

27 SEPTEMBER 2004

Flying Operations

T-43 OPERATIONS PROCEDURES



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

NOTICE: This publication is available digitally on the AFDPO WWW site at:
<http://www.e-publishing.af.mil>

OPR: HQ AETC/DOFV (Major Mike Kilbourn)

Certified by: HQ USAF/XOO
(Maj Gen Teresa M. Peterson)

Supersedes AFI 11-2T-43, Volume 3, 1 July 2000.

Pages: 21
Distribution: F

This instruction implements AFD 11-2, *Aircraft Rules and Procedures*, and AFI 11-202, Volume 3, *General Flight Rules*. This instruction prescribes standard operational procedures to be used by all aircrew operating Air Force T-43A aircraft. It does not apply to the Air National Guard (ANG) or Air Force Reserve Command (AFRC). File a copy of all approved waivers with this instruction. **Attachment 1** contains a glossary of references and supporting information used in this publication.

See paragraph **1.1** for guidance on submitting comments and suggesting improvements to this instruction. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 37-123, *Management of Records*, and disposed of in accordance the Air Force Records Disposition Schedule (RDS) at <https://webrims.amc.af.mil>.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

It expands takeoff minimums verbiage and adds training mission commander (TMC) responsibility to ensure all aircrew members are aware of any changes in missions and events (Chapter 2); updates en route and alternate fuel requirements (**Table 3.1**); updates alternate or holding fuel verbiage for remote or island destination (**Chapter 3**); changes “standard” runway length required to “minimum” runway required for all flap settings (**Chapter 4**); and removes Chapter 6 (local procedures) in its entirety. (Instead, this information will be incorporated via local supplements.)

Chapter 1—GENERAL INFORMATION

4

1.1. Submission of Comments and Recommendations.	4
1.2. Deviations and Waivers:	4
1.3. Supplements:	4

1.4. Definitions. 4

Chapter 2—MISSION PLANNING 5

2.1. Aircraft Commander Responsibilities and Authority. 5
2.2. Training Mission Commander (TMC) Responsibilities. 5
2.3. Weather Minimums: 5
2.4. Adverse Weather: 6
2.5. Briefing and Debriefing: 6
2.6. Unit-Developed Aircrew Aids. 6
2.7. Flight Data Verification: 7

Chapter 3—NORMAL OPERATING PROCEDURES 8

3.1. Crew Complement. 8
3.2. Interfly Agreement. 8
3.3. One-Time Flights. 8
3.4. Minimum Equipment List (MEL): 8
3.5. Advisory Calls. 8
3.6. Communications. 8
3.7. Takeoff and Landing. 9
3.8. Communications During Takeoff. 9
3.9. Runway, Taxiway, and Airfield Requirements. 9
3.10. Fuel Requirements. 9

Table 3.1. T-43 Fuel-Planning Chart. 10

3.11. Functional Check Flights (FCF) and Acceptance Check Flights (ACF): 11
3.12. Observer. 11
3.13. Personal Requirements: 11
3.14. Additional Equipment. 11
3.15. Cargo Load. 12
3.16. Ground Visual Signals. 12
3.17. Flight Crew Information File (FCIF) Procedures: 12
3.18. AFTO Form 781, ARMS Aircrew/Mission Flight Data Document. 12
3.19. Aircraft Servicing and Ground Operations: 12
3.20. Crash Position Indicators (CPI) and Emergency Locator Transmitters (ELT). 12

3.21. Passenger Documentation.	13
3.22. Cabin Security Procedures During Takeoff and Landing.	13
3.23. Need for Medical Assistance.	13
3.24. Night and Marginal Weather Operations.	13
3.25. Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR).	13
3.26. Transfer of Aircraft Control.	13
3.27. Closed Traffic Patterns.	13
3.28. Approach Category.	13
3.29. Visual Traffic Patterns.	13
Chapter 4—TRAINING	14
4.1. Qualification Training.	14
4.2. Simulated Emergency Flight Procedures:	14
4.3. Area Work.	14
4.4. Touch-and-Go Landing Limitations:	14
4.5. Engine-Out Limitations:	15
4.6. Training Maneuver Limitations.	15
Table 4.1. In-Flight Maneuver Restrictions.	15
4.7. Operating Limitations.	16
4.8. Simulated Instrument Flight.	16
Chapter 5—ABNORMAL OPERATING PROCEDURES	17
5.1. Aircrew Responsibility.	17
5.2. Takeoff Aborts:	17
5.3. Air Aborts.	17
5.4. In-Flight Practice of Emergency Procedures:	17
5.5. Prohibited Maneuvers.	17
5.6. Forms (or IMTs) Adopted.	18
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION	19

Chapter 1

GENERAL INFORMATION

1.1. Submission of Comments and Recommendations. Submit suggested improvements to this instruction on AF IMT 847, **Recommendation for Change of Publication**, to the parent MAJCOM through standardization/evaluation channels. Parent MAJCOMs will forward approved recommendations through HQ AETC/DOFV. HQ AETC/DOFV will forward interim changes and revisions to this AFI to HQ AFFSA/XOF for HQ USAF/XO approval.

