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AIR EDUCATION AND TRAINING  
COMMAND**

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VOLUME 3**



**AIR EDUCATION AND TRAINING COMMAND  
Supplement 1**

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**Flying Operations**

**T-38 AND AT-38 OPERATIONS PROCEDURES**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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**AFI 11-2T-AT-38, Volume 3, 23 August 2001, is supplemented as follows:**

This supplement applies to all AETC units. It applies to the Air Force Reserve Command, but does not apply to the Air National Guard. Maintain and dispose of records created as a result of processes prescribed in this publication in accordance with AFMAN 37-139, *Records Disposition Schedule*.

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**SUMMARY OF REVISIONS**

This revision incorporates interim change (IC) 2003-2 (**Attachment 16 (Added)**). It deletes the reference to **Table 3.1. (Added)** from paragraph **3.6.8. (Added)** and adds it to paragraph **3.6.8.3. (Added)**. It changes the title of **Table 3.1. (Added)** and places the table immediately following paragraph **3.6.8.3. (Added)** (the paragraph about nonremotely controlled BAK-15 barrier operations). (**NOTE:** In addition, it changes Item 3, Column A, of **Table 3.1. (Added)**) A bar (|) in the left margin indicates revision from the previous edition.

3.2.6. (Added) Aircrews should use extreme caution when stowing items in the rear cockpit. If it is necessary to place items on or near the rear cockpit breaker panels, they should not exceed 8 inches in height to prevent interference with the balance weight arm. After closing the canopy with items stored near the rear cockpit circuit breaker panels, aircrew should visually confirm clearance exists between the balance

weight arm and the stowed object. When the balance weight arm is fully closed, the bottom of the arm is 10 inches above the rear cockpit breaker panels.

3.2.7. (Added) For night sorties, the aircraft commander will ensure at least one operative flashlight is available in each occupied cockpit.

3.2.8. (Added) G-suits are required for all sorties except instrument or navigation.

3.3. **Ground and Taxi Operations.** Ground and taxi operations will be conducted in accordance with AFI 11-218, *Aircraft Operation and Movement on the Ground*.

3.6. **Takeoff.** During engine runup, the crewmember not in control of the aircraft will guard and be ready to assume control of the brakes in case of rudder pedal rod end failure.

3.6.7. (Added) Rolling takeoffs may be accomplished during daylight hours only.

3.6.8. (Added) The go/no-go speed for operations with or without a BAK-15 is as follows (paragraphs **3.6.8.1. (Added)** through **3.6.8.3.2.2. (Added)**): (**NOTE:** The BAK-15 is the only barrier suitable for stopping an aircraft with a pylon, pod, or suspension unit [SUU]; the MA1A is suitable only for a clean aircraft.

3.6.8.1. (Added) **Operations With a Remotely Controlled BAK-15.** Takeoffs will be accomplished on the frequency of the agency, either tower or runway supervisory unit (RSU), that controls the runway and BAK-15. The barrier will be in the lowered position and will be raised only when the pilot calls for it. (**EXCEPTION:** The barrier will be in the raised position for AT-38 SUU Category III takeoffs. The pilots will have the barrier raised prior to takeoff.) Requirements by category are as follows:

3.6.8.1.1. (Added) **Category I.** Use takeoff speed (TOS) as go/no-go speed.

3.6.8.1.2. (Added) **Category III:**

3.6.8.1.2.1. (Added) For decision speed (DS) less than TOS, approval of the OG/CC is required. After receiving approval to take off in Category III conditions, the squadron supervisor will brief the aircrew and the supervisor of flying (SOF) on the situation and ensure the crew has the most current data. Only a rated pilot may perform the takeoff. Use the TOS as the go/no-go speed.

3.6.8.1.2.2. (Added) For DS greater than TOS in a clean configuration, takeoffs are not authorized. With OG/CC approval, AT-38s with a jettisonable SUU may take off with a DS above TOS. The BAK-15 will be in the raised position for these takeoffs. Delay rotation until approximately 150 knots indicated air speed (KIAS) and ensure the nosewheel is off the runway no later than 174 knots groundspeed. Use the single engine takeoff speed (SETOS) as the go/no-go speed.

