note: Not required for Senior Officers.

2.8.3.8.1. Q. Properly identified aircraft category for the approach and remained within the lateral limits IAW AFMAN 11-217V1. Complied with controller's instructions. Attained runway alignment without excessive bank angles. Did not descend from the MDA until in a position to place the aircraft on a normal glide path or execute a normal landing.

2.8.3.8.2. Q-. Properly identified aircraft category for the approach and remained within the lateral limits for that category. Slow to comply with controller's instructions. Attained runway alignment but occasionally required excessive bank angles or maneuvering.

2.8.3.8.3. U. Did not properly identify aircraft category or exceeded the lateral limits of circling airspace. Did not comply with controller's instructions. Excessive maneuvering to attain runway

alignment was potentially unsafe. Descended from the MDA before the aircraft was in a position for a normal glide path or landing.

2.8.3.9. Area 29, Missed Approach.

2.8.3.9.1. Q. Executed missed approach IAW published procedures. Complied with controller's instructions. Applied smooth control inputs.

2.8.3.9.2. Q-. Executed missed approach with minor deviations to published procedures. Slow to comply with controller's instructions. Slightly over-controlled the aircraft.

2.8.3.9.3. U. Did not execute missed approach IAW flight manual, directives, or published procedures. Did not comply with controller's instructions. Deviation or misapplications of procedures could have led to an unsafe condition.

2.8.4. Instructor.

2.8.4.1. Area 30, Instructor Ability (Critical).

2.8.4.1.1. Q. Demonstrated the ability to communicate effectively. Provided appropriate guidance when necessary. Planned ahead and made timely decisions. Identified and corrected potentially unsafe maneuvers/situations.

2.8.4.1.2. U. Unable to effectively communicate or provide timely feedback to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe maneuvers/situations in a timely manner. Made no attempt to instruct.

2.8.4.2. Subarea 30A, Demonstration of Knowledge (Critical).

2.8.4.2.1. Q. Effectively demonstrated procedures and techniques. Thorough knowledge of applicable aircraft systems, procedures, publications, and directives.

2.8.4.2.2. U. Did not demonstrate correct procedure or techniques. Insufficient depth of knowledge about applicable aircraft systems, procedures, and/or proper source material.

2.8.4.3. Subarea 30B, Student Briefing/Critique (Critical). Use criteria, **Table 4.2** and **Table 4.3**

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

2.8.4.3.2. U. Briefings were marginal or non-existent. Did not review student's past performance. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required.

2.8.5. MISSION.

2.8.5.1. Area 31, Ground Operations/Taxi.

2.8.5.1.1. Q. Established and adhered to start engine, taxi, and take-off time to ensure thorough preflight, check of personal equipment, crew/passenger briefings, etc. Accurately determined readiness of aircraft for flight. Completed all systems pre-flight/post-flight inspections IAW

flight manual. Conducted taxi operations according to flight manuals, AFI 11-218, Aircraft Operation and Movement on the Ground, and local procedures.

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

2.8.5.1.3. U. Crew errors directly contributed to a late takeoff that degraded the mission. Failed to accurately determine readiness for flight. Failed to preflight/post- flight a critical component or could not conduct a satisfactory preflight/post-flight inspection.

2.8.5.2. Area 32, Takeoff.

2.8.5.2.1. Q. Maintained smooth, positive aircraft control throughout the takeoff. Performed the takeoff IAW flight manual and as published/directed.

2.8.5.2.2. Q-. Minor deviations from published procedures without affecting safety of flight. Control was rough or erratic. Hesitant in application of procedures/corrections.

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

2.8.5.3. Area 33, Radar Operations/Weather Avoidance/Windshear.

2.8.5.3.1. Q. Effectively demonstrated procedures for operating weather radar. Updated weather radar/analysis throughout the mission. Highly knowledgeable of windshear detection and avoidance equipment, including minimum groundspeed (VMGS). Used all available sources to determine if and/or to what degree severe weather conditions exist. Complied with all weather separation and windshear avoidance requirements.

2.8.5.3.2. Q-. Minor deviations observed when operating weather radar. Did not update radar/weather analysis during worsening weather conditions. Limited knowledge of windshear detection and avoidance equipment. Complied with all weather separation and windshear avoidance requirements.

2.8.5.3.3. U. Unable to demonstrate proper use of weather radar. Failed to update radar/weather analysis during the mission. Displayed unsatisfactory knowledge of windshear detection and avoidance equipment. Failed to comply with weather separation or windshear avoidance requirements.

2.8.5.4. Area 34, Fuel Conservation.

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

2.8.5.4.2. Q-. Possessed some knowledge of applicable aircraft publications and other governing directives and understood how to apply both to enhance fuel conservation. Successfully applied some fuel conservation procedures, but failed to apply fuel conservation procedures during mission planning or during several key phases of the mission.

2.8.5.4.3. U. Unaware of fuel conservation procedures. Failed to apply any fuel conservation procedures in any area of the mission.

2.8.5.5. Area 35, Landing. One required. Use the following criteria in **Table 2.6**. as general tolerances for airspeed, centerline and TCH (T-2). See subareas 13A, 13B, and 13C for additional criteria.

Table 2.6. Landing Tolerances.

Q	Performed landings as published/directed IAW flight manual.	
	Airspeed	+5/-5 KIAS (increased landing speed must consider landing distance)
	Centerline	+/-15 feet left or right
	TCH	+25/-10 feet
Q-	Performed landings with minor deviation to procedures as published/directed. Landed in a crab.	
	Airspeed	+15/-5 KIAS (Increased airspeed must consider landing distance)
	Centerline	+/-30 feet left or right
	TCH	+40/-10 feet
U	Landing not performed as published/directed. Exceeded Q- criteria.	

NOTES:
1. Specific items to evaluate include threshold altitude/airspeed, runway alignment, flare touchdown, and landing in a crab. Grade landings IAW Areas 13 and 14 of this chapter.
2. Airspeed tolerances apply to computed approach speed.
3. Add 5 KIAS to all engines operating criteria for operations with an engine out criteria (T-2).
4. FP and MPs will be evaluated in both seats (T-2). A 50-, 40-, and 30-Flap landings are required but may be accomplished in either seat (T-2).

2.8.5.6. Area 36, Tanker AAR. Use the following criteria in **Table 2.7** as general tolerances for airspeed, altitude and heading/course (T-2). Includes subareas: 36A— Rendezvous, 36B—Platform Control, 36C—Breakaway, 36D—Overrun Procedures, and 36E—Tanker AAR formation (T-2).

Table 2.7. Tanker AAR Tolerances.

Q	Aircraft control was smooth and positive. Performed all checklists and complied with procedures outlined IAW flight manuals/directives.	
	Airspeed	+/- 10 KIAS
	Altitude	+/- 200 feet
	Heading/Course	+/-5 degrees
Q-	Aircraft control was not always smooth and positive, but adequate. Accomplished procedures IAW flight manuals/directives with deviations/omissions which did not affect safety of flight.	
	Airspeed	+/-15 KIAS
	Altitude	+/-300 feet
	Heading/Course	+/- 10 degrees
U	Had Deviations/Omissions that affected flight safety and/or the successful completion of AAR. Exceeded Q- criteria.	
NOTES: **1:** When refueling with autopilot off, add 100 feet, 5 KIAS, and 5 degrees to all tolerances. **2:** Evaluate AAR Formation, if observed. **3:** Tanker Overrun; if not observed, verbal. **4:** To evaluate platform control, the receiver aircraft must, at a minimum, be in the contact position (T-2). An actual offload is not required. **5:** Pilots can be evaluated in either seat and evaluated on a breakaway as either the pilot flying or pilot monitoring.		

2.8.5.6.1. Subarea 36A, Rendezvous. Use **Table 2.8**. as general tolerances for airspeed, altitude and heading/course (T-2).

Table 2.8. Rendezvous Tolerances.

Q	Aircraft control was smooth and positive. Performed all checklists and complied with procedures outlined IAW flight manuals/directives.	
	Airspeed	+/- 10 KIAS
	Altitude	+/- 200 feet
	Heading/Course	+/-5 degrees
Q-	Aircraft control was not always smooth and positive, but adequate. Accomplished procedures IAW flight manuals/directives with deviations/omissions which did not affect safety of flight.	
	Airspeed	+/-15 KIAS
	Altitude	+/-300 feet
	Heading/Course	+/- 10 degrees
U	Had Deviations/Omissions that affected flight safety and/or the successful completion of AAR. Exceeded Q- criteria.	

2.8.5.6.2. Subarea 36B, Platform Control. See **Table 2.9** for grading criteria (T- 2).

Table 2.9. Platform Control Tolerances.

Q	Aircraft control was smooth and positive. Performed all checklists and complied procedures IAW flight manuals/directives.	
	Airspeed	+10/-5 KIAS
	Altitude	+/200 feet
	Heading/Course	+/-5 degrees
Q-	Aircraft control was not always smooth and positive, but adequate. Accomplished procedures IAW flight manuals/directives with deviations/omissions which did not affect safety of flight.	
	Airspeed	+15/-5 KIAS
	Altitude	+/-300 feet
	Heading/Course	+/-10 degrees
U	Deviations/omissions that affected flight safety and/or the successful completion of AAR. Exceeded Q- criteria.	
NOTE: When refueling with autopilot off, add 100 feet, 5 KIAS, and 5 degrees to all tolerances.		

2.8.5.6.3. Subarea 36C, Breakaway. Comply with procedures as defined in ATP 3.3.4.2 (T-2).

2.8.5.6.4. Subarea 36D, Overrun. Comply with procedures as defined in ATP 3.3.4.2 (T-2).

2.8.5.6.5. Subarea 36E, Tanker AAR Formation. Grading criteria are defined under Area 37, Formation.

2.8.5.7. Area 37, Formation (if observed). Includes subareas: 37A—Lead, Departure & Join-up, 37B—Enroute, Position Change, Breakup, and 37C—AAR Formation.

