



DEPARTMENT OF THE NAVY

COMMANDER
TRAINING AIR WING FIVE
7480 USS ENTERPRISE STREET SUITE 205
MILTON, FLORIDA 32570-6017

IN REPLY REFER TO:

COMTRAWINGFIVEINST 1555.2B
N8

17 Jun 16

COMTRAWINGFIVEINST 1555.2B

Subj: AEROMEDICAL TRAINING PROGRAM FOR TRAINING AIR WING FIVE

Ref: (a) OPNAVINST 3710.7U
(b) COMTRAWINGFIVEINST 3710.24 Dynamic Hypoxia Training
(c) COMNAVAIRFORINST 3710.2

Encl: (1) Memorandum 3710.7U T-6B Squadron Level A Annual Training
(2) Memorandum 3710.7U T-6B TRAWING FIVE Level A Annual Training
(3) T-6B Ejection Seat/Emergency Ground Egress/ALSS Training Instructor Personnel Qualification Sheet
(4) MK16 Ejection Seat Brief and Egress Outline
(5) T-6B Annual Aeromedical Training Requirement Roster
(6) 3710.7U Level A Annual Aeromedical Briefs Learning Objectives

1. Purpose. To establish Training Air Wing (TRAWING) FIVE policy and assign responsibilities for implementing reference (a) to ensure all aeromedical training requirements are met.

2. Cancellation. COMTRAWINGFIVEINST 1555.2A.

3. Background. Reference (a) outlines all annual aeromedical training requirements. These requirements are a combination of aeromedical briefs and dynamic training evolutions. This instruction outlines TRAWING FIVE implementation procedures and policy for ensuring all required training objectives are met and appropriately trained personnel provide the training.

4. Responsibilities. The Aeromedical Safety Officer (AMSO) is designated in writing by Commander, TRAWING FIVE as the Aeromedical Training Program Manager (ATPM). In the event the AMSO is unable to hold this position, this duty should be delegated to a Wing Flight Surgeon or a Wing Safety Officer and supported by the AMSO assistant. The ATPM is responsible for training all new aeromedical training instructors and ensuring the aeromedical training curriculum meets all objectives listed in reference (a). Squadron NATOPS officers or their assigned assistants shall coordinate all training with the ATPM to ensure training is regularly available to aircrew. When aircrew completes all or a portion of their annual aeromedical training, it is the responsibility of the ATPM to send attendance notification to squadron NATOPS Officers or assigned assistants. Notification should be sent to the NATOPS Officers using enclosure (1) or (2).

The ATPM shall be assisted in this responsibility as follows:

a. TRAWING FIVE T-6B Program Manager. Shall be qualified and provide four squadron NATOPS/Assistant NATOPS Instructors per VT squadron to conduct Ejection Seat, Emergency Ground Egress, and Aviation Life Support System (ALSS) training. All instructors shall be qualified by the ATPM per enclosure (3).

b. T-6B NATOPS Officers/Assistant(s). Shall assist the ATPM in the implementation of the Aeromedical Training Program (ATP) by instructing on a rotation coordinated by the ATPM. NATOPS Officers are only authorized to conduct Ejection Seat, Emergency Ground Egress, and ALSS training. On a case by case basis, NATOPS qualified T-6B pilots, who are not NATOPS officers, may become Ejection Seat, Emergency Ground Egress, and ALSS instructors. Prior to conducting any training, all instructors shall receive appropriate instructor training from the ATPM and have it documented using enclosure (3).

c. Flight Surgeons (FS). Shall assist the ATPM in the implementation of the ATP. Flight Surgeons are only authorized to conduct the following briefs: Hypoxia Awareness Training, G-Tolerance Improvement Procedures, G-Induced Loss of Consciousness, and Sensory Problems. Prior to providing any aeromedical training, the FS shall receive appropriate instructor training from the ATPM and have it documented using enclosure (3).

d. Naval Aerospace and Operational Physiologists (NAOP). May assist the ATPM in the implementation of the ATP. Prior to providing any aeromedical training, the Naval Airspace Physiologist (NAP) shall receive appropriate instructor training from the ATPM and have it documented using enclosure (3). Any designated NAP qualified to provide these briefs for Naval Survival Training Institute (NSTI) may forgo the TRAWING FIVE training process at the discretion of the ATPM.