1.2. Deviations and Waivers:

1.2.1. Do not deviate from the policies and guidance in this AFI except for safety reasons or when it is necessary to protect the crew or aircraft from a situation not covered by this AFI and immediate action is required. In this case, the aircraft commander has ultimate authority and responsibility for the course of action to be taken. Report all deviations or exceptions without waiver through channels to the parent MAJCOM.

1.2.2. Unless otherwise directed in this AFI, waiver authority for the contents of this document is the MAJCOM director of operations. If necessary, waiver authority may be delegated to local commanders for specific areas of this document through the appropriate MAJCOM supplement. MAJCOMs will forward informational copies of waivers to the lead command (HQ AETC/DOF).

1.3. Supplements:

1.3.1. Each MAJCOM or operational theater may supplement this AFI, but the supplement will not be less restrictive than or contradict the AFI. MAJCOM DOs may initiate long-term waiver requests to the basic document, specifying the long-term waiver approval authority, its date, and the expiration date in the appropriate MAJCOM supplement. (Limit supplement information to unique requirements only.)

1.3.2. Prior to publication, units will send one copy of their supplement through their appropriate numbered Air Force (NAF) to their parent MAJCOM for coordination. Send final copies to the appropriate NAF and parent MAJCOM.

1.4. Definitions. The explanation or definition of terms and abbreviations commonly used in the aviation community can be found in the *Federal Aviation Regulation (FAR)*, Part 1, and *DoD Flight Information Publications (FLIP)*, General Planning, Chapter 2.

Chapter 2

MISSION PLANNING

2.1. Aircraft Commander Responsibilities and Authority. An aircraft commander is designated for all flights on the flight authorizations in accordance with AFI 11-401, *Aviation Management*, and the applicable MAJCOM supplement. Each aircraft commander is:

- 2.1.1. In command of all persons aboard the aircraft.
- 2.1.2. Responsible for the welfare of the crew and the safe accomplishment of the mission.
- 2.1.3. Vested with the authority necessary to manage crew resources and accomplish the mission.
- 2.1.4. Responsible for mission planning. (Mission planning tasks may be accomplished by other crewmembers.)

2.2. Training Mission Commander (TMC) Responsibilities. TMCs are the primary navigator instructors, and they are responsible for all matters concerning navigator student training. They will make all navigator training decisions while airborne.

2.3. Weather Minimums:

2.3.1. Takeoff Minimums:

2.3.1.1. Takeoff weather minimums are published ceiling and visibility for the lowest suitable approach at the departure airfield. Base the decision to launch a local sortie on the existing weather and forecast for planned landing plus one hour. Base the decision to launch a nonlocal sortie on the existing weather at takeoff time.

2.3.1.2. Aircrews will not take off unless prevailing ceiling and visibility are at or above the lowest suitable approach minimums for the departure field. In addition, if the crosswind component exceeds the maximum allowable landing crosswind component as derived from technical order (TO) 1T-43A-1-1, *Flight Manual, Performance Data—USAF Series T-43A Aircraft*, in case immediate emergency return is required, designate a takeoff alternate.

2.3.2. **Landing Minimums.** In addition to guidance found in AFI 11-202, Volume 3, designate an alternate if, for the estimated time of arrival (ETA) \pm 1 hour for the destination airfield, the forecast winds will result in a crosswind component that exceeds the maximum allowable crosswind component for landing (TO 1T-43A-1-1).

2.3.3. **Alternate Destinations.** If two or more suitable alternates are available, aircrews may file flight plans to home field when the terminal weather is forecast to be below published landing minimums. Aircrews will compute divert fuel for the most distant alternate.

2.3.4. **Fuel Requirements.** If the destination is a remote or island destination, aircrews will have fuel on board to hold for 1 hour and 15 minutes (1 + 15) at the destination fix in lieu of an alternate. Forecast weather will meet the following restrictions for ETA plus 2 hours:

2.3.4.1. The prevailing ceiling and visibility must be at or above the published minimums for an available nonprecision approach (excluding air surveillance radar [ASR]). If a precision approach

is available, the ceiling and visibility may be intermittently below nonprecision minimums (excluding ASR), but not below precision approach minimums.

2.3.4.2. Do not file to a remote or island destination airfield if the forecast winds will result in a crosswind component that exceeds the maximum allowable crosswind component for landing (TO 1T-43A-1-1).

2.4. Adverse Weather:

2.4.1. Do not take off under conditions of freezing rain or severe icing.

2.4.2. During flight, attempt to avoid thunderstorms by at least 20 nautical miles (nm) at or above flight level (FL) 230 or 10 nms below FL 230. **NOTE:** If necessary, approaches or departures may be accomplished when thunderstorms are within 10 nms. However, the thunderstorms must not be producing any hazardous conditions (such as hail, lightning, strong winds, gusts fronts, heavy rain, wind shear, or microburst) at the airport and must not be forecast or observed to be moving in the direction of the route of flight (to include the planned missed approach corridor, if applicable).