2.8.5.7.1. Q. Established and maintained briefed position. Aircraft control was positive and smooth. Demonstrated a complete knowledge of procedures. Performed all procedures in accordance with applicable checklists and other governing directives.

2.8.5.7.2. Q-. Slow to recognize and apply needed corrections to establish and maintain proper position. Aircraft control was not always positive and smooth, but was adequate. Performed all procedures in accordance with applicable checklists and other governing directives with only minor omissions or deviations.

2.8.5.7.3. U. Erratic or dangerous. Had deviations/omissions that affected safety of flight. Did not perform all procedures in accordance with applicable checklists and other governing directives or omitted major items.

2.8.5.8. Area 38, Receiver AAR (if qualified). Includes subareas: 38A Rendezvous, 38B Closure, 38C AAR position/control, 38D Overrun procedures, 38E Breakaway, and 38F IP right seat AAR limit demonstration. See **Table 2.10** for grading criteria (T-2).

Table 2.10. Receiver AAR.

Q	Established and maintained proper refueling position. Aircraft control was positive and smooth. Demonstrated complete knowledge of rendezvous and closure procedures. Performed all procedures IAW flight manuals/directives.	
	Airspeed	+10/-5 KIAS
	Altitude	+/-200 feet
	Inadvertent disconnects	3 or less for initial Qual, 2 or less otherwise (N/A IP Limit Demo)
Q-	Slow to recognize and apply needed corrections to establish and maintain proper refueling position. Aircraft control was not always positive and smooth, but adequate. Accomplished rendezvous and closure with deviations and/or missions which did not affect safety of flight or the successful completion of AAR. Performed all procedures IAW flight manuals/directives with only minor omissions or deviations.	
	Airspeed	+15/- 10 KIAS
	Altitude	+/- 300 feet
	Inadvertent disconnects	4 or less for initial Qual, 3 or less otherwise (N/A IP Limit Demo)
U	Erratic or dangerous in the pre-contact/astern refueling position. Had deviations/omissions that affected safety of flight and/or successful completion of AAR. Did not perform all procedures IAW flight manuals/directives, or omitted major items. Exceeded Q- criteria.	
Notes: 1. Receiver Overrun; if observed, else verbally evaluate. 2. Right Seat AAR / Limit Demo (IP only)		

2.8.5.9. Area 39. Tactics (If observed).

2.8.5.9.1. Q. Demonstrated satisfactory knowledge of tactics. Applied appropriate tactics to avoid the threat and minimize exposure. Made timely and appropriate inputs to crew during mission.

2.8.5.9.2. Q-. Minor errors in threat analysis or tactics selection. Limited knowledge of appropriate tactic for a given scenario. Did not make timely inputs to crew during mission.

2.8.5.9.3. U. Unsatisfactory tactics knowledge. Major errors in threat analysis or tactics selection would have resulted in an unsuccessful mission.

2.8.5.10. Area 40. Threat Avoidance (If observed).

2.8.5.10.1. Q. Able to plot threats in-flight and formulate a plan of action to avoid lethal range of given threat system. Executed the proper evasive maneuver when given an immediate threat. Aware of appropriate tactics to avoid threats and exposure.

2.8.5.10.2. U. Unable to plot a given threat. Did not avoid lethal range of given threat system. Did not execute an effective evasive maneuver when given an immediate threat. Not aware of appropriate tactics for specific threats or terrain.

2.8.5.11. Area 41. Tactical Arrival (If observed).

2.8.5.11.1. Q. Followed procedures as briefed. Smooth positive control throughout the recovery. Aircraft in position to intercept glidepath to intended touchdown point. Constantly cleared area of intended flight.

2.8.5.11.2. Q-. Performed recovery with minor deviations to published procedures. Aircraft control was not consistently positive and smooth. Over/under-shot final approach slightly but was able to intercept glidepath to intended touchdown point.

2.8.5.11.3. U. Recovery not performed IAW flight manual directives or published procedures. Displayed erratic aircraft control. Over/under-shot final approach requiring a go-around or potentially unsafe maneuvering to intercept final. Did not clear area of intended flight.

2.8.5.12. **(MILDENHALL)** Area 42, Theater Specific Procedures (Unit Specific).

2.8.5.12.1. Q. Demonstrated knowledge of ASRR, NOTAMS, AP/2, FCG, etc. Successfully practiced country specific procedures and terminology. Flew arrival, approaches and departures IAW ICAO and/or country specific procedures.

2.8.5.12.2. Q-. Demonstrated incomplete knowledge of theater procedures. Rarely practiced country specific procedures and terminology. Actions did not compromise safety.

2.8.5.12.3. U. Performed with major deviations from country specific procedures. Hindered mission accomplishment or compromised safety.

Chapter 3

NAVIGATOR EVALUATIONS

3.1. General. This chapter standardizes navigator-specific requirements for initial, periodic, and requalification evaluations, including the requirements for qualification, mission, and instructor evaluations. See **Paragraph 1.9** for basic evaluation requirements. See AFI 11-2KC- 135V1 **Paragraph 2.10** and AFI 11-2KC-135V3 **Paragraph 6.58**. for descriptions of Basic Navigator versus SOAR Navigator. Basic Navigator evaluations may be accomplished by an Evaluator Pilot if no Evaluator Navigator is available. SOAR Navigator MSN evaluations must be accomplished by an Evaluator SOAR Navigator (T-2).

3.2. Qualification/Mission Evaluations (initial, periodic and re-qualification). Include all areas under GENERAL, QUALIFICATION, MISSION (Tanker or Receiver AAR).

3.2.1. Basic Navigator. Include only areas 1 through 18.

3.2.1.1. Initial: Include all areas under GENERAL and QUALIFICATION. Annotate AF Form 8, Flight Phase as INIT QUAL. Requisites: End-of-course and Boldface taken at Flight Safety and the IRC taken at OGV.

3.2.1.2. Periodic: If taken as part of the SOAR Navigator qualification, subsequent periodic QUAL evaluations will be completed concurrently with the MSN evaluation. Subsequent periodic QUAL evaluations for Basic Navigators will be conducted IAW **Paragraph 3.2.1.1**

3.2.2. MISSION.

3.2.2.1. Initial: All areas under GENERAL and MISSION (Tanker or Receiver AAR). Annotate AF Form 8, Flight Phase as INIT MSN/QUAL. Requisites: Closed Book, Open Book, IRC, and Boldface.

3.2.2.2. Periodic: Include all areas under GENERAL, QUALIFICATION, and MISSION (Tanker or Receiver AAR). Complete in conjunction with QUAL evaluation. Requisites: Closed Book, Open Book, IRC, and Boldface.

3.2.3. Difference Evaluations. Unless specified otherwise, navigators do not require a flight evaluation to obtain qualification in a different model KC-135 (i.e. KC-135T).

3.2.4. Conduct an in-flight evaluation of either a tanker or a receiver rendezvous (point **Paragraph** llel or enroute). Verbally evaluate all rendezvous procedures not observed.

3.3. Instructor Evaluations. The flight examiner will place particular emphasis on the examinee's ability to recognize student difficulties and provide timely and effective instruction (T-2).

3.3.1. Initial instructor evaluations. Will be conducted with the examinee instructing either an unqualified navigator or the evaluator acting as the student (T-2). Initial instructor evaluations will include (at a minimum) all items under GENERAL, QUALIFICATION, MISSION (Tanker AAR), and INSTRUCTOR (T-2).

3.3.2. Initial instructor evaluations will accomplish landing gear alternate extension and main flap manual operation procedures (T-2). For initial instructor evaluations, this requirement may be demonstrated to a student or evaluator navigator.

3.3.3. Administer periodic instructor evaluations in conjunction with QUAL/MSN evaluation.

3.4. Emergency Procedures Evaluation (EPE). Unit determines EPE requirements. Use one- on-one discussions, an ATD (MAJCOM specified), or on-aircraft evaluation methods to conduct the EPE. The EPE should cover a cross section of aircraft systems. Examinees should be able to demonstrate an understanding of aircraft systems in emergency scenarios. Include situations during takeoff/climb-out, cruise, and approach to landing phases. The EPE may also include emergency egress, Aircrew Flight Equipment systems, and FCIF and/or special interest identified EPE topics.

3.5. Navigator Grading Criteria.

3.5.1. General.

3.5.1.1. Area 1, Directives and Publications.

3.5.1.1.1. Q. Possessed a high level of knowledge of all applicable aircraft directives and publications and understood how to apply both to enhance mission accomplishment. Required publications (paper or electronic) were current and properly posted. Electronic Flight Bag was in proper configuration IAW MAJCOM directives.

3.5.1.1.2. Q-. Unsure of some directives but could locate information in appropriate publications. Required publications (paper or electronic) were current but improperly posted. Electronic Flight Bag configuration was not IAW MAJCOM directives.

3.5.1.1.3. U. Unaware of established directives and/or could not locate them in the appropriate publication in a timely manner. Required publications (paper or electronic) were not current. Electronic Flight Bag configuration was not IAW MAJCOM directives and/or data was not current.

3.5.1.2. Area 2, Mission PREPARATION /Planning. Includes subareas: 2A—General and 2B—Flight Planning.

3.5.1.2.1. Area 2A, General.

3.5.1.2.1.1. Q. Checked all navigation factors applicable to flight including weather, NOTAMs, alternate airfields, airfield suitability, and charts. Chart PREPARATION error free. Accomplish/review mission flight plan without error.