3.6.8.2. (Added) **Operations Without a BAK-15:** (**NOTE:** This includes operations when the remote control equipment is not operating and the BAK-15 is lowered.)

3.6.8.2.1. (Added) **Category I.** Use adjusted refusal speed (ARS) as go/no-go speed. Operating when critical engine failure speed (CEFS) exceeds ARS requires OG/CC approval. However, if operating under these conditions, only a rated pilot will perform the takeoff and CEFS will be used as go/no-go speed. Stopping distance for aborts with both engines running will be higher than planned in the performance charts because thrust is still being produced during the 3-second delay and after the throttles are pulled to idle. **NOTE:** Compute ARS by calculating refusal speed (RS), using runway length minus 2,000 feet.

3.6.8.2.2. (Added) **Category III.** Category III operations are prohibited.

3.6.8.3. (Added) **Operations With a Raised, Nonremotely Controlled BAK-15.** Manually raising the BAK-15 when the remote control equipment is not operating may allow operations to continue in some circumstances, as follows: (*NOTE:* In addition, see [Table 3.1. \(Added\)](#).)

**Table 3.1. (Added) Summary of Nonremotely Controlled BAK-15 Barrier Operations.**

<b>I T E M</b>	<b>A Condition</b>	<b>B BAK-15 Position</b>	<b>C Solos May Take off</b>	<b>D Formation Takeoffs</b>	<b>E Who Performs Takeoff?</b>	<b>F Use for Go/No- Go Speed</b>
<b>1</b>	Category I CEFS<ARS	down	yes	yes	any pilot	ARS
<b>2</b>		up				TOS
<b>*3</b>	Category I CEFS>ARS		yes (note)	no		
<b>4</b>	Category III DS<TOS		no		rated pilot	SETOS with delayed rotation

*NOTE:* When CFL is not within 1,000 feet of runway length.

3.6.8.3.1. (Added) **Category I.** Use TOS as the go/no-go speed. When CEFS exceeds ARS, no formation takeoffs are allowed. However, single-ship interval takeoffs are allowed. Solo students will not take off when critical field length (CFL) is within 1,000 feet of the runway length.

3.6.8.3.2. (Added) **Category III:**

3.6.8.3.2.1. (Added) When DS is less than TOS, delay rotation until approximately 150 KIAS (T-38A) or 155 KCAS (T-38C) and ensure the nosewheel is off the runway no later than 174 knots groundspeed. Only a rated pilot may perform the takeoff. Use the SETOS as the go/no-go speed.

3.6.8.3.2.2. (Added) When DS is greater than takeoff speed in a clean configuration, takeoffs are not authorized. With OG/CC approval, AT-38s with a jettisonable SUU may take off with a DS above TOS. Use the SETOS as the go/no-go speed.

3.6.9. (Added) The minimum runway available for operations is 8,000 feet. The OG/CC may waive minimum runway available to 7,000 feet. Clearance to operate on runways less than 7,000 feet requires the 19 AF/DO's approval.

3.6.10. (Added) Aircraft must have a full fuel load for all takeoffs. This requirement may be waived by OG/CC.

3.6.11. (Added) The instrument hood must be in the retracted position for all takeoffs and landings.

3.7. **Formation Takeoff.** Use at least 50 feet of wingtip clearance for engine runup with a solo in any position.

3.7.1. Single-ship takeoff and landing data will be used when calculating formation takeoff data.

3.7.3.1. Do not make formation takeoffs when runway width is less than 150 feet.

3.9.7. (Added) Maximum flight size is four aircraft unless waived by 19 AF/DO.

3.9.8. (Added) Over-the-top maneuvers will not be flown in close trail formation.

3.13.4. Unless specifically stated in the exercise or maneuver description, perform all maneuvers with gear and flaps in the retracted position.

3.13.7. (Added) The following additional maneuver parameters apply (paragraphs **3.13.7.1. (Added)** through **3.13.7.5.7. (Added)**):

3.13.7.1. (Added) Supersonic flight will be performed in accordance with AFI 13-201, *USAF Airspace Management*, and local supplements thereto.

3.13.7.2. (Added) Minimum altitudes are as follows:

3.13.7.2.1. (Added) For stalls or slow flight, 8,000 feet above ground level (AGL). Maximum altitude is flight level (FL) 200; minimum revolutions per minute are 80 percent.