2.4.3. Do not fly into an area of known or forecast moderate or greater mountain wave turbulence. Use good judgment when flying into any area conducive to mountain wave turbulence and avoid these areas of potential turbulence when possible.

2.4.4. Flight into areas of forecast or reported freezing rain, severe icing, or severe turbulence is prohibited. Cruising in moderate icing is also prohibited. Base flight decisions on current weather forecasts, pilot reports, and significant meteorological information (SIGMET).

2.5. Briefing and Debriefing:

2.5.1. Accomplish a formal flight briefing for all missions as follows:

2.5.1.1. All aircrew members will attend the briefing unless previously coordinated with a squadron supervisor. Squadron supervisors will determine the level of briefing required for crew changes after formal briefing.

2.5.1.2. Unit-developed briefing guides may be used to provide the briefer with a reference list of items applicable to particular missions. Those items understood by all participants may be briefed as "standard."

2.5.2. Mission and events may be modified and coordinated airborne as long as flight safety is not compromised. The aircraft commander and TMC will ensure all aircrew members are aware of any changes in mission and events.

2.5.3. As a minimum, debrief all mission deviations and unusual occurrences.

2.6. Unit-Developed Aircrew Aids. Units may develop aircrew aids, such as local area guides or in-flight guides. As a minimum, the following items should be included in these aids:

2.6.1. Briefing guides.

2.6.2. Local ultra-high frequency (UHF) channelization.

2.6.3. Appropriate airfield diagrams.

2.6.4. Emergency information (no radio [NORDO] or divert information, etc.).

2.6.5. Cross-country procedures.

2.6.6. Other information deemed necessary by the unit (stereo flight plans, local training areas, instrument preflight, etc.).

2.7. Flight Data Verification:

2.7.1. Computerized flight plans will be verified by the flight crew for route definition and fuel computation accuracy prior to departure.

2.7.2. Compute takeoff and landing data (TOLD) using TO 1T-43-1-1 and/or TO 1T-43-1CL-1, *Pilots' Abbreviated Flight Crew Checklist—USAF Series T-43A Aircraft*. All TOLD computations should be verified by another qualified T-43 pilot.

Chapter 3

NORMAL OPERATING PROCEDURES

3.1. Crew Complement. Minimum crew complement for the flight duty period is one aircraft commander and one copilot. There are no augmented T-43 crews.

3.2. Interfly Agreement. The operations group commanders (or as specified in MAJCOM supplement) may authorize the interfly of assigned aircrews and/or aircraft. Normally, interfly should be limited to specific operations, exercises, or special circumstances, but it may be used to relieve short-term qualified manpower shortfalls. Long-term interfly arrangements may be found in command-to-command memorandums of agreement or similar-type documents. Headquarters staff or NAF evaluation or inspection teams will have existing interfly arrangements.

3.3. One-Time Flights. If an aircraft has a safety-of-flight condition beyond the immediate or final repair capability of an en route facility, temporary repairs may be made to allow a one-time flight to a pre-selected facility capable of final repair. Aircraft commanders will send their recommendations to the operations group commander through the squadron commander. If a one-time flight is considered feasible, the squadron commander will coordinate with the operations group commander, who has approval authority. Approval will include flight restrictions and designated repair facility.

3.4. Minimum Equipment List (MEL):

3.4.1. MEL items are operational equipment and systems considered essential for safe flight. The 12th Operations Group is responsible for publishing the T-43 MEL. MEL items are required for all T-43 operations except as noted under the exceptions or remarks column. "En route" applies to locations where contract maintenance is not available.

3.4.2. When the aircraft commander considers an item not covered by the MEL essential, that item will be treated as if it is included in the table. The MEL does not include all of the minimum essential subsystems lists (MESL) required by the maintenance contractor.

3.5. Advisory Calls. Pilots will periodically announce their intentions when flying departures, arrivals, and approaches and/or when circumstances require deviating from normal procedures.

3.6. Communications. The Air Force does not give a promise of confidentiality to aircrews regarding their recorded aircraft crew communications. Crewmembers are expected to maintain a high degree of cockpit professionalism and crew coordination at all times.

3.6.1. The pilot not flying the aircraft normally makes all air traffic control (ATC) radio calls.

3.6.2. The pilot operating the command radios will inform the other pilot when the primary radio is changed.

3.6.3. One pilot should record and will acknowledge all ATC clearances.

3.6.4. Both pilots will monitor the ultrahigh frequency (UHF) guard (or the very high frequency [VHF] guard, when appropriate) emergency frequency regardless of primary radio in use.

3.6.5. Confine message traffic to essential operational matters. Perform a high frequency radio ground check prior to takeoff when the use of high frequency radio may be required for ATC communications. Establish high frequency contact before going out of UHF and VHF range.