3.5.1.2.1.2. Q-. Missed an essential navigation factor with only minor mission effect. Chart PREPARATION – one or more action points plotted in error greater than 5 NM but less than 15NM. Flight Planning – computed and used one or more action points where no one error is greater than 10NM, but less than 15NM. Did not comply with mission planning requirements, but did not detract from safety or mission effectiveness.

3.5.1.2.1.3. U. Did not check navigation factors with direct effect on mission effectiveness. Exceeded Chart PREPARATION and Flight Planning Q- tolerances. Did not comply with requirements that had a direct effect on mission effectiveness.

3.5.1.2.2. Area 2B, Flight Planning.

3.5.1.2.2.1. Q. Completed a flight plan in its entirety, time errors did not exceed 5 minutes of total time to destination. Selected current navigation charts of a proper scale for the type of the mission profile.

3.5.1.2.2.2. Q-. Minor errors or omissions that would not have adversely affected mission accomplishment. Time errors did not exceed 10 minutes.

3.5.1.2.2.3. U. Flight plan was incomplete, could not demonstrate flight planning procedures, or computer flight plan was not reviewed. Flight plan contained major errors/omissions. Selected an improper or obsolete chart. Exceeded Q- criteria.

3.5.1.3. Area 3, Use of Checklists. Note: Deviations from checklist order are approved for CRM, equipment malfunctions, or equipment limitations as long as it is understood why each step is performed and why it occurs in a certain sequence. Coordination with the evaluator is required.

3.5.1.3.1. Q. Consistently ensured all appropriate checklists were used while completing items in a timely manner without omissions.

3.5.1.3.2. Q-. Completed in an untimely manner (delayed crew) or completed the checklist with minor omissions which did not detract from safety or mission effectiveness.

3.5.1.3.3. U. Used incorrect checklist or omitted checklist items which detracted from safety or mission effectiveness. Did not complete checklist prior to event.

3.5.1.4. Area 4, Safety Consciousness (Critical).

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

3.5.1.4.2. U. Not aware of or did not comply with all safety factors required for safe aircraft operation or mission accomplishment. Operated aircraft in a dangerous manner.

3.5.1.5. Area 5, Judgment/Compliance (Critical).

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

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

3.5.1.6. Area 6, Crew Coordination/CRM. See AFI 11-290, Cockpit/Crew Resources Management Training Program, and use AF Form 4031, CRM Skills Criteria Training/Evaluation, as a reference.

3.5.1.6.1. Q. Effectively coordinated with other aircrew members throughout the assigned mission. Demonstrated knowledge of other crewmembers' duties and responsibilities. Effectively applied CRM skills throughout the mission.

3.5.1.6.2. Q- Crew coordination adequate to accomplish mission. Demonstrated limited knowledge of other crewmembers' duties and responsibilities.

3.5.1.7. Area 7, Communication Procedures.

3.5.1.7.1. Q. Complete knowledge of and compliance with correct communication procedures. Transmissions were concise with proper terminology. Accomplished required calls and acknowledgments with standard terminology. Consistently backed up crew for all ATC calls.

Thoroughly familiar with and correctly operated IFF, secure voice, SATCOM (if available), HAVE QUICK, and GPS key loading equipment, if required.

3.5.1.7.2. Q-. Occasional deviation or omissions from required procedures, calls or acknowledgments that required re-transmissions or resetting codes. Occasional backup for ATC calls. Displayed a limited knowledge of communication equipment.

3.5.1.7.3. U. Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Failed to back up the crew for ATC calls or correct a known deviation. Displayed a lack of or poor operational knowledge of communication equipment.

3.5.1.8. Area 8, Aircrew Flight Equipment Systems/Egress.

3.5.1.8.1. Q. Displayed thorough knowledge of location and use of Aircrew Flight Equipment support systems and equipment. Demonstrated and emphasized the proper operating procedures used to operate aircraft egress devices such as doors, windows, hatches, slide rafts, and escape ropes/pulleys, if used.

3.5.1.8.2. Q-. Limited knowledge of location and use of Aircrew Flight Equipment support systems and equipment. Unsure of the proper operating procedures used to operate some of the aircraft egress devices, if used.

3.5.1.8.3. U. Displayed unsatisfactory knowledge of location and use of Aircrew Flight Equipment support systems and equipment. Unable to properly operate aircraft egress devices, if used.

3.5.1.9. Area 9, Knowledge/Completion of Forms.

3.5.1.9.1. Q. All required forms and/or flight plans were complete, accurate, readable, accomplished on time and IAW applicable directives. Related an accurate debrief of significant events to applicable agencies (intelligence, maintenance, etc.).

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

3.5.1.9.3. U. Did not accomplish required forms and/or flight plans. Omitted or incorrectly reported significant information to applicable agencies due to major errors, omissions, and/or deviations.

3.5.1.10. Area 10, Airmanship/Situational Awareness (Critical).

3.5.1.10.1. Q. Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline throughout all phases of flight. Conducted the flight with a sense of understanding and comprehension.

3.5.1.10.2. U. Decisions, or lack thereof, resulted in failure to accomplish the assigned mission. Failed to exhibit strict flight and crew discipline.

3.5.2. Qualification.

3.5.2.1. Area 11, Ground Operations / Taxi.

3.5.2.1.1. Q. Timely completion of all pre-flight checks and procedures without omission. Proper coordination with maintenance and crew when required. Ensured readiness of navigation equipment for flight.

3.5.2.1.2. Q -. Minor omissions or deviations which did not detract from safety or directly contribute to a late takeoff.

3.5.2.1.3. U. Failed to pre-flight a critical component or system. Errors, omissions or deviations directly contributed to a late takeoff or detracted from safety or mission effectiveness.

3.5.2.2. Area 12, Departure.

3.5.2.2.1. Q. Monitored headings, airspeeds, altitudes and aircraft position throughout departure. Used an appropriate departure procedure chart, if required. Provided headings, ETAs, and other required information in a timely manner. Monitored appropriate radios and clearances to ensure crew compliance. Provided updated information when the clearance caused a change in the planned departure.

3.5.2.2.2. Q -. Monitored aircraft position, but slow to provide headings, ETAs, or other required information. Performance did not degrade mission accomplishment or compromise flight safety.

3.5.2.2.3. U. Did not monitor departure headings, airspeeds or altitudes. Unaware of aircraft position and unable to provide updated information when required. Did not use an appropriate departure procedure chart, if required. Allowed major deviations that degraded mission accomplishment or compromised safety.

3.5.2.3. Area 13, Radar Operations/Weather Avoidance/Windshear.

3.5.2.3.1. Q. Effectively demonstrated procedures for operating the weather radar. Monitored and updated weather radar/analysis throughout the mission. Knowledgeable of windshear detection procedures including minimum groundspeed (VMGS). Used all available sources to determine if and/or to what degree severe weather conditions exist. Complied with all weather separation and windshear avoidance requirements.

3.5.2.3.2. Q -. Minor deviations observed when operating on-board radar. Did not update radar/weather analysis during worsening weather conditions. Failed to alter course to meet weather separation and windshear avoidance requirements but did not violate established limits. Limited knowledge of windshear detection and avoidance equipment.

3.5.2.3.3. U. Unable to demonstrate proper use of on-board radar. Failed to update radar/weather analysis during the mission. Failed to comply with weather separation or windshear avoidance requirements that could have or jeopardized safety or mission success. Displayed unsatisfactory knowledge of windshear detection and avoidance equipment.

3.5.2.4. Area 14, General Navigation and Course Adherence. Includes general navigation in controlled airspace, e.g., MNPS, RNP-10, etc.

3.5.2.4.1. Q. Thorough knowledge of enroute time status in relation to objective area. Complied with all altitude restrictions. Adhered to all airspace restrictions. Remained within 3 NMs of course centerline (EXCEPTIONS: Threat avoidance, weather deviation, ATC assigned heading) or less than or equal to required course tolerances for the appropriate airspace operated in.

3.5.2.4.2. Q-. Uncertain of exact aircraft position due to marginal navigational procedures. Better awareness of required timing events or enroute time status could have avoided excessive, or

unplanned maneuvering. Flew 3 to 5 NMs from course without the above exceptions. Momentary exceeded ATC course tolerances with correction to return to centerline.

3.5.2.4.3. U. Unable to maintain position awareness throughout most of the route. Unable to accurately assess required timing or unaware of mission time status, jeopardizing formation integrity or mission accomplishment. Violated airspace restrictions. Exceeded 5 NMs during enroute navigation without the above exceptions. Exceeded required course tolerances for the appropriate airspace operated in.

3.5.2.5. Area 15, Navigation Systems. All references to navigation systems refer to actual systems onboard unit aircraft (e.g., FMS, GPS, or INS).

3.5.2.5.1. Q. Thorough knowledge of onboard navigation system operating procedures. Effectively used navigation systems to direct the aircraft. Updated system as required. Monitored system including investigating "Check STATUS," "Check NAV ERR," etc.

3.5.2.5.2. Q-. Navigation systems error greater than 5NM but less than 10 NM from actual or determined position. Demonstrated only a basic knowledge of onboard navigation systems operation. Made minor errors in operation/interpretation of navigation system data. Error operating the FMS with no mission impact.

3.5.2.5.3. U. Displayed inadequate knowledge of onboard navigation system procedures. Failed to update or correctly interpret navigation system data. Exceeded Q- tolerances.

3.5.2.6. Area 16, Descent/Approach Monitor.

3.5.2.6.1. Q. Monitored aircraft position, approach instructions and primary approach navigation aids. Thoroughly understood instrument approach and missed approach procedures. Ensured terrain clearance during approach or departure by available navigation aids and available resources.

3.5.2.6.2. Q-. Misidentified/misunderstood essential approach and departure instructions. Monitored aircraft position, but did not fully understand approach instructions/procedures. Slow to provide headings, ETAs or other appropriate information at the request of the aircraft commander.

