

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

AIR FORCE INSTRUCTION 21-112

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**AIR EDUCATION AND TRAINING COMMAND
Supplement 1**

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Maintenance

AIRCREW EGRESS SYSTEMS MAINTENANCE

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(CMSgt Timothy J. Jones)
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(Col Glen D. Locklear)
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This instruction implements AFD 21-1, Air Force Maintenance Management. It establishes policy, procedures, and requirements for maintaining aircraft egress systems. Included are facility and safety requirements, egress/non-egress personnel training, static display/training aircraft preparatory requirements, transient aircraft maintenance procedures, egress time change management, and conference responsibilities. This publication applies to all military, DoD civilian, and DoD contract maintenance organizations in the USAF, Air National Guard, and Air Force Reserve. Unless otherwise specified in this instruction, waiver authority for the provisions of this publication is HQ USAF/ILMM. Waiver requests must be processed through the 2A6X3 MAJCOM functional manager (MFM). Commands developing separate instructions or supplements based on the requirements set forth in this instruction will follow guidance in AFI 33-360, V1, Publication Management Program.

(AETC) AFI 21-112, 7 September 2001, is supplemented as follows:

(AETC) This supplement does not apply to AETC-gained Air Force Reserve Command or Air National Guard units. Report any discrepancies other than paragraph realignment via AETC Form 1236, **Request for Improving/Changing AETC Maintenance Publications**, a message, or a memorandum to HQ AETC/LGMTS.

(AETC) 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 with AFMAN 37-139, *Records Disposition Schedule* (projected to be the Air Force Records Disposition Schedule [RDS]).

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

This change updates paragraph 10 to reflect changes in the frequency of aircraft egress/cockpit familiarization training. The frequency has changed from annually to 15-months to align it with the 15-month Aerospace Expeditionary Force (AEF) rotation schedule. Changed material is indicated by a bar (|). The entire text of the IC is at the last attachment.

(AETC) Updates paragraph 1.2. to clarify the number and composition of a certified egress maintenance team. A bar (|) in the left margin indicates revision from the previous edition.

1. Egress Maintenance:

1.1. Egress personnel are responsible for all egress systems maintenance and must be trained and certified before being authorized to maintain or inspect aircraft egress systems. Non-egress personnel are also responsible for egress maintenance as outlined in this instruction.

1.1. (AETC) Egress personnel are responsible for egress systems canopy maintenance on the T-6 aircraft.

1.2. All personnel will use the Demand Response Team when directed by technical orders, during any task requiring the removal/installation of explosive components, and during egress final inspections. Compose teams of individuals who are certified to perform egress maintenance. At least one team member must be a certified egress journeyman.

1.2. (AETC) Egress augmentees may be used as part of an egress maintenance team to perform on-equipment maintenance, such as ejection seat and canopy removals or installations and egress final inspections. At least one member of the egress maintenance team will be a certified egress journeyman or civilian equivalent. Augmentees will not be used to perform egress off-equipment maintenance actions. **NOTE:** Ejection seats undergoing periodic maintenance are exempt from the demand-response concept once explosive components have been removed.

1.3. When parachutes and survival kits are integral parts of the ejection seat, egress personnel or life support personnel (AFSC 1T1X1, including civilian equivalents) may install and remove them provided they have completed appropriate training, certification, and familiarization requirements (paragraphs 6, 7, and 9).

1.3. (AETC) Only egress personnel will remove and install parachutes and survival kits on the T-6 aircraft.

2. Facilities:

2.1. The installation commander will provide an enclosed shop facility, separated from other inhabited buildings or areas whenever possible, for off-equipment egress maintenance.

2.2. Egress facilities will have limited access to ensure system integrity and will also be properly licensed for explosive component storage.

2.3. Facility must be large enough to accommodate the average number of egress components requiring maintenance and storage at any one time.

3. Safety Requirements. Personnel will strictly adhere to all safety requirements outlined in AFMAN 91-201, AFIs 91-202 and 11-209, and all 11A-, 11P-, 13A-series, and aircraft-specific technical orders.

3. (AETC) Safety Requirements. Egress systems maintenance, to include egress final inspections, will not be performed while the aircraft is on jacks, except when explicitly called for in technical data.