3.13.7.2.2. (Added) For unlimited air combat maneuvering (ACBT), 5,000 feet AGL. For all other aerobatic maneuvers, 8,000 feet AGL.

3.13.7.3. (Added) Accomplish practice nose high recoveries or instrument unusual attitudes below FL 240 and in visual meteorological conditions (VMC).

3.13.7.4. (Added) Do not plan a mission above FL 390.

3.13.7.5. (Added) Prohibited maneuvers are as follows:

3.13.7.5.1. (Added) Practice no-flap patterns and landings with more than 2,500 pounds of fuel.

3.13.7.5.2. (Added) Practice single-engine circling approaches or overhead patterns.

3.13.7.5.3. (Added) Practice no-flap full-stop landings.

3.13.7.5.4. (Added) Practice minimum roll landings.

3.13.7.5.5. (Added) Practice in-flight engine shutdown.

3.13.7.5.6. (Added) Formation touch-and-go landings.

3.13.7.5.7. (Added) Closed and low-closed traffic patterns immediately after initial takeoff.

3.17.8. (Added) The following additional low altitude procedures apply (paragraphs **3.17.8.1. (Added)** through **3.17.8.3. (Added)**):

3.17.8.1. (Added) Conduct low altitude training no earlier than 30 minutes after sunrise (1 hour mountainous terrain) and exit the low altitude structure no later than 30 minutes prior to sunset (1 hour mountainous terrain).

3.17.8.2. (Added) Single ship low altitude training will be dual.

3.17.8.3. (Added) The maximum airspeed for undergraduate flying training (UFT) low-level operations is 420 knots. The maximum airspeed for Introduction to Fighter Fundamentals low-level operations is 450 knots.

3.18.5. (Added) The minimum altitude for flying visual flight rules (VFR) point-to-point navigation missions dictated by operational or training requirements is 3,000 feet AGL.

3.20.4. The maximum aircraft in a night formation is two. If a three- or four-ship formation takes off prior to darkness, the formation may remain together until the flight lead directs a splitup.

3.20.7. (Added) **Night Operations.** The following additional night operations procedures apply (paragraphs **3.20.7.1. (Added)** through **3.20.7.5. (Added)**):

3.20.7.1. (Added) Fly night overhead patterns only at the home base. (Lackland AFB is included for the 12th Flying Training Wing.)

3.20.7.2. (Added) All night landings require operational glidepath guidance (precision approach or visual glidepath guidance) as follows:

3.20.7.2.1. (Added) Unless required by a formal course syllabus or training associated with instructing that syllabus, the preferred night approach procedures (in descending order) are as follows: precision approach, nonprecision approach with an associated visual descent path indicator, VFR straight-in, and VFR rectangular pattern.

3.20.7.2.2. (Added) When available, use a visual descent path indicator to monitor glide slope position during visual approaches. Also use the instrument landing system (ILS) glide slope if available.

3.20.7.3. (Added) All descents below a minimum descent altitude on a nonprecision approach require an operational visual approach system.

3.20.7.4. (Added) The instrument straight-in portion of a circling approach (tactical air navigation [TACAN] A) is allowed. However, the straight-in approach must terminate in either a missed approach or a transition to visual approach guidance for landing; for example, visual approach slope indicator (VASI) or precision approach path indicator (PAPI).

3.20.7.5. (Added) Formation landings will not be accomplished at night.

3.22. **Approaches and Landings.** (*UFT only*) When airborne, before moving the gear handle, the pilot flying the aircraft will make an intercockpit “gear clear” call and pause momentarily before moving the gear handle. On presolo contact sorties, the instructor pilot (IP) will acknowledge “clear” before the student moves the gear handle. On all other sorties, “gear clear” is an advisory call only.

3.24. **Overhead Traffic Pattern.** Rated pilots may use 60-percent flaps on any instrument, visual, or overhead pattern; touch-and-go landing; or full-stop landing.

3.26. **Touch-and-Go Landings.** The maximum crosswind for single-ship touch-and-go landings is 25 knots for a dry runway.