3.5.2.6.3. U. Did not ensure terrain clearance during the approach. Exceeded Q- tolerances.

3.5.2.7. Area 17, Emergency Equipment.

3.5.2.7.1. Q. Displayed thorough knowledge of location and use of emergency equipment.

3.5.2.7.2. Q-. Limited knowledge of location and use of emergency equipment.

3.5.2.7.3. U. Displayed unsatisfactory knowledge of emergency equipment.

3.5.2.8. Area 18, Emergency Procedures (If observed and not covered during EPE).

3.5.2.8.1. Q. Understood and performed emergency procedures for the navigator according to the flight manual. Assists the crew at the direction of the aircraft commander.

3.5.2.8.2. Q-. Correctly analyzed and understood aircraft emergencies. Difficulty performing required procedures to correct the emergency.

3.5.2.8.3. U. Failed to analyze and did not understand aircraft emergencies. Could not perform required procedures to correct the emergency.

3.5.2.9. Area 19, Manual Gear Extension. Initial Mission and Initial Instructor Only.

3.5.2.9.1. Q. Actions required by the applicable flight manual were accomplished correctly and with no omissions.

3.5.2.9.2. Q-. Procedures required by the flight manual/checklists were accomplished with no more than minor discrepancies that did not affect the missions or use of equipment.

3.5.2.9.3. U. Incorrect actions or checklist steps not accomplished that resulted in corrective action to successfully extend the landing gear manually.

3.5.2.10. Area 20, Manual Flap Extension. Initial Mission and Initial Instructor Only.

3.5.2.10.1. Q. Actions required by the applicable flight manual were accomplished correctly and with no omissions.

3.5.2.10.2. Q-. Procedures required by the flight manual, checklists were accomplished with no more than minor discrepancies that did not affect the missions or use of equipment.

3.5.2.10.3. U. Incorrect actions or checklist steps not accomplished correctly, resulting in the need for corrective action to successfully extend the flaps manually.

3.5.2.11. Area 21, Formation/Station Keeping (If Observed). (N/A for Basic Navigators)

3.5.2.11.1. Q. Performed navigation duties within prescribed tolerances as lead or wing aircraft formation according to AFI 11-2KC-135V3, **Chapters 11 & 18.**

3.5.2.11.2. Q-. Completed navigation duties with minor errors that did not affect the mission. Unable to maintain station keeping position or failed to notify lead when a known navigation error occurred.

3.5.2.11.3. U. Unable to complete navigation duties and degraded mission effectiveness. Unable to assume lead navigator role. Allowed lead to commit a known navigation error that degraded mission effectiveness.

3.5.3. Mission (Tanker AAR). (N/A for Basic Navigators).

3.5.3.1. Area 22, Tanker Air to Air Refueling. Commences 10 minutes prior to ARCT/RZ PT and terminates at end AAR point. Conduct an in-flight evaluation of rendezvous. Area 22 includes the Rendezvous and the following subareas (if observed): 22A—Tanker Rendezvous, 22B—Breakaway, 22C—Overrun Procedures, 22D—Tanker AAR Formation and 22E—AAR Track Adherence/Altitude.

3.5.3.1.1. Subarea 22A, Tanker Rendezvous. Conduct an in-flight evaluation of an Enroute (GOLF) or Point **Paragraph** llel (DELTA) rendezvous. Verbally evaluate the rendezvous not observed.

3.5.3.1.1.1. Q. Provided headings, airspeeds, and altitude direction in a timely manner to ensure rendezvous success. Performed all checklists and complied with procedures outlined in the flight manual and other governing directives.

3.5.3.1.1.1.1. For Point-**Paragraph** llel (DELTA) rendezvous, computed and used turn range and offset to within 2NM compared to the FMS computed turn range and offset for a non-standard day.

3.5.3.1.1.1.2. For Enroute (GOLF) rendezvous, arrived over RZCP or ARCP within 1 minute of scheduled/adjusted rendezvous control time. Advised the receiver of any required control time adjustments with enough time to successfully accomplish the rendezvous.

3.5.3.1.1.2. Q-. Provided headings, airspeeds and altitude direction throughout the rendezvous but not always in a timely manner. Performed all checklists and complied with procedures outlined in the flight manual and other governing directive with deviations/omissions which did not affect safety of flight.

3.5.3.1.1.2.1. For Point-**Paragraph** llel (DELTA) rendezvous, computed and used turn range and offset greater than 2NM but less than 4NM compared to the FMS computed turn range and offset for a non-standard day.

3.5.3.1.1.2.2. For Enroute (GOLF) rendezvous, arrived over RZCP or ARCP greater than 1 minute, but within 2 minutes of scheduled/adjusted rendezvous control time. Slow to advise receiver of required time adjustments potentially jeopardizing the rendezvous.

3.5.3.1.1.3. U. Failed to provide heading, airspeed or altitude direction. Had deviations or omissions that affected flight safety or jeopardized completion of successful rendezvous. Exceeded Q- tolerances. Failed to crosscheck, if applicable, A/R altitude & hot armament check, if required. Directed final turn toward receiver with unknown altitude separation.

3.5.3.1.2. Subarea 22B, Tanker Breakaway. Ensure correct response according ATP 3.3.4.2.

3.5.4. Mission (Receiver AAR). (N/A for Basic Navigators).

3.5.4.1. Area 23, Receiver Air to Air Refueling. Commences 10-minutes prior to ARCT/RZ PT and terminates at end ARR point. Evaluate a Rendezvous Delta or Rendezvous Golf (one required); verbally evaluate the alternative rendezvous.

3.5.4.1.1. Subarea 23A, Receiver Rendezvous. Include subareas: 24C—AAR Track Adherence/Altitude and 24D—Receiver AAR Formation, if observed.

3.5.4.1.1.1. Q. Rendezvous – Point **Paragraph** llel (DELTA) –Maintained AAR track after ARIP not more than 3NM. Directed radar closure to in-trail position under IFR conditions not more than 1 NM.

3.5.4.1.1.1.1. Rendezvous – Enroute (GOLF) – Arrived over RZ PT or ARCP (as coordinated at 15 minutes prior Tanker/Receiver radio call) less than 1 minute. Directed radar closure to in-trail position under IFR conditions not more than 1 NM.

3.5.4.1.1.2. Q-. Rendezvous - Point **Paragraph** llel (DELTA) – AAR track after ARIP more than 3NM but less than 6NM. Directed radar closure to in-trail under IFR condition greater than 1 NM without mission degrade (pilot visual with tanker).

3.5.4.1.1.2.1. Rendezvous - Enroute (GOLF) - Arrived over RZ PT or ARCP greater than 1 minute but less than 2 minutes and failed to advise receiver of timing delay. Directed radar closure to in-trail under IFR condition greater than 1 NM without mission degrade (pilot visual with tanker).

3.5.4.1.1.3. U. Exceed Q- tolerances. Unable to direct radar closure to tanker with mission degrade and missed rendezvous.

3.5.4.1.2. Subarea 23B, Receiver Breakaway Procedures. Insure correct response.

3.5.5. Instructor.

3.5.5.1. Area 24, Instructor Ability (Critical).

3.5.5.1.1. Q. Demonstrated the ability to communicate effectively. Provided appropriate guidance when necessary. Planned ahead and made timely decisions. Identified and corrected potentially unsafe maneuvers/situations.

3.5.5.1.2. U. Unable to effectively communicate or provide timely feedback to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe maneuvers/situations in a timely manner. Made no attempt to instruct.

3.5.5.2. Subarea 24A, Demonstration of Knowledge (Critical).

3.5.5.2.1. Q. Effectively demonstrated procedures and techniques. Thorough knowledge of applicable aircraft systems, procedures, publications and directives.

3.5.5.2.2. U. Did not demonstrate correct procedure or techniques. Insufficient depth of knowledge about applicable aircraft systems, procedures, and/or proper source material.

3.5.5.3. Subarea 24B, Student Briefing/Critique (Critical). Use criteria and **Table 4.2** and **Table 4.3**

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

3.5.5.3.2. U. Briefings were marginal or non-existent. Did not review student's past performance. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required.

Chapter 4

BOOM OPERATOR EVALUATIONS

4.1. General. This chapter standardizes initial, periodic, qualification, instructor, and re-qualification evaluations.

4.2. Qualification/Mission Evaluations.

4.2.1. Initial: Include all areas under GENERAL, QUALIFICATION, and MISSION (Tanker AAR) except Area 20B, AAR Boom-to-Drogue Adapter (BDA) and Area 20C, AAR Multi-Point Refueling System (MPRS) unless observed. Upon successful completion, the AF Form 8 will indicate Crew Position as "MB" (T-2). Use FB only when Area 21, Cargo Loading was not evaluated and include the appropriate restriction on AF Form 8.

4.2.2. Periodic: Evaluate all areas under GENERAL, MISSION and QUALIFICATION (TANKER AAR).

4.2.3. BOSS/BOWST evaluations, if collocated and available (See **Paragraph 1.9**). Conduct a BOSS/BOWST evaluation in conjunction with all qualification evaluations. Annotate the BOSS/BOWST evaluation on the qualification Form 8 as EPE. Use contractor-developed Air Force approved G997D Emergency Procedures. No requirement for Pre-brief/De-brief by ATS contractor. All scenarios will be run as written (T-2).

4.2.4. A passenger briefing and passenger handling procedures will be evaluated on all initial evaluations. If passengers are not present during the evaluation, examinees will perform a simulated briefing and evaluators will conduct a verbal evaluation (T-2). Annotate the scope of the passenger handling evaluation as either actual, or verbal in the Mission Description on the Form 8.

4.2.5. Flight Training Level E (FTL-E) Basic Qualification. FTL-E initial, periodic and re-qualification evaluations include the areas under GENERAL and QUALIFICATION.