3.6.6. Provide the air route traffic control center position and weather observations when required. If unable to contact an ATC agency, attempt relay through the global high frequency stations.

3.7. Takeoff and Landing. After thoroughly evaluating all conditions (including distinguished visitor status and comfort level, weather, type of approach to be flown, and crewmember experience), the aircraft commander will determine who will accomplish the takeoff and landing. The pilot in command will occupy either the left or the right seat during all takeoffs and landings. He or she will accomplish all approaches and landings under actual emergency conditions unless specific conditions dictate otherwise.

3.8. Communications During Takeoff. If a condition during takeoff arises that would make the takeoff unsafe before reaching the computed $V1/Vr$ (refusal) speed, any qualified pilot will state "abort," "abort," "abort." The takeoff will be discontinued in accordance with TO IT-43A-1-1.

3.9. Runway, Taxiway, and Airfield Requirements. Comply with the following weather and runway limits:

3.9.1. **Wind Restrictions.** Airfields will be considered below minimums for takeoff and landing when winds (including gusts) are greater than charted values for crosswinds. Crosswind component cannot exceed the maximum charted value derived from TO IT-43A-1-1 or IT-43A-1CL-1.

3.9.2. **Minimum Runway Length and Width Requirements.** The minimum runway length is 5,000 feet or critical field length (CFL), whichever is greater. Minimum runway width is 75 feet. The wing commander or operations group commander may approve intersection takeoffs if operational requirements dictate.

3.9.3. **Climatic Conditions.** If existing climatic conditions exceed charted values in TO IT-43A-1-1, takeoff will not be attempted unless additional manufacturer-approved data is provided. For example, the maximum temperature listed on the CFL chart is 50 °C. If the existing temperature is above 50 °C, takeoff data cannot be accurately calculated and takeoff will not be attempted.

3.9.4. **Runway Length for Landing.** The minimum required runway for landing is landing distance or 5,000 feet, whichever is greater, corrected for runway condition report (RCR) in accordance with TO IT-43A-1-1 (flight manual). Compute landing distance with no reverse thrust.

3.9.5. **Overruns.** If approach end overruns are available and stressed or authorized for normal operations, they may be used to increase the runway available for takeoff. Departure end overruns (if stressed and authorized) may also be used for landing if needed.

3.9.6. **Arresting Cables (Not Including Recessed Cables).** When conditions permit (aircraft gross weight, runway length, weather, winds, TOLD, etc.) and the aircraft commander has considered the potential for damaging the aircraft, takeoffs may be made beyond raised cable barriers. Do not land over any raised web barrier (for example, MA-1A, BAK-15).

3.10. Fuel Requirements. Standard fuel requirements are as follows: (*NOTE:* To ensure fuel reserve requirements of AFI 11-202, Volume 3, are met, use the guidance in [Table 3.1](#) when planning fuel for missions.)

Table 3.1. T-43 Fuel-Planning Chart.

I T E M	A	B
	Fuel Load Component	Requirement
1	Start, taxi, takeoff	1,000 pounds.
2	En route (note 1)	Fuel for planned climb and cruise to overhead the initial approach fix at lowest planned cruise altitude and highest planned cruise Mach.
3	Fuel reserve	The greater of fuel for 10 percent of flight time or 4,000 pounds.
4	Fuel reserve with an alternate (note 2)	Fuel from the initial approach fix at planned destination to overhead the alternate destination. For alternates greater than 500 nm, plan at the same altitude and temperature as the last cruise leg and .72 Mach. Use the last known wind. For alternates less than 500 nm away, plan at .60 Mach, FL 200, wind from last cruise leg, and temperature based on the last cruise altitude adjusted by the standard lapse rate of 2 degrees per thousand feet.
	or	
5	Holding (note 3)	0 + 45 fuel using holding charts at 10,000 feet. When holding in lieu of alternate is required, use 1 + 15 holding fuel computed at 20,000 feet.
6	Approach and landing	1,000 pounds.
7	Known holding delays	Fuel for planned holding when delays are anticipated.
8	Missed approach	500 pounds.

NOTES:

1. Include all planned off-course maneuvering for departure or en route deviations.
 2. When two alternates are required, compute fuel from the destination to the most distant alternate only.
 3. Minimum fuel required over destination or alternate is fuel for holding plus approach and landing or 4,000 pounds, whichever is greater.
- 3.10.1. **Fuel Reserve.** Normal landing fuel for flight planning purposes is 4,000 pounds. Plan initial arrival overhead destination with fuel for holding plus approach and landing or 4,000 pounds, whichever is greater.
- 3.10.2. **Minimum Fuel.** Minimum fuel is 3,000 pounds. Crews will declare minimum fuel when they will be landing with less than 3,000 pounds of fuel remaining.
- 3.10.3. **Emergency Fuel.** Emergency fuel is 2,000 pounds. Crews will declare an emergency when they will be landing with 2,000 pounds of fuel or less.
- 3.10.4. **Standard Ramp Load.** Units may develop standard ramp loads that meet the minimum local training mission requirements or emergency evacuation requirements, whichever is less. Defueling is not required if the required fuel load is less than the standard ramp load.