3.30.7.3. Formation landings are prohibited when the runway width is less than 150 feet.

3.31. (Added) **Extended Daylight:**

3.31.1. (Added) Extended daylight is defined as the period 15 minutes prior to official sunrise to 15 minutes past official sunset. For local training only, daylight traffic operations and daylight area operations are in effect during the extended daylight period.

3.31.2. (Added) All maneuvers normally accomplished during normal daylight hours may be performed within the extended daylight window, including solo syllabus sorties. Under certain weather conditions, such as low ceiling and visibility, the SOF will decide if maneuvers are appropriate or safe during the times defined in paragraph **3.31.1. (Added)**.

3.32. (Added) **Bat Procedures at Randolph AFB.** Approval from the home OG/CC is required to arrive or depart during periods of increased bat activity as defined in Area Planning 1.

3.33. (Added) **Operating in High Wind or Sea States.** Units will restrict their flying operations when high winds or sea states would be hazardous to aircrew members in ejection situations. Local training flights are not permitted over land when steady state surface winds (forecast or actual) in training or operating areas exceed 35 knots. In training or operating areas, overwater training flights will not be permitted when forecast or actual wave heights exceed 10 feet or surface winds exceed 25 knots.

3.34. (Added) **Functional Check Flight (FCF) Restrictions:**

3.34.1. (Added) FCFs will not be conducted with other type missions except FCF continuation training (CT), FCF upgrade training, or FCF standardization check flights. All FCF requirements will be accomplished by an FCF pilot or a pilot in training status with an FCF IP on board. Non-FCF-qualified pilots are not authorized to fly during an FCF mission.

3.34.2. (Added) FCFs may recover at home station when originating from AETC auxiliary fields or from bases within the local flying area.

3.34.3. (Added) Instrument approaches or other AETC syllabus maneuvers not in accordance with the acceptance and functional check flight TO will not be practiced on FCF missions unless required to check the aircraft. Instrument hoods or vision-restricting devices will not be installed in FCF aircraft.

3.34.4. (Added) Rearseat publications and seat packs must be removed before solo FCFs.

3.34.5. (Added) Touch-and-go landings are not authorized on an FCF sortie unless required to complete the FCF according to the acceptance and functional check flight TO.

3.34.6. (Added) Local FCF pilots or crews are authorized to perform required FCFs on transient AETC aircraft if approved by the owning commander. All FCFs on AETC aircraft will be flown by AETC FCF pilots or crews. AETC FCF pilots or crews will not normally perform FCFs on transient aircraft from other services or commands without specific approval from the commander having operational control over the aircraft.

4.9. **Icing Restrictions.** Do not fly in known or reported icing conditions. Do not cruise in forecast icing conditions.

4.10. (Added) **Pilot Weather Categories (PWC).** PWCs are designed to reduce the exposure of pilots with limited experience to the risks inherent during periods of low ceiling and visibility. **Table 4.1. (Added)**, this supplement, specifies the PWC minimums. Before assigning a lower weather category, a PWC 1 pilot must evaluate the pilot's instrument proficiency. When calculating total time for the purpose of PWC, do not include student, UFT, or "other" flight time. Hours in an assigned aircraft may include all series or mission types of that aircraft. (See notes 1 through 8 in **Table 4.1. (Added)** for further PWC information.)

**Table 4.1. (Added) Pilot Weather Categories (PWC). (See notes 1 through 8.)**

<b>I T E M</b>	<b>A</b>	<b>B</b>	<b>C</b>
	<b>PWC</b>	<b>Minimum Flying Hour Criteria</b>	<b>Takeoff and Approach Ceiling/Visibility Minimums</b>
<b>1</b>	1	150 rated hours primary flight time in assigned aircraft and 600 hours total rated time <u>or</u> 250 rated hours in the assigned aircraft and 450 hours total rated time.	Suitable published minimums <u>or</u> 300 feet/1 mile (runway visual range 5,000 feet), whichever is greater.
<b>2</b>	2	A graduate of follow-on training who does not qualify for PWC 1.	Suitable published minimums <u>or</u> 500 feet/1 1/2 miles, whichever is greater.
<b>3</b>	3	A student enrolled in a formal follow-on training course after successful completion of a formal instrument evaluation in the assigned aircraft.	Suitable published minimums <u>or</u> 700 feet/2 miles, whichever is greater