4.2.5.1. Conduct an EPE IAW **Paragraph 4.5** of this instruction.

4.2.5.2. Testing requirements. Initial, periodic and re-qualification evaluations include the following requisites (T-2):

4.2.5.2.1. Boldface exam.

4.2.5.2.2. KC-135 Closed book test.

4.2.5.2.3. KC-135 Open book test.

4.2.5.3. Annotate AF Form 8 crew position as "FB," type of evaluation is QUAL and include an expiration date. Add the following restriction in the remarks: "RESTRICTION: This evaluation permits operating the aircraft from a primary crew position only under direct supervision of an instructor boom operator during all phases- of-flight."

4.2.5.4. FTL-E boom operators must complete a CARGO, MSN and QUAL evaluation to gain full mission ready status. See AFI 11-2KC-135 Volume 1 for training requirements.

4.2.6. Evaluator note. Receiver aircraft must be equipped with a boom receptacle (T-2). One normal contact must be evaluated in-flight (T-2). Additionally, a TMO contact and a practice

emergency separation will be evaluated in-flight (T-2), or verbally evaluated as a last resort. EXCEPTION: If the TMO, and practice separation were not accomplished in-flight, accomplish in the BOSS/BOWST, if equipped. During initial qualification evaluations all procedures will be accomplished in-flight. (T-2).

4.3. Additional Mission Evaluations.

4.3.1. Cargo Loading.

4.3.1.1. Normally, the initial cargo evaluation is accomplished in conjunction with qualification evaluation. In this case, the initial qualification evaluation will include cargo except as noted in the approved initial qualification course syllabus (T-2). For all other initial cargo qualifications, an actual or static load must be accomplished (T-2).

4.3.1.2. For initial and periodic qualification include all areas in GENERAL, QUALIFICATION Area 15, Weight and Balance, Area 16, Passenger Handling (if observed) and MISSION (Cargo).

4.3.1.3. Conduct an initial mission evaluation for unqualified boom operators.

4.3.1.4. Periodic. Recurring cargo evaluations should normally be conducted under actual conditions (e.g., AMC channel, SAAM, etc.). If necessary, this evaluation may be evaluated verbally or under static conditions. Crewmembers should not accomplish consecutive verbal cargo evaluations.

4.3.1.5. When verbally evaluated, the flight examiner must present a scenario that reveals the examinee's cargo loading proficiency/capability to meet the unit's assigned requirements to ensure the crewmember can safely accomplish the cargo mission under actual conditions (T-2).

4.3.1.6. Actual/static on-load or off-loads satisfies the requirements for an evaluation.

4.3.1.7. All evaluations must include manual calculation of applied restraint using AF Form 4112, KC-135 Restraint Computation Worksheet. Manual weight and balance calculations are required for initial evaluations (T-2). When operations do not include hazardous material, evaluators must verbally evaluate this area (T-2).

4.3.1.8. Document results of actual, static, or verbal cargo evaluations with a description of the cargo evaluation in the COMMENTS section of the AF Forms 8.

4.3.1.9. The flight examiner will assign a MSN (Cargo) Eval grade (1, 2, or 3) in the Qualification Flight Phase block of AF Form 8 and the date the evaluation was completed (T-2).

4.3.2. Difference Evaluations. Unless specified otherwise, boom operators do not require a flight evaluation to obtain qualification in a different series KC-135.

4.4. Instructor Evaluations. The flight examiner will place particular emphasis on the examinee's ability to recognize student difficulties and provide timely, effective, corrective action (T-2). Flight examiners will exercise sound judgment to ensure the explanations/demonstrations do not distract the examinee's attention or disrupt mission objectives (T-2).

4.4.1. Initial instructor evaluations. Will be conducted with the examinee instructing a student boom operator or boom operator acting as a student IAW AFI 11-202V2, **Paragraph 5.2.1.4.1** (AETC administered instructor evaluations may be conducted with an unqualified student boom operator or the evaluator acting as the student) (T-2). Initial instructor evaluations will include

(as a minimum) all items under GENERAL, QUALIFICATION, the boom AAR portion of MISSION (Tanker AAR), and INSTRUCTOR (T-2). Note: Boom Operators, who desire to realign the QUAL/MSN evaluation during the initial instructor evaluation will complete (demonstrate) all required areas/subareas in QUALIFICATION, MISSION (Tanker AAR), and INSTRUCTOR, and complete requisite written examinations (T-2).

4.4.2. Administer periodic instructor evaluations in conjunction with QUAL/MSN evaluation. Instructor Boom Operators will perform all required areas/subareas (T-2).

4.4.3. Instructors may receive periodic instructor evaluation credit while performing actual student training provided all minimum requirements identified in **Paragraph 4.2.2** are instructed and the evaluatee demonstrates an actual air to air refueling contact(s) to the student.

4.4.4. KC-135 boom operator initial qualification and initial instructor evaluations require accomplishment of landing gear alternate extension and main flap manual operation procedures (see **Paragraph 1.9.9**) (T-2). For initial instructor evaluations, this requirement may be demonstrated to a student or evaluator boom operator.

4.5. Emergency Procedures Evaluations (EPE). Units without BOSS/BOWST will determine EPE requirements (T-2). Conduct the EPE normally as a ground evaluation in conjunction with in-flight evaluation portion of evaluation. Use one-on-one discussions, an ATD (MAJCOM specified, N/A FTU Instructors), or on-aircraft evaluation methods to conduct the EPE. The EPE should cover a cross section of aircraft systems. Examinees should be able to demonstrate an understanding of aircraft systems in emergency scenarios. The following operations/procedures may be evaluated; emergency ditching/egress, 20-man life raft, escape slide, manual gear/flap extension, manual boom hoist, AAR procedures, APU procedures, manual form F, locked ruddevators or any coordinated topic for instruction. Include situations during takeoff/climb-out, cruise, and approach to landing phases. The EPE may also include emergency egress, Aircrew Flight Equipment support equipment, and FCIF and/or special interest identified EPE topics. This list is not all-inclusive and evaluators may modify them as required.

4.5.1. See **Paragraph 4.2.3** for KC-135 BOSS/BOWST EPE requirements. Only evaluators certified in BOSS/BOWST operations are authorized to conduct EPEs in the BOSS/BOWST (T-2).

4.6. Additional Information.

4.6.1. Boom operator flight examiners will not conduct evaluations when scheduled as primary aircrew members (T-2).

4.6.2. The KC-135 BOSS/BOWST may be used for additional training, EPE and recheck in area(s) involving normal, abnormal, emergency, breakaway or tanker manual operation procedures. The BOSS/BOWST will not be used for additional training or requalification involving actual contacts or boom control downgrades (T-2).

4.7. Boom Operator Grading Criteria.

4.7.1. General.

4.7.1.1. Area 1, Directives and Publications.

4.7.1.1.1. Q. Possessed a high level of knowledge of all applicable aircraft directives and publications and understood how to apply both to enhance mission accomplishment. Required

publications (paper or electronic) were current and properly posted. Electronic Flight Bag was in proper configuration IAW MAJCOM directives.

4.7.1.1.2. Q-. Unsure of some directives but could locate information in appropriate publications. Required publications (paper or electronic) were current but improperly posted. Electronic Flight Bag configuration was not IAW MAJCOM directives.

4.7.1.1.3. U. Unaware of established directives and/or could not locate them in the appropriate publication in a timely manner. Required publications (paper or electronic) were not current. Electronic Flight Bag configuration was not IAW MAJCOM directives and/or data was not current.

4.7.1.2. Area 2, Mission PREPARATION /Planning. Includes aircraft weight and balance computations (tolerances will not exceed grading criteria for Area 15, Weight and Balance (T-2)).

4.7.1.2.1. Q. Planned Weight and Balance containing all information required by the flight manual, without omissions, discrepancies or contained only minor discrepancies, without omission in required information. Uncorrected Weight and Balance computation errors did not exceed criteria from Area 18. Read (initialed, if required) for all items in FCIF. Completed/obtained all applicable forms. Complied with all local directives. Attended all required briefings.

4.7.1.2.2. Q-. Same as above except for minor deviations or omissions which did not impair mission effectiveness. Did not fully comply with local directives, but did not detract from safety.

4.7.1.2.3. U. Planned Weight and Balance contained omissions and/or discrepancies in information required by the flight manual, which resulted in unusable weight and balance data. Computations exceeded the Q- tolerances from Area 18. FCIF was not reviewed (initialed, if required). Failed to attend required briefings. Failed to obtain/complete all applicable forms, or made major errors or omissions. Did not obtain adequate mission information. Failed to comply with local directives.

4.7.1.3. Area 3, Use of Checklist. This area includes completion of all formal checklist procedures performed to complete the mission. Note: Deviations from checklist order are approved for CRM, equipment malfunctions, or equipment limitations as long as it is understood why each step is performed and why it occurs in a certain sequence. Coordination with the evaluator is required.

4.7.1.3.1. Q. Procedures and checklist items required by flight manual and applicable directives were accomplished in a thorough and proficient manner.

4.7.1.3.2. Q-. Procedures and checklist items required by flight manuals and applicable directives were accomplished with omission, deviation, or error, which detracted from the overall efficient conduct of the mission. Performance was the minimum acceptable.

4.7.1.3.3. U. Procedures or checklist items required by flight manual and applicable directives were accomplished with omission, deviation, or error which did, or could adversely affect the successful accomplishment of the mission or task.

4.7.1.4. Area 4, Safety Consciousness (Critical).

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

4.7.1.4.2. U. Not aware of or did not comply with all safety factors required for safe aircraft operation or mission accomplishment. Operated aircraft or equipment in a dangerous manner.