3.10.5. **Alternate (or Holding) Fuel.** This is fuel for flight from an intended destination to an alternate aerodrome at optimum altitude and normal cruise speed. Compute fuel, time, and altitude from TO 1T-43A-1-1. Aircrews going to remote or island destinations must have enough fuel on board to hold for 1 hour and 15 minutes (1+15) at the destination fix in place of an alternate. (**NOTE:** A remote or island destination is defined as any aerodrome that, due to its unique geographic location, offers no suitable alternate [civil or military].) Forecast weather for remote or island locations will meet the following restrictions for ETA plus 2 hours:

3.10.5.1. The forecast surface winds corrected for RCR must be within limits.

3.10.5.2. The prevailing ceiling and visibility must be at or above published minimums for an available nonprecision approach (excluding ASR); or, if a precision approach is available, the ceiling or visibility may be intermittently below nonprecision approach minimums (excluding ASR), but not below precision approach minimums.

3.11. Functional Check Flights (FCF) and Acceptance Check Flights (ACF):

3.11.1. FCFs and ACFs will be performed according to TO 1-1-300, *Acceptance/Functional Check Flight and Maintenance Operational Checks*, and applicable MAJCOM 21-series (maintenance) publications. Additional guidance may be found in TO 00-20-6, *Inspection System, Documentation, and Status Reporting for Ground Activated Missiles and Their Trainers, SE, and Ground C-E Equipment*; and TO 1T-43A-6CL-1, *Acceptance and Functional Check Flight Checklist T-43A*.

3.11.2. FCFs will normally be conducted in daylight visual meteorological conditions (VMC). However, the operations group commander may authorize a flight under a combination of visual flight rules (VFR), instrument flight rules (IFR), and "VFR on top" conditions. The flight will begin in VFR conditions. If the aircraft and all systems are operating properly, it may proceed IFR to penetrate cloud cover to VFR on top to continue the altitude phase of the flight.

3.11.3. If a malfunction occurs during an FCF, but is not related to the condition generating the FCF and the original condition operationally checks good, the aircraft may be released for flight.

3.12. **Observer.** If duties allow, a crewmember will occupy the jump seat anytime the aircraft is below 10,000 feet mean sea level (MSL) to assist in clearing for obstacles and traffic.

3.13. Personal Requirements:

3.13.1. **Hearing Protection.** Hearing protection should be worn at all times when working around hazardous noise-producing sources, including the flight station and passenger section during many portions of flight.

3.13.2. **Reflective Belt.** A reflective belt or suitable substitute will be worn on unlit flight lines during hours of darkness or periods of reduced visibility in accordance with AFOSH Standard 91-100, *Aircraft Flight Line - Ground Operations and Activities*.

3.13.3. **Infant Car Seat (ICS).** When children under 2 years of age are accepted as passengers, their sponsor must provide an approved ICS. Passengers may hand-carry ICSs. ICSs will be secured to a seat, using the seat belt. Adults will not hold ICSs during any phase of flight.

3.14. **Additional Equipment.** In addition to requirements in AFI 11-202, Volume 3, at least one copy of the following flight publications must be carried on each flight: TOs 1T-43A-1, *Flight Manual—USAF*

Series T-43A Aircraft; IT-43A-1-1; and IT-43A-1CL-1. When navigators are aboard, at least one copy of TOs IT-43A-1-2, *Navigator Training Systems Manual—USAF Series T-43A Aircraft*, and IT-43A-1-2CL-1, *Navigator's Abbreviated Flight Crew Checklist—USAF Series T-43A Aircraft*, must also be carried on each flight.

3.15. Cargo Load. The maximum load for the forward and aft cargo compartments is 4,276 pounds at 15 pounds per cubic foot and 2,700 pounds at 10 pounds per cubic foot, respectively.

3.16. Ground Visual Signals. The pilot will ensure no system that could pose any danger to the ground crew is activated before receiving proper acknowledgment from ground personnel. When ground intercom is not used, visual signals will be in accordance with AFI 11-218, *Aircraft Operations and Movement on the Ground*, and this AFI. The crew chief will repeat the given signal when it is safe to operate the system.

3.17. Flight Crew Information File (FCIF) Procedures:

3.17.1. Review FCIF, Volume 1 (at least the index and safety-of-flight files), before all missions or ground aircrew duties. Update the FCIF currency record with the latest FCIF item number, date, and crewmember's initials or as specified.

3.17.2. Crewmembers delinquent in FCIF review or joining a mission en route will receive an FCIF update from a primary aircrew member counterpart on the mission. Instructor pilots who fly with general officers are responsible for briefing appropriate FCIF items.