**NOTES:**

1. For the purposes of this table, the terms “pilot” and “aircraft commander” are synonymous. Document PWCs on the Letter of Xs.
2. Assignment of PWC 1 status is dependent on the pilot’s demonstrated knowledge and performance in flight under PWC 2 operations and in aircrew training devices with low-visibility capability. The commander of the flying squadron that the pilot is assigned or attached to will certify assignment to PWC 1 by signing the Letter of Xs. The letter will be filed in the pilot’s flight training folder.
3. PWC 1 is the minimum for normal training or support missions. When overriding mission requirements dictate, OG/CCs may individually authorize highly experienced pilots to use published approach minimums. PWC 1 minimums apply to all PWC 2 pilots for approaches at the home field.
4. If an IP is on board, aircrews may use the IP’s PWC.
5. If a pilot is noncurrent in instrument approaches, increase the PWC minimums by one category. The pilot may regain currency with an IP at a dual set of controls or in a chase aircraft.
6. For formation approaches, the pilot with the most restrictive PWC minimums determines the flight’s category.
7. Use the approach-end runway visual range to determine takeoff and landing criteria.
8. T-38A/B and AT-38 pilots converting to the T-38C will be assigned PWC 2 until achieving a minimum of 50 hours in the T-38C and meet the criteria listed above for PWC 1.

4.11. (Added) **Instrument Flight Rules (IFR).** In AETC, the following requirements apply to IFRs (paragraphs **4.11.1. (Added)** through **4.11.7. (Added)**):

4.11.1. (Added) For local flying operations, aircrews do not have to designate an alternate airfield if all of the following conditions exist (per FAA Exemption No. 7389 and AFFSA AETC Waiver Vol 3/20002):

4.11.1.1. (Added) Departure and destination airfields are the same.

4.11.1.2. (Added) An IP or examiner pilot is a crewmember.

4.11.1.3. (Added) Ceiling and visibility are reported and forecasted to remain above 1,500 feet and 3 miles, respectively, for estimated time en route plus 2 hours.

4.11.2. (Added) Takeoff minimums are specified in **Table 4.1. (Added)**, this supplement. Base the decision to launch a local sortie on the existing weather and forecast for planned landing plus 1 hour. Base the decision to launch nonlocal sorties on the existing weather at takeoff time.

4.11.3. (Added) Do not file to a destination unless the ceiling and visibility for the estimated time of arrival, plus or minus 1 hour, is at or above the appropriate PWC or suitable published minimums, whichever is greater. See **Table 4.1. (Added)**, this supplement.

4.11.4. (Added) Weather requirements for an alternate requiring radar on the only suitable approach are the same as for an alternate without a published approach procedure.

4.11.5. (Added) Do not commence a penetration, en route descent, or approach unless existing ceiling and visibility meet the requirements of **Table 4.1. (Added)**, this supplement. During actual instrument meteorological conditions (IMC), a precision approach monitored by surveillance radar is the preferred approach. (This does not prevent instrument practice for other types of approaches if the ceiling and visibility are at or above minimums for the approach being flown.)

4.11.6. (Added) After commencing a penetration or approach and if weather is reported below the required PWC or published minimums (ceiling or visibility), the pilot may continue the approach to the PWC or published minimums, whichever is higher. The PWC decision height or minimum descent altitude will be determined by reference to the touch-down-zone elevation (TDZE) for straight-in approaches and field elevation for circling approaches. Use field elevation if TDZE is unavailable. The pilot may descend below the decision height or minimum descent altitude if (1) the aircraft is in a position to make a normal approach to the runway of intended landing and (2) the pilot can clearly see the approach threshold of the runway, approach lights, or other markings identifiable with the approach end of the runway. In all cases, the pilot will comply with the last clearance received until obtaining a revised clearance. **CAUTION:** The use of PWC minimums on a precision approach may require a pilot to execute a missed approach prior to the published decision height. In these instances, upon reaching PWC minimums and making the decision not to continue the approach, the pilot should start a climb immediately while proceeding to the nonprecision missed approach point (MAP). On reaching the nonprecision MAP, the pilot should continue with the published missed approach procedure.