4.7.1.5. Area 5, Judgment/Compliance (Critical).

4.7.1.5.1. Q. Prepared and completed mission in compliance with existing regulations and directives. Demonstrated knowledge of operating procedures and restrictions. Decisions were logical and did not jeopardize or complicate the situation.

4.7.1.5.2. U. Unaware of established procedures and/or could not locate them in the appropriate publication in a timely manner. Failed to comply with a procedure which could, or actually did jeopardize safety or successful mission completion. Consistently made poor decisions or made a major error in judgment. Flight objectives were not attained due to poor decision.

4.7.1.6. Area 6, Crew Coordination/Crew Resource Management (CRM). Use AFI 11-290, Cockpit/Crew Resource Management Training Program, and AF Form 4031, CRM Skills Criteria Training/Evaluation, as a reference.

4.7.1.6.1. Q. Effectively coordinated with other aircrew members throughout the assigned mission. Demonstrated knowledge of other crewmembers' duties and responsibilities. Effectively applied CRM skills throughout the mission.

4.7.1.6.2. Q-. Crew coordination adequate to accomplish mission. Demonstrated limited knowledge of other crewmembers' duties and responsibilities.

4.7.1.6.3. U. Poor crew coordination or unsatisfactory knowledge of other crewmembers' duties and responsibilities negatively affected mission accomplishment or safety of flight.

4.7.1.7. Area 7, Communications Procedures.

4.7.1.7.1. Q. Displayed a satisfactory knowledge of, and compliance with, correct communication procedures. Transmissions were concise and used proper terminology. Accomplished required calls and acknowledged transmissions in a manner, which enhanced mission effectiveness.

4.7.1.7.2. Q-. Displayed adequate communication procedures, but was slow or not concise in making transmissions. Transmissions contained erroneous information or included non-standard terminology. Mission effectiveness was not jeopardized.

4.7.1.7.3. U. Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Omitted required transmissions or transmitted erroneous information.

4.7.1.8. Area 8, Aircrew Flight Equipment Support Systems/Egress.

4.7.1.8.1. Q. Displayed thorough knowledge of location and use of Aircrew Flight Equipment systems and equipment. Demonstrated and emphasized the proper operating procedures used to operate aircraft egress devices such as doors, windows, hatches, slide, rafts, and escape ropes, if used.

4.7.1.8.2. Q-. Limited knowledge of location and use of Aircrew Flight Equipment support systems and equipment. Unsure of the proper operating procedures used to operate some of the aircraft egress devices, if used.

4.7.1.8.3. U. Displayed unsatisfactory knowledge of location and use of Aircrew Flight Equipment support systems and equipment. Unable to properly operate aircraft egress devices, if used.

4.7.1.9. Area 9, Knowledge/Completion of Forms.

4.7.1.9.1. Q. All required forms were complete, accurate, readable, accomplished on time and IAW applicable directives. Related an accurate description of significant events to applicable agencies (Safety, Maintenance, etc.).

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

4.7.1.9.3. U. Did not accomplish required forms. Omitted or incorrectly reported significant information due to major errors, omissions, and/or deviations.

4.7.1.10. Area 10, Airmanship/Situational Awareness (Critical).

4.7.1.10.1. Q. Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline throughout all phases of flight. Conducted the flight with a sense of understanding and comprehension.

4.7.1.10.2. U. Decisions, or lack thereof, resulted in failure to accomplish the assigned mission. Failed to exhibit strict flight and crew discipline.

4.7.2. Qualification.

4.7.2.1. Area 11, Ground Operation. This area includes all activity up to initiation of STARTING ENGINES AND BEFORE TAXI checklist.

4.7.2.1.1. Q. Complied with established preflight requirements. Accurately determined readiness of aircraft for flight. Completed all system pre-flight inspections IAW flight manual.

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

4.7.2.1.3. U. Errors directly contributed to a late takeoff that degraded the mission. Failed to accurately determine readiness for flight. Failed to pre-flight a critical component or could not conduct a satisfactory pre-flight inspection.

4.7.2.2. Area 12, Pre-takeoff, Climb, and Cruise. Pre-takeoff procedures include all activity beginning with STARTING ENGINES and BEFORE TAXI checklist. Climb procedures include all activity of AFTER TAKEOFF – CLIMB checklist to cruise. Cruise procedures include all duties not specifically covered in other areas.

4.7.2.2.1. Q. Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline. Conducted the flight with a sense of understanding and comprehension.

4.7.2.2.2. Q-. Untimely or inappropriate decisions degraded or prevented accomplishment of a portion of the mission. Resources were not always effectively used to accomplish mission objectives.

4.7.2.2.3. U. Decisions resulted in failure to accomplish the assigned mission. Failed to exhibit strict flight and crew discipline.

4.7.2.3. Area 13, Systems Operations/ Knowledge/Limitations.

4.7.2.3.1. Q. Demonstrated/explained a complete knowledge of aircraft systems operations/limitations and proper procedural use of systems with minimal reference to flight manual/available aids.

4.7.2.3.2. Q-. Marginal knowledge of aircraft systems operations and limitations in some areas. Used inappropriate technique instead of established procedure. Required moderate references to flight manual/available aids to differentiate between procedure and technique.

4.7.2.3.3. U. Unsatisfactory systems knowledge. Unable to demonstrate/explain the proper procedures for aircraft system operations. Lack of systems knowledge that could have resulted in unsafe operation of or damage to equipment.

4.7.2.4. Area 14, Abnormal/Emergency Procedures. Boom operators will be graded on their initial response and actions taken to any actual emergency/abnormal conditions that occurs either in-flight or on the ground during the evaluation (T-2).

4.7.2.4.1. Q. Operated within prescribed limits and correctly diagnosed problems. Performed/explained proper corrective action for each type of malfunction or abnormal condition. Effectively used available aids.

4.7.2.4.2. Q-. Operated within prescribed limits but slow to analyze problems or apply proper corrective actions. Did not effectively use checklist and/or available aids.

4.7.2.4.3. U. Exceeded limitations. Unable or failed to analyze problem or take proper corrective action. Did not use checklist and/or available aids.

4.7.2.5. Area 15, Weight and Balance. See **Table 4.1** for grading criteria (T-2).

Table 4.1. Weight and Balance Tolerances

Q	Weight	Error did not exceed 2,500lbs
	CG	Error did not exceed 1% MAC
Q-	Weight	Error exceeded 2,500lbs, but less than 3,500lbs
	CG	Error exceeded 1%, but less than 1.5% MAC
U	Weight	Error exceeded 3,500lbs
	CG	Error exceeded 1.5% MAC
Note: *Consider total number of errors even if no tolerances were exceeded.*		

4.7.2.6. Area 16, Passenger Handling (if observed).

4.7.2.6.1. Q. Demonstrated a thorough knowledge of required passenger handling normal/emergency procedures and equipment as outlined in applicable guidance. Passengers briefing was clear, concise, and accurate.

4.7.2.6.2. Q-. Demonstrated a limited knowledge of required passenger handling, and related emergency procedures and equipment as outlined in applicable guidance. Minor errors or omissions were made in procedures which did/could detract from the overall efficient conduct of the mission or the comfort and control of the passenger(s). Passenger briefing was accomplished with minor omission or errors.

4.7.2.6.3. U. Demonstrated an unsatisfactory knowledge of required passenger handling or related emergency procedures and equipment as outlined in applicable guidance. Procedures were not complied with which jeopardized passenger safety or control. Passenger briefing was unclear and/or ineffective.

4.7.2.7. Area 17, Manual Gear Extension. Initial Qualification and Initial Instructor Only.

4.7.2.7.1. Q. Actions required by the applicable flight manual were accomplished correctly and with no omissions.

4.7.2.7.2. Q-. Procedures required by the flight manual/checklists were accomplished with no more than minor discrepancies that did not affect the missions or use of equipment.

4.7.2.7.3. U. Incorrect actions or checklist steps not accomplished that resulted in corrective action to successfully extend the landing gear manually.

4.7.2.8. Area 18, Manual Flap Extension. Initial Qualification and Initial Instructor Only.

4.7.2.8.1. Q. Actions required by the applicable flight manual were accomplished correctly and with no omissions.

4.7.2.8.2. Q-. Procedures required by the flight manual/checklists were accomplished with no more than minor discrepancies that did not affect the mission or the use of equipment.

4.7.2.8.3. U. Incorrect actions or checklist steps not accomplished correctly, that resulted in the need for corrective action to successfully extend the flaps manually.

4.7.3. Instructor.

4.7.3.1. Area19,InstructorAbility.(Critical).Includessubareas19A– Demonstration of Knowledge (Critical), 19B – Student Briefing/Critique (Critical)

4.7.3.1.1. Q. Demonstrated the ability to communicate effectively. Provided appropriate guidance when necessary. Planned ahead and made timely decisions. Identified and corrected potentially unsafe situations.

4.7.3.1.2. U. Unable to effectively communicate or provide timely feedback to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe situations in a timely manner. Made little or no attempt to instruct.

4.7.3.2. Subarea 19A, Demonstration of Knowledge. (Critical)

4.7.3.2.1. Q. Effectively demonstrated procedures and techniques. Thorough knowledge of applicable aircraft systems, procedures, publications, and directives.

4.7.3.2.2. U. Did not demonstrate correct procedure or techniques. Insufficient depth of knowledge about applicable aircraft systems, procedures, and/or proper source material.

4.7.3.3. Subarea 19B, Student Briefing/Critique. (Critical) Use criteria and **Table 4.2**. and **Table 4.3**

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

4.7.3.3.2. U. Briefings were marginal or non-existent. Did not review student's past performance. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required.