3.17.3. Crewmembers not assigned or attached to the parent unit operating the mission will certify their FCIF review by entering the last FCIF number and their initials behind their name on the file copy of either the flight authorization or their crew orders. This provision will be followed unless an FCIF card is maintained in the mission design series (MDS) squadron.

3.18. AFTO Form 781, ARMS Aircrew/Mission Flight Data Document. Review AFTO Form 781 before applying power to the aircraft or operating aircraft systems. An exceptional release (ER) must be signed before flight. A maintenance officer, maintenance superintendent, or authorized civilian will normally sign the ERO. If one of these individuals is not available, the aircraft commander may sign the ERO. Ensure the Air Force aviation intro-plane reimbursement (AIR) card or fuel identiplate is inside the AFTO Form 781 or on board the aircraft.

3.19. Aircraft Servicing and Ground Operations:

3.19.1. **Aircraft Refueling.** Aircrew members qualified in ground refueling may perform refueling duties. Aircrews will only refuel in cases when maintenance support is not readily available and the mission would be delayed. Crewmembers may augment maintenance refueling teams at en route stops.

3.19.2. **Concurrent Ground Operations.** Simultaneous refueling or defueling while maintenance operations are being performed is authorized according to TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding (ATOS)*, and will be conducted according to TO IT-43A-1.

3.20. Crash Position Indicators (CPI) and Emergency Locator Transmitters (ELT). If a CPI or ELT deploys or activates inadvertently, the ATC agency will immediately be notified.

3.21. Passenger Documentation. Ensure passengers are manifested and the required anti-hijacking inspections are performed. When passenger service is not available, leave a passenger manifest with responsible ground agency personnel prior to takeoff.

3.22. Cabin Security Procedures During Takeoff and Landing. The following procedures should be followed for takeoffs and landings:

3.22.1. Ensure all carry-on luggage and supplies are secured as soon as possible after boarding passengers. Ensure all passenger carry-on baggage is stowed to prevent a hazard during emergency landings (blocking an exit or emergency equipment, etc.). Notify the aircraft commander when excessive top-side luggage prevents safe stowage.

3.22.2. When passengers are aboard, ensure training compartment crash axes out are stored of passenger reach.

3.23. Need for Medical Assistance. When a person on board the aircraft requires medical care, inform the station of intended landing in sufficient time so medical personnel can meet the aircraft. Include the person's gender, approximate age, and major complaint in the request.

3.24. Night and Marginal Weather Operations. Fly a precision approach, if available, at night or during marginal weather. If a precision approach is not available, fly any available approved instrument approach. For training or evaluations at familiar fields, pilots may fly nonprecision approaches or VFR traffic patterns. The pilot not flying the approach will monitor a precision approach, when available, to enhance safety.

3.25. Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR). Ensure FDR and CVR systems, if installed, are operative prior to departure and operated continuously from the start of the takeoff roll until the aircraft has completed the landing roll at destination. If en route failure occurs, continue the mission to a station where adequate repairs can be made. If the aircraft is involved in a mishap or incident, open the CVR power circuit breaker after landing and after terminating the emergency.

3.26. Transfer of Aircraft Control. During flight, it is paramount to know who has control of the aircraft. During transfer of control, the pilot relinquishing control will say, "You have the aircraft." The pilot assuming control will say, "I have the aircraft." It is not important who speaks first, but both pilots must verbally acknowledge the transfer.

3.27. Closed Traffic Patterns. Initiate the pattern past the departure end of the runway unless directed or cleared otherwise by local procedures or the controlling agency.

3.28. Approach Category. The T-43 is normally Category C for all approaches. When using circling procedures or if an abnormal situation requires, use category minimums appropriate for approach speeds (usually Category D).

3.29. Visual Traffic Patterns. Entry into the visual pattern is normally via a closed pattern or initial. For entry from initial, maintain 250 knots indicated airspeed (KIAS) until the pitch to downwind. Maintain a maximum of 45 degrees of bank in the break. Once aircraft operational limits allow, configure them normally. Fly the visual pattern as defined locally.

Chapter 4

TRAINING

4.1. Qualification Training. This chapter outlines procedures, requirements, and restrictions for qualification, continuation training, and evaluation flights. Joint specialized undergraduate navigator training (JSUNT) will be conducted according to syllabus and local 12th Flying Training Wing directives. Students enrolled in JSUNT on a syllabus mission are not considered passengers.

4.2. Simulated Emergency Flight Procedures:

- 4.2.1. Use a realistic approach and do not compound emergencies.
- 4.2.2. Use radar flight following to the maximum possible, consistent with training objectives.
- 4.2.3. Conduct simulated emergencies only during training and evaluation or currency flights when an instructor pilot or flight examiner pilot is occupying one of the pilot seats.
- 4.2.4. Simulated single-engine maneuvers and no-flap approaches are not authorized at night or in instrument meteorological conditions (IMC).
- 4.2.5. Other simulated emergencies are limited to noncritical phases of flight and will be kept to a minimum during night or IMC.