4.11.7. (Added) When flying instrument approaches in VMC conditions, pilots may fly down to approach minimums if the runway environment is in sight when reaching applicable PWC minimums. Pilots must acknowledge reaching PWC minimums and state their intentions to their crewmembers if continuing to published minimums.

5.2.4. (Added) Ground control intercept or air combat maneuvering instrumentation is required to employ more than two aircraft during unlimited maneuvering.

5.2.5. (Added) Only two aircraft will be in a dissimilar air combat tactics visual engagement.

6.6. (Added) **Loft or Toss Attacks.** Loft or toss attacks with live ordinance are prohibited.

6.7. (Added) **Unexpended Ordnance.** Aircraft with unexpended ordnance may not perform touch-and-go landings.

7.1.1. No aircraft will be accepted for flight with the low oxygen quantity light illuminated. (The OG/CC may authorize a one-time flight below 10,000 feet MSL.) If oxygen quantity decreases to 1 liter or less when airborne, descend to at or below 10,000 feet MSL and land as soon as practical.

7.10. **Inflight Practice of Emergency Procedures.** Simulated emergency practice requires daylight and a ceiling/visibility of 1,500 feet/3 miles and VFR cloud clearance according to Table 7.1 of AFI 11-202, Volume 3, *General Flight Rules*.

7.10.1. Pilots current or upgrading in the aircraft may practice simulated emergency procedures according to aircraft-specific guidance. Pilots will not practice simulated emergency takeoff, approach, or landing procedures unless an IP or flight examiner has immediate access to aircraft controls except as follows:

7.10.1.1. (Added) Staff proficiency pilots flying dual may practice simulated emergency takeoff, approach, and landing procedures without an IP or flight examiner in the aircraft.

7.10.1.2. (Added) Students in Euro-NATO joint jet pilot training (ENJJPT) pilot instructor training (PIT) are authorized to practice simulated single-engine and no-flap approaches and landings on syllabus-directed team sorties.

7.10.2. Pilots will not practice takeoff emergency procedures below 500 feet AGL.

7.10.3. Practice in-flight engine shutdown is prohibited except for FCF missions and formal-course syllabus requirements.

7.10.5. (Added) Initiate a simulated single-engine go-around by 100 feet AGL (300 feet AGL if full flaps are used).

7.12.1.16. (Added) Split S or sliceback aerobatic maneuver entries below 18,000 feet AGL.

7.12.1.17. (Added) Lead or number three position in a four-ship formation (except the 80th Flying Training Wing).

7.12.4. (Added) When lead directs a radio change while in fingertip, each wingman will acknowledge and assume the route position unless in IMC or briefed otherwise. Return to the fingertip position after the last wingman checks in.

7.13. (Added) **T-38 Minimum Equipment (Excluding FCFs).** In AETC, the T-38 minimum equipment (excluding FCFs) is as follows (paragraphs **7.13.1. (Added)** through **7.13.5. (Added)**):

7.13.1. (Added) The following equipment must be fully operational for all sorties:

7.13.1.1. (Added) TACAN (T-38A/B, AT-38); VOR/DME (T-38C).

7.13.1.2. (Added) Landing or taxi light. (Except when detrimental to safety, pilots will display landing lights during all pattern operations.)

7.13.1.3. (Added) Primary and standby attitude director indicator.

7.13.1.4. (Added) Anticollision beacons.

7.13.1.5. (Added) Angle of attack indicator or indexer.

7.13.2. (Added) Position lights are required for night sorties.

7.13.3. (Added) A flight with an inoperable identification, friend or foe (IFF) or selective identification feature (SIF) is authorized for formation sorties with a minimum of one operable IFF or SIF per element.

7.13.4. (Added) Inoperable equipment in the rear cockpit is not restrictive for solo flight.

7.13.5. (Added) The ILS must be fully operational if a planned departure or arrival is conducted in IMC and an ILS or localizer is the only compatible instrument approach procedure. **NOTE:** Primary flight instruments must be operative in both cockpits for night or IMC flights when aviators performing aircrew duties occupy both cockpits. If an aircraft has a major maintenance discrepancy, only the OG/CC exercising operational control over that aircraft may approve a one-time flight.