4. Classification Training:

4.1. Egress personnel will meet mandatory training requirements contained in AFI 36-2108 (or intra-service equivalent), AFI 91-202, this AFI, and the Career Field Education and Training Plan.

4.2. Civil service and contractor egress maintenance personnel who possess, as a minimum, one year of experience within the last three years performing egress intermediate- and organizational-level maintenance, repair, inspections, etc., may be considered for a waiver of classification training requirements. Process waiver requests according to AFMAN 36-2245. If waiver is disapproved, individuals must complete classification training.

5. Initial Certification of Egress Personnel:

5.1. Once classification training is complete, egress personnel must successfully complete an Air Education and Training Command (AETC) egress technician course for the specific aircraft to be maintained. Exception: ACES II-trained and certified egress SSgt 5-levels and above being reassigned to another base or unit maintaining ACES II-equipped aircraft are not required to complete the organizational maintenance (O/M; on-equipment) egress technician course. For example, if a 5-level SSgt is being reassigned from an F-15 aircraft unit to an A-10 unit, the individual does not have to complete the A-10 O/M course. Whether or not these individuals attend the O/M course is the decision of the 2A6X3 MFM or (if delegated) the egress workcenter supervisor.

5.1. (AETC) Authority to determine whether an egress-certified individual (Air Force specialty code [AFSC] 2A653, SSgt or higher) is required to attend the specific organizational maintenance (O/M) course is hereby delegated from HQ AETC to the appointed egress section chief, provided the provisions of the basic AFI and this paragraph are met and the appointed egress section chief is certified as an AFSC 2A673.

5.2. Personnel are certified to perform egress systems maintenance by demonstrating adequate proficiency to a designated certifying official in the egress systems workcenter. Certification pass/fail criteria will be established by the MAJCOM or (if delegated) the egress workcenter supervisor. Document certification in accordance with AFI 36-2201. Retrain any individual who fails the practical evaluation until the individual demonstrates adequate proficiency or withdraw the individual from training. If egress personnel are withdrawn from training, retrain in accordance with AFI 36-2201.

5.2. (AETC) Certification pass/fail criteria is delegated from the MAJCOM to the appointed egress section chief, provided he or she is certified as an AFSC 2A673 and has met all provisions of the basic AFI.

6. Initial Certification of Non-Egress Personnel:

6.1. Non-egress personnel must successfully complete an Air Education and Training Command (AETC) egress technician course for the specific aircraft to be maintained. Exception: Life support personnel do not have to complete the technician course unless they are to be employed as egress augmentees.

6.1. (AETC) At T-6, T-37, and T-38 civil service and contract organizations, HQ AETC/LGMM and LGMTS must approve the egress technician course.

6.2. After completing the AETC technician course, non-egress personnel will be initially certified in accordance with paragraph 5.2. Non-egress personnel will also be recertified in accordance with paragraph 5.2.

6.3. Quality assurance personnel (QAP; formerly QAE) exclusively performing contract surveillance do not have to be certified. If these personnel are performing egress maintenance, they must be certified.

7. Decertification:

7.1. Decertify any individual who fails to demonstrate adequate proficiency or who has a documented administrative action that could adversely affect job performance.

7.2. Decertify non-egress personnel who have not been recertified in the past 18 months. Decertify egress personnel after not having performed egress maintenance for more than 18 months.

7.3. Document decertification in accordance with AFI 36-2201.

8. Recertification:

8.1. The purpose of recertification is to ensure personnel still maintain the required knowledge and skills to safely maintain and/or inspect egress systems.

8.2. Recertify non-egress personnel at least every 18 months.

8.3. Recertify egress personnel after not having performed egress maintenance for at least 18 months.

8.4. QAP personnel exclusively performing contract surveillance do not have to be recertified. If these personnel are performing egress maintenance, they must be recertified.

8.5. Recertification procedures are identical to initial certification procedures and will be accomplished in accordance with paragraph 5.2. Document recertification in accordance with AFI 36-2201.

9. Using Newly Assigned Uncertified Egress Personnel:

9.1. Newly assigned uncertified egress personnel may assist in performing egress systems maintenance. These personnel will never clear (sign off) AFTO Form 781-series entries.

9.2. Supervisors must formally request AETC egress technician course(s) prior to permitting newly assigned personnel to assist in egress maintenance.