4.3. Area Work. The following maneuvers are allowed when performed in an approved area work or military operating area under instructor pilot supervision: (**NOTE:** Approved FCFs may accomplish maneuvers required by TO 1T-43A-6, *Scheduled Inspection and Maintenance Requirements—USAF Series T/CT-43A Aircraft [Boeing] T-43A.*)

- 4.3.1. Approach to stalls. Straight and level with a clean configuration. Turning (maximum 20 degrees bank) with landing gear down and flap position 15. Straight and level with landing gear down and flap position 40.
- 4.3.2. Manual reversion with A and B flight control switches in STBY RUD and spoiler switches OFF. (Rudder must remain powered.)
- 4.3.3. Steep turns (maximum 60 degrees of bank).
- 4.3.4. Unusual attitudes (maximum 60 degrees of bank and 30 degrees of pitch).

4.4. Touch-and-Go Landing Limitations:

- 4.4.1. Touch-and-go landings may be performed only if an instructor pilot occupies a seat with a set of flight controls. Current and qualified instructor pilots are authorized to conduct or supervise touch-and-go landings under the following conditions:
 - 4.4.1.1. The maximum crosswind component is 25 knots or maximum charted value, whichever is less.
 - 4.4.1.2. The minimum runway length for a flaps 15 (flaps reset to 5) touch-and-go landing is 8,500 feet or twice the computed landing distance, whichever is greater. The minimum runway length required for a touch-and-go landing with flaps 30/40 (reset to 15) or flaps 15 (flaps not reset) is 8,000 feet or twice the landing distance, whichever is greater.

4.4.2. The instructor pilot will brief what reconfiguration will take place and which pilot will perform the reconfiguration. The instructor will also brief the abort procedures.

4.4.3. Other restrictions are as follows:

4.4.3.1. Reported ceiling and visibility values must be at least at the lowest compatible approach.

4.4.3.2. Wet runway or RCR must be a measured 9 or higher.

4.4.3.3. Touch-and-go landings will not be accomplished on slush covered runways.

4.4.3.4. Throttles will not be placed in reverse during a touch-and-go landing. Rejected takeoffs will not be practiced.

4.4.4. Stop-and-go landings are not authorized. (This does not prevent a full stop and taxi back to Number 1 position.)

4.5. Engine-Out Limitations:

4.5.1. Simulated engine failure is not authorized at less than engine-out minimum control speed as published in TO 1T-43A-1-1, when actual emergency condition exists, or during no-flap approach and landing. Landings may be performed with one thrust lever in idle. Simulated engine failure will not be initiated below 150 feet above ground level (AGL).

4.5.2. Pilots will not practice simulated engine-out maneuvers in the aircraft unless an instructor pilot or flight examiner pilot is occupying one of the pilot seats.

4.6. **Training Maneuver Limitations.** Adhere to the restrictions in [Table 4.1](#) on all training flights and FCFs.

Table 4.1. In-Flight Maneuver Restrictions.

I T E M	A	B	C
	Maneuver	Altitude Restrictions	Other Restrictions
1	Actual engine shutdown	5,000 feet AGL minimum.	Day, VMC only. Do not practice actual engine shutdown unless for an FCF or FCF training flight or upgrade syllabus item.
2	Simulated emergency on takeoff	Initiate above 500 feet AGL.	VMC.
3	Simulated engine-out approach and/or go-around	Initiate at or above 150 feet AGL.	Day, VMC only. In the event of a go-around below 150 feet AGL, use all engines.
4	Steep turns	5,000 feet AGL minimum.	Day, VMC only.
5	Approach to stalls and unusual attitudes	10,000 feet AGL minimum.	

4.7. Operating Limitations. Unless specifically authorized elsewhere in this chapter, do not practice emergency procedures that degrade aircraft performance or flight control capabilities. In an actual emergency, terminate all training and flight maneuvers practice. Training should be resumed only when the pilot in command determines it is safe.

4.8. Simulated Instrument Flight. Artificial vision-restricting devices are not authorized for any phase of flight. Simulated instrument flight may be flown and logged without the use of a vision-restricting device.

Chapter 5

ABNORMAL OPERATING PROCEDURES

5.1. Aircrew Responsibility. The pilot in command will accomplish all approaches and landings under actual emergency conditions unless specific conditions dictate otherwise.

5.2. Takeoff Aborts:

- 5.2.1. If an abort occurs during takeoff roll, give the call sign and state intentions when practical.
- 5.2.2. When aborting, if hot brakes are suspected, declare a ground emergency. Taxi the aircraft to the designated hot brake area and follow hot brake procedures.

5.3. Air Aborts. Regardless of apparent damage or subsequent normal operation, the mission will be aborted for any of the following reasons: bird strike or foreign object damage, flight control system anomalies, and engine flameout, stagnation, or shutdown.