8.7. (Added) **Form Adopted.** AF Form 847.

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

AFI 13-201, *USAF Airspace Management*

***Abbreviations and Acronyms***

**ARS**—adjusted refusal speed

**CEFS**—critical engine failure speed

**CFL**—critical field length

**DS**—decision speed

**FCF**—functional check flight

**FL**—flight level

**MAP**—missed approach point

**OG/CC**—operations group commander

**PWC**—pilot weather category

**SETOS**—single engine takeoff speed

**SOF**—supervisor of flying

**SUU**—suspension unit

**TDZE**—touch-down-zone elevation

**TOS**—takeoff speed

**UFT**—undergraduate flying training

**Attachment 15 (Added)****IC 2003-1****INTERIM CHANGE (IC) 2003-1 TO AFI 11-2T-AT-38, VOLUME 3/AETC SUP 1, T-38 AND AT-38 OPERATIONS PROCEDURES****12 AUGUST 2003****SUMMARY OF REVISIONS**

This IC incorporates flight crew information file (FCIF) guidance on takeoff and landing data (TOLD) and allows operations to continue under some circumstances where the BAK-15 remotely control equipment is not operating. When incorporated into the supplement, this IC will be the last attachment. A bar (|) in the left margin indicates revision from the previous edition.

OPR: HQ AETC/DOFV (Lt Col Kurt Anders)

Certified by: HQ AETC/DOF (Col Anthony A. Imondi)

**Approving Authority:**

THOMAS J. QUELLY, Colonel, USAF

Deputy Director of Operations

3.6.8. (Added) The go/no-go speed for operations with or without a BAK-15 is as follows (paragraphs **3.6.8.1. (Added)** through **3.6.8.3.2.2. (Added)**): (**NOTE:** The BAK-15 is the only barrier suitable for stopping an aircraft with a pylon, pod, or suspension unit [SUU]; the MA1A is suitable only for a clean aircraft. See **Table 3.1. (Added)** for a summary of BAK-15 barrier operations.)

**Table 3.1. (Added) Summary of BAK-15 Barrier Operations.**

<b>I T E M</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
	<b>Condition</b>	<b>BAK-15 Position</b>	<b>Solos May Take off</b>	<b>Formation Takeoffs</b>	<b>Who Performs Takeoff?</b>	<b>Use for Go/No- Go Speed</b>
<b>1</b>	Category I CEFS<ARS	down	yes	yes	any pilot	ARS
<b>2</b>		up				TOS
<b>3</b>			yes (note)	no		
<b>4</b>	Category III DS<TOS		no		rated pilot	SETOS with delayed rotation

**NOTE:** When CFL is not within 1,000 feet of runway length.

**3.6.8.1. (Added) Operations With a Remotely Controlled BAK-15.** Takeoffs will be accomplished on the frequency of the agency, either tower or runway supervisory unit (RSU), that controls the runway and BAK-15. The barrier will be in the lowered position and will be raised only when the pilot calls for it. (**EXCEPTION:** The barrier will be in the raised position for AT-38 SUU Category III takeoffs. The pilots will have the barrier raised prior to takeoff.) Requirements by category are as follows:

**3.6.8.1.1. (Added) Category I.** Use takeoff speed (TOS) as go/no-go speed.

**3.6.8.1.2. (Added) Category III:**

3.6.8.1.2.1. (Added) For decision speed (DS) less than TOS, approval of the OG/CC is required. After receiving approval to take off in Category III conditions, the squadron supervisor will brief the aircrew and the supervisor of flying (SOF) on the situation and ensure the crew has the most current data. Only a rated pilot may perform the takeoff. Use the TOS as the go/no-go speed.

3.6.8.1.2.2. For DS greater than TOS in a clean configuration, takeoffs are not authorized. With OG/CC approval, AT-38s with a jettisonable SUU may take off with a DS above TOS. The BAK-15 will be in the raised position for these takeoffs. Delay rotation until approximately 150 knots indicated air speed (KIAS) and ensure the nosewheel is off the runway no later than 174 knots groundspeed. Use the single engine takeoff speed (SETOS) as the go/no-go speed.

**3.6.8.2. (Added) Operations Without a BAK-15:** (*NOTE:* This includes operations when the remote control equipment is not operating and the BAK-15 is lowered.)