Table 4.2. Student Briefing Factors

GRADING FACTOR	QUALIFIED	UNQUALIFIED
Organization	Briefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed Covers mission sequence of events to assure the student understands what is expected.	Did not review the students past performance. Briefings were sketchy, out of sequence, incomplete. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Student was confused and did not understand what was expected.
Mission Objective	Covered in general	Vague
How Objective Will Be Achieved	Sufficient detail	Vague
Description of Activity to be Accomplished	Sufficient for understanding	Incomplete, rambling
Purpose of Each Type Activity Scheduled	Adequately explained	Omitted
Explanation of Peculiar Aircraft Procedure or Local Operating Instructions	Adequate	Omitted
Use of Standard Terminology	Minor deviations	Rarely used
Cultivate Student Confidence	Sufficient effort	Ineffective
Arouse Student Interest	Effective	Ineffective

Table 4.3. Student Critique Factors

GRADING FACTOR	QUALIFIED	UNQUALIFIED
Data Collection	Adequate for mission reconstruction	Incomplete or irrelevant

Analysis of Discrepancies	Correct and generally complete	Incorrect
Referencing Discrepancies	Correct	Incorrect and/or Not up to date
Organization: Chronologically or by Performance area	Logically developed	Given very little consideration
Annotations/Note Taking	Legible	Illegible
Publications	Available if required to support presentation	Not available to support presentation
Corrective Actions/Recommended Additional Training	Applied correct procedures and/or recommended correct/adequate additional training to correct deficiencies	No corrective actions, additional training or personal opinion given; unable to reference additional study areas from required flight manuals or instructions
Use of Grading Criteria	Correct grade was awarded IAW applicable Instructions, Master Training List (MTL), Evaluation Standards Document (ESD), or Formal School Syllabus	Awarded incorrect grade which affected overall status or performance rating not IAW established standards
Arouse Student Interest	Effective	Ineffective

4.7.4. Mission (Tanker AAR).

4.7.4.1. Area 20, MISSION (Tanker AAR).

4.7.4.1.1. Subarea 20A, AAR (Boom). Includes all activity from PREPARATION FOR AIR REFUELING to completion of the POST AIR REFUELING CHECKLIST. Coordinated air to air refueling breakaway procedures will be initiated with the receiver within the air to air refueling envelope (T-2). An actual breakaway satisfies this requirement regardless of receiver's position. Except for initial qualification evaluations and only as a last resort at the discretion of the evaluator, TMO contact and breakaway procedure demonstrations may be verbally explained and accomplished without a receiver.

4.7.4.1.1.1. Q. Demonstrated a satisfactory knowledge of procedures and equipment. Complied with directives. Coordinated with tanker and receiver pilots. Boom control was smooth and contacts were effective. Monitored receiver closely and gave corrections as necessary. Used proper procedures and techniques that would not jeopardize mission or safety.

4.7.4.1.1.2. Q-. Same as above except for minor deviations which did not or would not jeopardize safety or mission effectiveness. Boom control was slightly erratic resulting in contacts being delayed.

4.7.4.1.1.3. U. Failed to accomplish required checks. Boom control was erratic, and/or technique used in attempting contacts resulted in delays to such extent that fuel could not be offloaded

within the time available. Inadequate knowledge, procedures, or techniques jeopardized safety of flight.

4.7.4.1.2. Subarea 20B, AAR (Boom-to-Drogue Adapter (BDA)). If observed.

4.7.4.1.2.1. Q. Demonstrated a satisfactory knowledge of procedures and equipment for the BDA. Complied with directives. Coordinated with tanker and receiver pilots. Monitored receiver closely and gave corrections as necessary. Used proper procedures and techniques that would not jeopardize mission or safety.

4.7.4.1.2.2. Q-. Same as above except for minor deviations which did not or would not jeopardize safety or mission effectiveness.

4.7.4.1.2.3. U. Failed to accomplish required checks. Inadequate knowledge, procedures, or techniques jeopardized safety of flight.

4.7.4.1.3. Subarea 20C, AAR (MPRS). If observed.

4.7.4.1.3.1. Q. Demonstrated a satisfactory knowledge of MPRS procedures and equipment. Complied with directives. Coordinated with tanker and receiver pilots. Monitored receiver closely and gave corrections as necessary. Used proper procedures and techniques that would not jeopardize mission or safety.

4.7.4.1.3.2. Q-. Same as above except for minor deviations which did not or would not jeopardize safety or mission effectiveness.

4.7.4.1.3.3. U. Failed to accomplish required checks. Inadequate knowledge, procedures, or techniques jeopardized safety of flight.

4.7.5. Mission (Cargo).

4.7.5.1. Area21,CargoLoadingandUnloading(See Requirement sat **Paragraph 4.3**.)

4.7.5.1.1. Q. Demonstrated a thorough knowledge of required procedures as outlined in the flight manual and applicable directives. Load planning was accomplished without errors or omissions. Required briefings were clear, concise and accurate. Coordinated with air terminal operation personnel (or equivalent) on cargo loading/unloading matters.

4.7.5.1.2. Q-. Demonstrated a limited knowledge of required procedures as outlined in the flight manual and applicable directives. Procedures were accomplished with errors or deviations which did/would not detract from the cargo loading/unloading operation or mission. Load planning contained minor errors or omissions without exceeding established limits. Required briefings contained minor errors or omissions.

4.7.5.1.3. U. Demonstrated an unsatisfactory knowledge of required procedures as outlined in the flight manuals and applicable manuals. Procedures were not complied with which jeopardized mission accomplishment or the safety of the cargo loading/unloading operation. Required briefings were unclear and/or ineffective causing confusion. Failed to coordinate with air terminal operation personnel (or equivalent) on cargo loading/unloading matters. Load planning contained major errors or omissions and/or exceeded limits.

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Deputy Chief of Staff, Operations

(MILDENHALL)

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 11-2, Aircrew Operations, 19 January 2012 AFI 11-202V1, Aircrew Training, 22 November 2010

AFI 11-202V2, Aircrew Standardization/Evaluation Program, 13 September 2010 AFI 11-2KC-135V1, KC-135 Aircrew Training, 4 June 2012

AFI 11-2KC-135V3, KC-135 Operations Procedures, 15 August 2013 AFI 11-215, Flight Manuals Program (FMP), 22 December 2008

AFI 11-218, Aircraft Operation and Movement on the Ground, 28 October 2011

AFI 11-290, Cockpit/Crew Resource Management Training Program, 15 October 2012 AFI 11-401, Aviation Management, 10 December 2010

AFMAN 11-210, Instrument Refresher Program (IRP), 3 February 2005 AFMAN 36-2236, Guidebook for Air Force Instructors, 12 November 2003 ATP 3.3.4.2 (C), Air-To-Air Refueling, 18 November 2013

Adopted Forms

AF Form 8, Certificate of Aircrew Qualification, 8 December 2006

AF Form 847, Recommendation for Change of Publication,

AF Form 942, Record of Evaluation

AF Form 3578, Tanker Activity Report

AF Form 3862, Flight Evaluation Worksheet

AF Form 4100, KC-135 Load Planning Worksheet

AF Form 4112, KC-135 Restraint Computation Worksheet AFTO Form 781, ARMS Aircrew/Mission Flight Data Document DD Form 175, Military Flight Plan

DD Form 1801, DoD International Flight Plan

DoD Form 365-4, Weight and Balance Clearance Form F

Abbreviations and Acronyms

AAR—Air to air refueling

ARIP—Air to air refueling Initial Point

ARCT—Air to air refueling Control Time

ATC—Air Traffic Control

ATD—Aircrew Training Device

ATS—Aircrew Training Simulator

BDA—Boom-to-Drogue Adapter

BOSS—Boom Operator Simulation System

BOWST—Boom Operator Weapon System Trainer

CG—Center of Gravity

CP—Copilot

EFTOC—Engine Failure Takeoff Continued

EPE—Emergency Procedures Evaluation

ETA—Estimated Time of Arrival

FCIF—Flight Crew Information File

FEF—Flight Evaluation File

FMS—Flight Management System

GA—Go Around

GPS—Global Positioning System

IP—Instructor Pilot

KIAS—Knots Indicated Airspeed

LOP—Line of Position

MP—Mobility Pilot

MQF—Master Question File

MPRS—Multi-point Refueling System

OFT—Operational Flight Trainer

PAR—Precision Approach Radar

RQ—Requalification

RZPT—Rendezvous Point

SOC—Senior Officer Course

TAD—Tactical Arrival and Departures

Attachment 2

KC-135 PILOT FLIGHT EVALUATION WORKSHEET EXAMPLE

Table A2.1. KC-135 Pilot Flight Evaluation Worksheet Example

AREAS/SUBAREAS	Q	Q-	U	T	REMARKS
GENERAL					
1. Directives and Publications					
2. Mission Preparation/Planning					
3. Use of Checklists					
4. Safety Consciousness (Critical)					
5. Judgment/Compliance (Critical)					
6. Crew Coordination/CRM					
7. Communication Procedures					
8. Aircrew Flight Equipment Systems/Egress					
9. Knowledge/Completion of Forms					
10. Airmanship/Situational Awareness (Critical)					
QUALIFICATION					
11. Takeoff					
12. VFR Pattern (WX Permitting)					
13. Landings					
13A. Full Flap Landing (50 Flap)					
13B. Normal Landing (40 Flap)					
13C. Partial Flap Landing (30 Flap)					
14. Landing Roll, Braking					
15. All Engine Go Around (If observed)					
16. Simulated Engine Out Operations					
16A. Engine Fire/Failure During Flight					
16B. Engine Out Approach					
16C. Engine Out GA					
16D. Engine Out Landing					
17. Boldface Emergency Procedures (Critical)					
18. Other Emergency Procedures					
19. Systems Ops/Knowledge/Limitations					
20. Automation Management					
INSTRUMENT					
21. Instrument Departure /SID					
22. Enroute Navigation/FMS					
23. Holding					
24. Use of NAVAIDS					
25. Descent/Arrival					
26. Precision Approach (one required)					