5.4. In-Flight Practice of Emergency Procedures:

- 5.4.1. A simulated emergency procedure is a procedure that produces an effect that would closely parallel the actual emergency, such as retarding the throttle to a degree that produces a drag equivalent to an engine flameout or an engine with the throttle in idle.
- 5.4.2. All simulated emergency procedures will be thoroughly briefed and announced before execution. The aircraft must remain clear of clouds if asymmetric thrust is used during simulated emergencies.
- 5.4.3. Compound or multiple simulated emergencies are prohibited; for example, a simulated engine failure in addition to a simulated "A" hydraulic system failure.
- 5.4.4. Do not deactivate systems during simulated systems malfunctions. Engines will not be shut down and hydraulic systems and flight control switches will remain ON (except during manual reversion demonstrations accomplished during area work as described in [Chapter 4](#)).
- 5.4.5. All practice and/or training related to aborted takeoffs will be accomplished in the flight simulator, cockpit familiarization trainer, or static aircraft.

5.5. Prohibited Maneuvers. In addition to those maneuvers listed in TO 1T-43A-1, the following maneuvers are prohibited: (**NOTE:** An approved FCF may accomplish maneuvers required by TO 1T-43A-6.)

- 5.5.1. Attitudes greater than 20 degrees pitch (up or down) or bank angles greater than 45 degrees, unless performed in accordance with maneuvers described in [Chapter 4](#).
- 5.5.2. Practice in-flight engine shutdowns.

5.6. Forms (or IMTs) Adopted. AF IMT 847, Recommendation for Change of Publication; and AFTO Form 781, ARMS Aircrew/Mission Flight Data Document.

RONALD E. KEYS, Lt General, USAF
DCS/Air & Space Operations

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

Federal Aviation Regulation (FAR)

DoD Flight Information Publications (FLIP)

AFPD 11-2, Aircraft Rules and Procedures

AFI 11-202, Volume 3, General Flight Rules

AFI 11-218, Aircraft Operations and Movement on the Ground

AFI 11-401, Aviation Management

AFMAN 37-123, Management of Records

Air Force Records Disposition Schedule (RDS)

AFOOSH Standard 91-100, Aircraft Flight Line—Ground Operations and Activities

TO 00-20-6, Inspection System, Documentation, and Status Reporting for Ground Activated Missiles and Their Trainers, SE, and Ground C-E Equipment

TO 00-25-172, Ground Servicing of Aircraft Grounding/Bonding (ATOS)

TO 1-1-300, Acceptance/Functional Check Flight and Maintenance Operational Checks

TO 1T-43A-1-1, Flight Manual, Performance Data—USAF Series T-43A Aircraft

TO 1T-43A-1, Flight Manual—USAF Series T-43A Aircraft

TO 1T-43A-1-2, Navigator Training Systems Manual—USAF Series T-43A Aircraft

TO 1T-43A-1CL-1, Pilots' Abbreviated Flight Crew Checklist—USAF Series T-43A Aircraft

TO 1T-43A-6, Scheduled Inspection and Maintenance Requirements—USAF Series T/CT-43A Aircraft (Boeing) T-43A

TO 1T-43A-6CL-1, Acceptance and Functional Check Flight Checklist T-43A

Abbreviations and Acronyms

ACF—acceptance check flight

AGL—above ground level

ASR—air surveillance radar

CFL—critical field length

CVR—cockpit voice recorder

ER—exceptional release

FCF—functional check flight

FCIF—flight crew information file

FDR—flight data recorder
FL—flight level
ICS—infant car seat
IFR—instrument flight rules
IMC—instrument meteorological condition
JSUNT—joint specialized undergraduate navigator training
MEL—minimum equipment list
MSL—mean sea level
NAF—numbered Air Force
nm—nautical mile
RCR—runway condition report
TMC—training mission commander
TO—technical order
TOLD—takeoff and landing data
UHF—ultrahigh frequency
VFR—visual flight rules
VHF—very high frequency
VMC—visual meteorological condition

Terms

NOTE: The explanation or definition of terms and abbreviations commonly used in the aviation community may be found in *FAR*, Part 1, and *DoD FLIP*, General Planning, Chapter 2.

Air traffic control (ATC)—A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Estimated time of arrival (ETA)—Same as estimated block-in time. Landing time is different than ETA.

Familiar field—An airport at which unit assigned aircraft routinely perform transition training. Each operations group commander will designate familiar fields within his or her local flying area via a local supplement.

Local training mission—A mission scheduled to originate and terminate at home station, generated for training or evaluation, and executed at the local level.

Significant meteorological information (SIGMET)—An area weather advisory issued by a meteorological office of the International Civil Aviation Organization and relayed to and broadcast by the applicable ATC agency. SIGMET advisories are issued for tornadoes, lines of thunderstorms, embedded thunderstorms, large hail, severe and extreme turbulence, severe icing, and widespread dust or sand

storms. SIGMETs frequently cover a large geographical area and vertical thickness. They are prepared for general aviation and may not consider aircraft type or capability.