5. Aeromedical Training. Only personnel trained or authorized by the ATPM can conduct the Aeromedical training.

a. T-6B Ejection Seat Training. Reference (a) requires aircrew to receive annual ejection seat training. The TRAWING FIVE T-6B Ejection Seat Trainer (EST), located in Building 2994, satisfies this requirement and is the primary device for teaching proper ejection procedures, strap-in procedures and basic use of the T-6B ejection seat. Training shall be under the supervision of a qualified instructor. Enclosure (4) outlines all required learning objectives to be briefed.

b. T-6B Emergency Ground Egress. Reference (a) requires all aircrew to receive annual emergency ground egress procedures. The TRAWING FIVE T-6B Emergency Procedure Trainer (EPT) satisfies this requirement and is the primary device for teaching proper techniques for emergency ground egress from the T-6B. All students and instructors shall perform initial emergency ground egress training with this device. Training shall be under the supervision of a qualified instructor. Enclosure (4) outlines all required learning objectives to be briefed. Subsequent annual recurrent training may be conducted in the plane. During aircraft egress training the Canopy Fracturing System (CFS) pin and ejection seat safety pin shall be installed to prevent inadvertent activation.

(1) EPT Pre/Post-flight. Instructors shall comply with the following safety checks and procedures:

(a) Power up and inspect EPT/EST for presence of emergency oxygen supply hose, ejection seat safety pin, CFS handle safety pin and the proper function of all pins, handles, switches, lights and ICS. Ensure the leg restraints are routed properly, the inertial reel is functioning properly, and the seat pan is properly secured to the seat. Report all discrepancies to the maintenance contractor for resolution using the Maintenance Data Collection Forms (one discrepancy per form) located in the log book provided at the EPT.

(b) Upon completion of training, ensure emergency oxygen supply hoses are stored in the EPT/EST lock box. Replace all seat attachments in the proper position on both devices and lower the canopy on the EPT.

(c) Log all discrepancies in the log book provided at the EPT/EST, ensure appropriate NATOPS entries are completed on all students/instructors, generate a Training Integration Management System (TIMS) roster and/or an Annual Aeromedical Training Roster enclosure (5).

(2) Egress Training. Initial training shall be conducted in flight gear to include properly fitted torso harness, helmet (visor down), G-suit, and oxygen mask. T-6B NATOPS qualified aircrew are not required to wear flight gear during annual refresher emergency ground egress training.

(a) Prior to egress training, instructors shall utilize the EST to conduct T-6B ejection seat training, emergency ground egress and teach the strap-in procedures as outlined in NATOPS. T-6B NATOPS qualified aircrew are not required to be briefed on strap-in procedures.

(b) Instructors shall teach strap-in procedures in the EPT. Once prepared, the instructor will present the aircrew with an emergency situation and observe the aircrew demonstrating the proper emergency ground egress procedures. If the egress procedures are not conducted in accordance with NATOPS or completed in a timely manner, the aircrew shall repeat the egress drill.

(3) Injury Procedures. If a student is injured during training, the instructor shall ensure the following are accomplished:

(a) Immediately suspend training.

(b) Ensure the student does not move.

(c) Perform a primary survey of the student's injuries.

(d) Direct the Class Leader to muster uninvolved students in the classroom.

(e) Notify base Emergency Medical Services (EMS) at 911, if required.

(f) Perform CPR/first aid, as required.

(g) At an appropriate time, inform the Wing Safety Officer and AMSO of student injury and file official injury report, as appropriate.

(4) Aviation Life Support Equipment/Systems. A lecture and hands-on demonstration of man-mounted and seat kit ALSE/S shall be conducted in conjunction with T-6B ejection seat training. All aircrew should have the opportunity to receive hands-on training using the available training assets. Enclosure (4) outlines all required learning objectives to be briefed.

(5) Aeromedical Aspects of Ejection. The Aeromedical Aspects of Ejection lecture should be addressed in conjunction with instrument ground school. Per reference (a), this training can be conducted by any T-6B qualified instructor trained by the ATPM. Enclosure (4) outlines all required learning objectives to be briefed.