10. Egress/Cockpit Familiarization Training:

10.1. The intent of egress familiarization training is to ensure non-egress personnel are aware of the hazards associated with an egress system and what to do if a hazard exists. As a minimum, initial and 15-month egress/cockpit familiarization training will include aircraft safe for maintenance procedures

(if not already included in another local training course), location and installation procedures of egress system safety devices, cockpit entry/exit procedures, procedures for determining whether or not an egress component is expended, emergency procedures associated with an expended egress component, and local maintenance concerns identified by the egress workcenter supervisor.

10.2. Only egress personnel, certified on assigned egress system(s), will conduct egress familiarization training. Exception: Logistics Training Flight personnel may conduct this training provided they have met requirements contained in paragraphs 6. and 7.

10.2. (AETC) Quality assurance evaluators at contract locations may conduct egress familiarization training, provided they have met the requirements of paragraphs 6 and 7 of the basic AFI.

10.3. All non-egress personnel who access aircraft cockpits with egress systems must complete initial and 15-month egress familiarization training.

10.4. The egress workcenter supervisor reviews and validates all egress familiarization training documents at least every 15-months.

10.5. Initial egress familiarization training will be hands-on using an aircraft. Units desiring to use an aircraft maintenance trainer instead of an aircraft must submit a request through their group commander to the MAJCOM Director/Chief of Maintenance (LGM or equivalent) for approval/disapproval.

10.6. 15-month familiarization training may be conducted using an aircraft, maintenance trainer, and/or any media desired by the egress workcenter supervisor.

10.7. New personnel to the unit must receive initial familiarization training prior to accessing cockpits unless last duty position involved same mission design aircraft as current duty position. Personnel not requiring initial training will attend 15-month training when they become due. Individuals overdue for annual egress familiarization training will not access aircraft cockpits until they complete familiarization training.

11. Units with Unique, Experimental, or Test Aircraft. If training courses are not available through AETC, units must use interagency training before considering nongovernment training sources. If courses in both of these sources are not available, units must establish a documented training program that meets the intent of this AFI. The program must provide for training by the most qualified personnel and must be approved by the MFM prior to implementation.

12. Egress Systems Inspections and Documentation:

12.1. A certified egress production inspector will inspect any disturbed integral part of the egress system. The inspection must be an egress final inspection unless another inspection is prescribed by technical data.

12.1. (AETC) Egress section personnel must ensure acceptance inspection requirements, in accordance with TO 00-20-1, *Aerospace Equipment Maintenance General Policies and Procedures*, are completed on newly assigned aircraft or aircraft returning from depot.

12.2. If an insufficient number of egress production inspectors are assigned, the group commander may grant waivers to highly qualified five-level egress journeymen, in the rank of SrA or higher, to perform as egress production inspectors. Waived journeymen will be closely monitored and kept to the minimum required to accomplish the maintenance mission.

12.3. Two provisions of AFI 21-101 do not apply to egress maintenance:

12.3.1. The use of 5-level personnel in any rank to serve as production inspectors (see paragraph 11.2.).

12.3.2. All systems Red X provisions. Only egress personnel will clear (sign off) egress system discrepancies.

12.4. Egress personnel will conduct an egress final every 30 days on ejection seats whose personnel/recovery parachutes and/or survival kits are integral parts of the seat. Egress personnel will also conduct an egress final when any maintenance other than a visual inspection is performed on an integral part of an ejection seat.

12.4. (AETC) If egress final inspections are not performed in conjunction with aircrew life support 30-day inspections, egress supervisors will establish procedures with plans and scheduling to ensure no aircraft goes overdue on an inspection.

12.5. Cannibalization of any egress component will require cannibalization documentation according to AFI 21-101, T.O. 00-20-2, and automated systems documentation requirements.

12.5. (AETC) Cannibalization actions on egress system components, cartridge-actuated devices, and propellant-actuated devices are considered high risk and should not be performed unless priority aircraft are involved or a lack of ready equipment will impede mission accomplishment.

13. Aircraft Static Display. Aircraft placed on static display must be rendered safe in accordance with 00-80G-series technical orders, AFMAN 91-201, and AFI 11-209.