26A. ILS					
26B. PAR					
AF FORM 3862 19990601 *(EF-V1)*					
AREAS/SUBAREAS	**Q**	**Q-**	**U**	**T**	**REMARKS**
27. Non Precision Approaches (one required)					
27A. ASR					
27B. GPS/RNAV					
27C. Localizer (LOC)/VOR					
27D. TACAN					
28. Circling Appr (If avail, else verb)					
28. Missed Approach					
INSTRUCTOR					
30. Instructor Ability (Critical)					
30A. Demonstration of Knowledge (Critical)					
30B. Student Briefing/Critique (Critical)					
MISSION					
31. Ground Operations/Taxi					
32. Takeoff					
33. Radar Ops/WX Avoid/Windshear					
34. Fuel Conservation					
35. Landing					
36. Tanker AAR					
36A. Rendezvous					
36B. Platform Control					
36C. Breakaway					
36D. Overrun Procedures					
36E. Tanker AAR Formation					
37. Formation (if observed)					
37A. Lead, Departure, & Joinup					
37B. Enroute, Position Change, Breakup					
37C. AAR Formation					
MISSION (ARR)					
38. Receiver AAR					
38A. Rendezvous					
38B. Closure					
38C. AAR Position/Control					
38D. Overrun Procedures					
38E. Breakaway					
38F. IP Right Seat AAR Limit Demo					
39. Tactics (if observed)					
40. Threat Avoidance (if observed)					
41. Tactical Arrival (if observed)					

SPECIAL INTEREST ITEMS (SIIs)					
AF FORM 3862 19990601 *(EF-V1)*					

Attachment 3

KC-135 NAVIGATOR FLIGHT EVALUATION WORKSHEET EXAMPLE

Table A3.1. KC-135 Navigator Flight Evaluation Worksheet Example.

AREAS/SUBAREAS	Q	Q-	U	T	REMARKS
GENERAL					
1. Directives and Publications					
2. Mission Preparation/Planning					
2A. General					
2B. Flight Planning					
3. Use of Checklists					
4. Safety Consciousness (Critical)					
5. Judgment/Compliance (Critical)					
6. Crew Coordination/CRM					
7. Communication Procedures					
8. Aircrew Flight Equipment Systems/Egress					
9. Knowledge/Completion of Forms					
10. Airmanship/Situational Awareness (Critical)					
QUALIFICATION					
11. Ground Operations / Taxi					
12. Departure					
13. Radar Ops/WX Avoid/Windshear					
14. General Navigation and Course Adherence					
15. Navigation Systems					
16. Descent/Approach Monitor					
17. Emergency Equipment					
18. Emergency Procedures (if observed)					
19. Manual Gear Extension					
20. Manual Flap Extension					
21. Formation/Station Keeping (if observed)					
MISSION (Tanker AAR) – N/A Basic Nav					
22 Tanker AAR					
22A. Rendezvous (PP and Enroute)					
22B. Breakaway					
AF FORM 3862 19990601 *(EF-V1*					

AREAS/SUBAREAS	Q	Q-	U	T	REMARKS
22C. Overrun Procedures					
22D. Tanker AAR Formation (if observed)					
22E. AAR Track Adherence/Altitude					
MISSION (Receiver AAR) – N/A Basic Nav					
23. Receiver AAR					
23A. Rendezvous (PP and Enroute)					
23B. Breakaway					
24. Instructor Ability (Critical)					
24A. Demonstration of Knowledge (Critical)					
24B. Student Briefing/Critique (Critical)					
SPECIAL INTEREST ITEMS (SIIs)					
AF FORM 3862 19990601 *(EF-V)*					

Attachment 4

KC-135 BOOM OPERATOR FLIGHT EVALUATION WORKSHEET EXAMPLE

Table A4.1. KC-135 Boom Operator Flight Evaluation Worksheet Example.

AREAS/SUBAREAS	Q	Q-	U	T	REMARKS
GENERAL					
1. Directives and Publications					
2. Mission Preparation/Planning					
3. Use of Checklists					
4. Safety Consciousness (Critical)					
5. Judgment/Compliance (Critical)					
6. Crew Coordination/CRM					
7. Communication Procedures					
8. Aircrew Flight Equipment Systems/Egress					
9. Knowledge/Completion of Forms					
10. Airmanship/Situational Awareness (Critical)					
QUALIFICATION					
11. Ground Operation					
12. Pre-takeoff, Climb, & Cruise					
13. System Ops/Knowledge/Limitations					
14. Abnormal/Emer Procedures					
15. Weight and Balance					
16. Pax Handling					
17. Manual Gear Extension					
18. Manual Flap Extension					
INSTRUCTOR					
19. Instructor Ability (Critical)					
19A. Demonstration of Knowledge (Critical)					
19B. Student Briefing/Critique (Critical)					
MISSION (Tanker AAR)					
20. Tanker AAR					
20A. AAR (Boom)					
20B. AAR (BDA) (if observed)					
20C. AAR (MPRS) (if observed)					
MISSION (Cargo)					
21. Cargo Ldg/Unldg					

SPECIAL INTEREST ITEMS (SIIs)					
AF FORM 3862 19990601 *(EF-V1)*					

Attachment 5 (MILDENHALL)

100 OG KC-135 PILOT FLIGHT EVALUATION WORKSHEET

Table A5.1. 100 OG KC-135 Pilot Flight Evaluation Worksheet

AREA/SUB-AREAS	Q	Q-	U	T	REMARKS
GENERAL					
1. Directives and Publications					
2. Mission Prep/Planning/Performance					
3. Use of Checklists					
4. Safety Consciousness (Critical)					
5. Judgment/Compliance (Critical)					
6. Crew Coordination/CRM					
7. Communication Procedures					
8. Aircrew Flt Equipment systems/Egress					
9. Knowledge/Completion of Forms					
10. Airmanship/Situational Awareness (Critical)					
QUALIFICATION					
11. Takeoff					
12. VFR Pattern (WX permitting)					
13. Landings					
13A. Full Flap Landing (50 Flap)					
13B. Normal Landing (40 Flap)					
13C. Partial Flap Landing (30 Flap)					
14. Landing/Roll, Braking					
15. All Engine Go Around (If observed)					
16. Simulated Engine Out Operations					
16A. Engine Fire/Failure During Flight					
16B. Engine Out Approach					
16C. Engine Out Go Around					
16D. Engine Out Landing					
17. Boldface Emergency Procedures (Critical)					
18. Other Emergency Procedures					
19. Systems Ops/Knowledge/Limitations					
20. Automation Management					
INSTRUMENT					
21. Instrument Departure/SID					
22. Enroute Navigation/FMS					
23. Holding (If available, else verbal)					
24. Use of NAVAIDS					
AREA/SUB-AREAS	**Q**	**Q-**	**U**	**T**	**REMARKS**
25. Descent/Arrival					
26. Precision Approach (one required)					
26A. ILS					
26B. PAR					

27. Non Precision Approaches (one required)					
27A. A S R					
27B. G P S / R N A V					
27C. L o c a l i z e r (L O C) / V O R					
27D. TACAN					
28. Circling Approach (If avail/else verb)					
29. Missed Approach					
INSTRUCTOR					
30. Instructor Ability					
30A. Demonstration of Knowledge (Critical)					
30B. Student Briefing/Critique (Critical)					
MISSION					
31. Ground Operations/Taxi					
32. Takeoff					
33. Radar Ops/WX Avoidance/Windshear					
34. Fuel Conservation					
35. Landing					
36. Tanker AAR					
36A. Rendezvous					
36B. Platform Control					
36C. Breakaway					
36D. Overrun Procedures (If Obs/verb)					
36E. AAR Formation					
37. Formation (If Observed)					
37A. Lead/Departure & Join up					
37B. Enroute/Position Change/Breakup					
37C. AAR Formation					
MISSION (ARR)					
38. Receiver AAR					
38A. Rendezvous					
38B. Closure					
38C. AAR Position/Control					
38D. Overrun procedures (If Obs/verb)					
38E. Breakaway					
38F. IP Right Seat AAR Limit Demo					
39. Tactics (If Observed)					
40. Threat Avoidance (If Observed)					
41. Tactical Arrival (If Observed)					
UNIT					
42. Theater Specific Procedures					
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Attachment 6 (MILDENHALL)

100 OG KC-135 BOOM OPERATOR FLIGHT EVALUATION WORKSHEET

Table A6.1. 100 OG KC-135 Boom Operator Flight Evaluation Worksheet

AREA/SUB-AREAS	Q	Q-	U	T	REMARKS
GENERAL					
1. Directives and Publications					
2. Mission Preparation/Planning					
3. Use of Checklists					
4. Safety Consciousness (Critical)					
5. Judgment/Compliance (Critical)					
6. Crew Coordination/CRM					
7. Communication Procedures					
8. Aircrew Flt Equipment Systems/Egress					
9. Knowledge/Completion of Forms					
10. Airmanship/Situational Awareness (Critical)					
QUALIFICATION					
11. Ground Operation					
12. Pre-takeoff, Climb & Cruise					
13. Systems Ops/Knowledge/Limitations					
14. Abnormal/Emergency Procedures					
15. Weight & Balance					
16. Passenger Handling					
17. Manual Gear Extension					
18. Manual Flap Extension					
INSTRUCTOR					
19. Instructor Ability (Critical)					
19A. Demonstration of Knowledge (Critical)					
19B. Student Briefing/Critique (Critical)					
MISSION (Tanker AAR)					
20. Mission (Tanker AAR)					
20A. AAR (Boom)					
20B. AAR (BDA) (if observed)					
20C. AAR (MPRS) (if observed)					
MISSION (Cargo)					
21. Cargo Loading & Unloading					
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