(6) Hypoxia Awareness Training. Per reference (a), hypoxia awareness training shall be conducted annually for T-6B aircrew. The Reduced Oxygen Breathing Device (ROBD) shall be used to meet the biennial Dynamic Hypoxia Training (DHT) requirement per reference (c). ROBD training shall be conducted in the T-6B OFT. Procedures for conducting DHT are outlined in reference (b). If the ROBD is unavailable or simulators are not functional, a hypoxia awareness brief designed by the ATPM shall be used to meet the requirement. This brief shall only be conducted by the AMSO, FS or a NAP. Enclosure (6) outlines all required learning objectives to be briefed.

(7) G-Tolerance Improvement Procedures/G-Induced Loss of Consciousness. Per reference (a), G-Tolerance Improvement Procedures (GTIP) and G-Induced Loss of Consciousness (GLOC) briefs shall be conducted annually for T-6B aircrew. This requirement shall be met using a brief designed by the ATPM and be conducted by the AMSO, FS or NAP. Enclosure (6) outlines all required learning objectives to be briefed.

(8) Sensory Problems. Per reference (a), a Sensory Problems brief shall be conducted annually for all aircrew. This requirement shall be met using a brief designed by the ATPM and be conducted by the AMSO, FS or NAP. Enclosure (6) outlines all required learning objectives to be briefed.


M. T. MURRAY

Distribution:
COMTRAWINGFIVEINST 5216.1U
List II (f, i, k)

Date

MEMORANDUM

From: Aeromedical Safety Officer, TW-5
To: Squadron NATOPS Officers

Subj: 3710.7U LEVEL A ANNUAL TRAINING

1. The personnel listed have completed the following 3710.7U Level A Annual Training Requirements on dd-mmm-yy:

- T-6B Aeromedical Aspects of Ejection
- T-6B Ejection Seat Training
- T-6B Emergency Ground Egress
- GLOC/GTIP Training
- Hypoxia Awareness Training
- Sensory Problems

NAME	RANK	SQUADRON

T. A. AMSO
RANK, MSC USN

Date

MEMORANDUM

From: Aeromedical Safety Officer, TW-5
To: CTW-5 NATOPS Officers

Subj: 3710.7U LEVEL A ANNUAL TRAINING

1. The personnel listed have completed the following 3710.7U Level A Annual Training Requirements on dd-mmm-yy:

Sensory Problems/Spatial Disorientation

NAME	RANK	SQUADRON

T. A. AMSO
RANK, MSC USN

**TRAINING AIR WING FIVE
AEROMEDICAL TRAINING PROGRAM
INSTRUCTOR QUALIFICATION SHEET**

This qualification sheet specifies the requirements for qualification as a T-6B Ejection Seat/Emergency Ground Egress/ALSS Training Instructor at Training Air Wing FIVE.

Name: _____ Rank: _____

Service: _____ Squadron: _____

1. Qualified: NATOPS/Assistant NATOPS Instructor (NI/ANI), Aerospace Physiologist, Flight Surgeon, Wing Safety Officer, Wing Aviation Safety Officer or NATOPS qualified T-6B Instructor. _____
2. Read and understand COMTRAWINGFIVEINST 1555.2B. _____
3. Complete ejection seat/emergency ground egress/ALSS training as a student. _____
4. Observe one training lecture/lab conducted by the TRAWING FIVE ATPM. _____
5. Teach one training lecture/lab as an Instructor under supervision of the TRAWING FIVE ATPM. _____

Qualified as:

Ejection Seat/Emergency Ground Egress/ALSS Training Instructor _____

Hypoxia Awareness Instructor _____

GLOC/GTIP Instructor _____

Sensory Problems Training Instructor _____

TRAWING FIVE ATPM

DATE

MK16 EJECTION SEAT BRIEF AND EGRESS OUTLINE

1. Canopy system
 - a. Ejection with canopy in any position other than fully locked could cause seat malfunction and serious injury.
2. Ejection Seat
 - a. Garter connections and proper positioning
 - b. Leg restraint adjustment
 - c. SSK function, adjustment, and purpose
 - d. Lap belt fitting function, adjustment, and purpose
 - e. G-suit connection
 - f. Emergency oxygen hose and main oxygen hose function and purpose
 - g. Shoulder restraint fittings function and purpose
 - h. Communication cords function and purpose
 - i. CRU-60 function and purpose (do not remove from harness connection point)
 - j. MOR handle function and purpose (can only be used after ejection)
 - k. Emergency O2 actuator function and purpose
 - i. Duration up to 10 min
 - ii. Positive pressure breathing
 - l. Seat adjustment function, purpose, and adjustment
 - m. Canopy breakers
 - n. Ejection handle
 - o. Seat safety pin
 - p. ISS purpose and function
 - i. Command forward
 - ii. Both
 - iii. Solo
 - q. Seat kit release handle location and function
 - i. Do not use handle to release seat kit over land
 - ii. A released kit will hang from 12 foot lanyard
 - iii. If SSK is not needed post-ejection, you may disconnect SSK on descent by releasing both lap strap fittings
 - r. ADU function and purpose (leave in manual)
 - s. URT-140 location and purpose
 - i. Doesn't signal when submerged
 - ii. Starts signaling automatically upon seat/man separation
 - iii. To use PRC-90 set URT-140 to; untimed, 406 beacon, blade antenna
3. ALSE – describe location and function
 - a. Vest Pocket Contents
 - i. Mirror
 - ii. PRC-90-2 survival radio
 - iii. Strobe light
 - iv. Shroud line cutter/knife
 - v. Sea dye marker
 - vi. Sidewinder flashlight
 - vii. Tourniquet

- b. SSK Contents
 - i. URT-140 emergency locator beacon
 - ii. Raft
 - iii. MK-124 Day/Night Flare
 - iv. First aid kit
 - v. Water bags (x2)
 - vi. Water Storage Bags (x2)
 - vii. Signal Blanket
 - viii. Bailing Sponge
 - ix. Light Stick
- c. HGU-68 Helmet
- d. CRU-60 Oxygen Connector
 - i. Preflight gasket
- e. MBU-23/12 series Oxygen Masks
 - i. 2 clicks on bayonet fittings
 - ii. Adjust mask for each flight
 - iii. Vomit in mask must notify paraloft so mask can be disassembled, properly cleaned and op checked
- 4. IROK/ADR/PLF
 - a. Overwater
 - i. After water entry, only release right SSK fitting because releasing the left side may result in loss of SSK and survival items
 - b. Overland
 - i. Keep SSK attached or Discard SSK
 - ii. PLF (Balls of feet, side of calf, side of thigh, side of buttocks, shoulder blade)
 - 1. Heels should never touch ground during PLF
- 5. Seat/man separation and chute deployment
 - a. Chute will deploy between 14-16K
 - b. High altitude (>15K)
 - i. Barostatic time release unit monitors altitude and g load conditions
 - ii. When altitude and g load conditions are satisfactory chute is deployed and seat/man separation is initiated
 - iii. If over high terrain (>8K), consider using the MOR
 - c. Low altitude (8-15K)
 - i. G load monitored when satisfactory chute deployment and seat man separation is initiated
 - d. Low altitude (<8K)
 - i. Chute deploys and seat/man separation occurs
- 6. Ground emergency egress
 - a. Refer to NATOPS Flight Manual
- 7. Discuss T-6 recent incidents and HAZREPS that are relevant to egress and ejection

AEROMEDICAL ASPECTS OF EJECTION FOR MK16

1. Ejection decision
 - a. Out of controlled flight - eject by 6K AGL
 - b. Controlled flight - eject no lower than 2K AGL
 - c. Should be briefed prior to flight
 - d. Psychological factors that cause ejection delay
2. Ejection envelope
 - a. Zero airspeed zero altitude capability
 - b. T-6B NATOPS Flight Manual range 103-231 lbs.
 - c. 125-180 KIAS is the optimum airspeed for ejection
3. Optimal body position
 - a. Head firmly against headrest
 - b. Elevate chin 10 degrees
 - c. Press shoulders back against the seat
 - d. Hold elbows firmly to sides
 - e. Press buttocks firmly to the back of the seat
 - f. Attempt to place thighs firmly to the seat
 - g. Place heels firmly on the deck, balls of feet on rudder pedals
4. Ejection initiation
 - a. 30-50 lbs of force required to pull ejection seat handle
 - b. Use one of the two approved hand positions for ejection initiation
 - c. Pull ejection handle up and towards abdomen keeping elbows close to sides
5. Seat/man separation and chute deployment
 - a. High altitude (>15K)
 - i. Barostatic time release unit monitors altitude and G load conditions
 - ii. When altitude and G load conditions are satisfactory chute is deployed and seat/man separation is initiated
 - iii. If over high terrain, consider using the MOR
 - b. Low altitude (8-15K)
 - iv. G load monitored when satisfactory chute deployment and seat/man separation is initiated
 - c. Low altitude (<8K)
 - v. Chute deploys and seat/man separation occurs
6. IROK/ADR/PLF (if not covered during egress)
 - a. Overwater
 - i. After water entry, only release right SSK fitting because releasing the left side may result in loss of SSK and survival items
 - b. Overland
 - i. Keep SSK attached
 - ii. Discard SSK
 - iii. PLF (balls of feet, side of calf, side of thigh, side of buttocks, shoulder blade)
7. Hazards
 - a. Flash burn
 - b. Cockpit missile hazards/loose gear