**3.6.8.2.1. (Added) Category I.** Use adjusted refusal speed (ARS) as go/no-go speed. Operating when critical engine failure speed (CEFS) exceeds ARS requires OG/CC approval. However, if operating under these conditions, only a rated pilot will perform the takeoff and CEFS will be used as go/no-go speed. Stopping distance for aborts with both engines running will be higher than planned in the performance charts because thrust is still being produced during the 3-second delay and after the throttles are pulled to idle. *NOTE:* Compute ARS by calculating refusal speed (RS), using runway length minus 2,000 feet.

**3.6.8.2.2. (Added) Category III.** Category III operations are prohibited.

**3.6.8.3. (Added) Operations With a Raised, Nonremotely Controlled BAK-15.** Manually raising the BAK-15 when the remote control equipment is not operating may allow operations to continue in some circumstances, as follows:

**3.6.8.3.1. (Added) Category I.** Use TOS as the go/no-go speed. When CEFS exceeds ARS, no formation takeoffs are allowed. However, single-ship interval takeoffs are allowed. Solo students will not take off when critical field length (CFL) is within 1,000 feet of the runway length.

**3.6.8.3.2. (Added) Category III:**

3.6.8.3.2.1. (Added) When DS is less than TOS, delay rotation until approximately 150 KIAS (T-38A) or 155 KCAS (T-38C) and ensure the nosewheel is off the runway no later than 174 knots groundspeed. Only a rated pilot may perform the takeoff. Use the SETOS as the go/no-go speed.

3.6.8.3.2.2. (Added) When DS is greater than takeoff speed in a clean configuration, takeoffs are not authorized. With OG/CC approval, AT-38s with a jettisonable SUU may take off with a DS above TOS. Use the SETOS as the go/no-go speed.

**Abbreviations and Acronyms(Added)**

**CEFS**—critical engine failure speed

**CFL**—critical field length

**SETOS**—single engine takeoff speed

**TOS**—takeoff speed

## Attachment 16 (Added)

## IC 2003-2

## INTERIM CHANGE (IC) 2003-2 TO AFI 11-2T-AT-38, VOLUME 3/AETC SUP 1, T-38 AND AT-38 OPERATIONS PROCEDURES

4 SEPTEMBER 2003

## SUMMARY OF REVISIONS

This IC deletes the reference to **Table 3.1. (Added)** from paragraph **3.6.8. (Added)** and adds it to paragraph **3.6.8.3. (Added)** It changes the title of **Table 3.1. (Added)** and places the table immediately following paragraph **3.6.8.3. (Added)** (the paragraph about nonremotely controlled BAK-15 barrier operations). (**NOTE:** In addition, it changes Item 3, Column A, of **Table 3.1. (Added)**) When incorporated into the supplement, this IC will be the last attachment. A bar (|) in the left margin indicates revision from the previous edition.

**3.6.8. (Added)** The go/no-go speed for operations with or without a BAK-15 is as follows (paragraphs **3.6.8.1. (Added)** through **3.6.8.3.2.2. (Added)**): (**NOTE:** The BAK-15 is the only barrier suitable for stopping an aircraft with a pylon, pod, or suspension unit [SUU]; the MA1A is suitable only for a clean aircraft.)

**3.6.8.3. (Added) Operations With a Raised, Nonremotely Controlled BAK-15.** Manually raising the BAK-15 when the remote control equipment is not operating may allow operations to continue in some circumstances, as follows: (**NOTE:** In addition, see **Table 3.1. (Added)**.)

Table 3.1. (Added) Summary of Nonremotely Controlled BAK-15 Barrier Operations.

I T E M	A  Condition	B  BAK-15 Position	C  Solos May Take off	D  Formation Takeoffs	E  Who Performs Takeoff?	F  Use for Go/No- Go Speed
1	Category I CEFS<ARS	down	yes	yes	any pilot	ARS
2		up				TOS
3	Category 1 CEFS>ARS			yes (note)	no	
4	Category III DS<TOS		no		rated pilot	SETOS with delayed rotation

**NOTE:** When CFL is not within 1,000 feet of runway length.

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Deputy Director of Operations