- c. Poor body position
 - i. Flail injuries
 - ii. Spinal fractures
 - iii. Soft tissue injuries
 - d. Excessively heavy or light body weight
 - i. Reduces stability of seat post ejection
 - ii. Individuals <103 lbs could be injured during ejection
 - iii. Individuals >231 lbs may not clear aircraft during ejection
 - iv. Heavy individuals have a higher descent rate after parachute deployment
 - e. Wind blast injuries
 - i. Ensure mask is on and visor is down
 - ii. Proper body position is key to reducing flailing injuries
 - f. ALSE fit
 - i. DO NOT attempt to make adjustments to your torso harness. If you have fitting issues with the harness see your PR shop
 - g. Landing in winds in excess of 25 knots increases risk of severe injury or death
 - h. PLF injuries
 - i. Extremity fractures and soft tissue injuries
8. Discuss recent incidents and HAZREPS that are relevant to ejection
9. Static seat body position and ejection handle pull
- a. Student sits in seat
 - b. Analyze proper body position and ejection handle grip
 - c. Handle is pulled by shrugging shoulders and pulling up and into the body keeping elbows close to their side

T-6B ANNUAL AEROMEDICAL TRAINING REQUIREMENT ROSTER

INSTRUCTOR _____

DATE _____

Rank, First Name, Last Name	Squadron	GLOC/ GTIP	Egress/ Ejection	Hypoxia/ DHT
1				
2				
3				
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**3710.7U Level A Annual Aeromedical Briefs
Learning Objectives**

Hypoxia Awareness Training Learning Objectives

1. List and describe types of hypoxia
2. Effects of altitude on blood O₂ saturation
3. Describe time of useful consciousness
4. Hypoxia symptoms
5. Describe T-6B OBOGS systems
6. Effects of OBOGS free flow conditions on aircrew
7. T-6 regulator and composition control
8. Effects of cycling the T-6 regulator on the OBOGS system (BIT 3 mins warnings disabled)
9. Describe T-6 emergency oxygen
10. Describe what Oxygen Paradox is and why it occurs
11. Procedures to recover from hypoxia
12. Platform specific HAZREPS

GLOC and GTIP Learning Objectives

1. Effects of Gs on the human body
2. Effects of Gs: magnitude, onset rate, and duration
3. Describe GLOC, ALOC, blackout and greyout
4. Types of incapacitation due to GLOC
5. Factors affecting G-tolerance
6. Push-pull effect
7. Benefits and possible drawbacks of physical conditioning on G-tolerance
8. G-tolerance improvement procedures
9. Platform specific HAZREPS

Sensory Problems Learning Objectives

1. When spatial disorientation will most likely strike
2. Discuss factors that increase risk of experiencing spatial disorientation
3. Spatial strategy
4. The role of vision in orientation
5. Day and night vision
6. Focal vs. ambient vision
7. Monocular and binocular vision
8. Size reference illusions
9. Featureless terrain and optical flow
10. Black hole illusion
11. Fixed and false horizons
12. Perspective illusion and wire mishaps
13. Terrain masking

14. Runway illusions
15. Vestibular system
16. The leans
17. False pitch illusion
18. G-Excess illusion
19. Optokinetic cervical reflex and control reversal errors
20. Preventing and recovering from spatial disorientation
21. Platform specific HAZREPs