14. Training Aircraft. Safe aircraft utilized for local maintenance training, fire department training, and aircrew extraction training in accordance with aircraft-specific technical orders. If technical order procedures do not exist, contact the MFM for guidance.

14. (AETC) Training Aircraft. For T-6 aircraft, the egress system will be made safe for department training and aircrew extraction training by using ty-straps to lock the ejection handle safety pin to the ejection handle.

15. Transient Aircraft Maintenance:

15.1. If egress maintenance capability does not exist on base, request help from owning aircraft unit or nearest unit with the capability.

15.2. Aircrew members must remove and install flight status safety pins on aircraft when transient maintenance personnel are not qualified.

16. Time Change Item (TCI) Documentation and Management:

16.1. The egress workcenter supervisor is responsible for establishing procedures to ensure TCI data is accurately input and updated as items are replaced. As per AFI 21-101, Plans, Scheduling and Documentation Sections are responsible for managing the TCI program.

16.2. Units using the Core Automated Maintenance System (CAMS) will document all egress TCI components in the egress configuration module of CAMS.

17. Conferences:

17.1. The 2A6X3 Air Force career field manager, 2A6X3 MFMs, and the egress systems program manager will attend the Aircrew Protection Working Group as per AFI 11-301.

17.2. The 311 HSW Egress Systems Program Manager will establish a charter and conduct the Aircrew Egress Systems Executive Working Group (AESEWG) at least annually. AESEWG responsibilities and procedures will be contained in the charter. The program manager will also conduct a Worldwide Aircrew Egress Systems Workshop at least biennially.

18. (Added-AETC) Form Adopted. AETC Form 1236.

MICHAEL E. ZETTLER, Lt General, USAF
DCS/Installations and Logistics

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

AFI 11-209, Air Force Participation in Aerial Events
AFI 11-301, Aircrew Life Support Program
AFPD 21-1, Air Force Maintenance Management
AFI 21-101, Maintenance Management of Aircraft
AFMAN 36-2108, Airman Classification
AFI 36-2201, Developing, Managing, and Conducting Training
AFMAN 36-2245, Managing Career Field Education and Training
AFMAN 91-201, Explosives Safety Standards
AFI 91-202, The US Air Force Mishap Prevention Program
T.O. 00-20-2, Maintenance Data Documentation

Terms

Augmentee—Any non-egress person who performs or assists in egress maintenance tasks.

Assist—may perform all or parts of the task, but must be closely supervised by certified personnel.

Certification—A documented formal review of an individual's training and experience with demonstration of adequate task proficiency.

Civilian Equivalent—Any civilian (DoD or contractor) who occupies an egress duty position and has completed all egress training as defined by AFMAN 36-2108, this AFI, and the current 2A6X3 Career Field Education and Training Plan. A civilian who has completed appropriate egress training but does not occupy an egress duty position is an augmentee.

Decertification—Documented removal of an individual's certification.

Demand Response Team—Two-member team where one person reads technical order steps and the other performs the task and responds when each step is completed.

Designated Certifying Official—A properly certified military or civilian equivalent egress production inspector or 2A690/2A600 (with 2A673 as a secondary AFSC).

Egress Personnel—Military 2A6X3 Aircrew Egress Systems and civilian equivalent personnel.

Egress Final—Verification of total system integrity.

Egress Maintenance—Any maintenance action that changes the status or condition of an egress system. Excluded is the removal/installation of flight status safety pins and non-integral personnel parachutes and survival kits.

Integral Part of Egress System—Any component physically attached to the egress system that if improperly installed would cause improper operation of the egress system.

Non-Egress Personnel—Other-than-egress personnel, such as egress maintenance augmentees, QA inspectors, and quality assurance personnel (QAP; formerly quality assurance evaluators, or QAE).

Recertification—Revalidation of an individual's certification.

Safe—Actions necessary to prevent or interrupt complete or partial operation of the egress system.

Attachment 1 (AETC)**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 37-123, *Management of Records*

AFMAN 37-139, *Records Disposition Schedule* (projected to be the Air Force Records Disposition Schedule [RDS])

TO 00-20-1, *Aerospace Equipment Maintenance General Policies and Procedures*

Attachment 2**IC 01-1 TO AFI 21-112, AIRCREW EGRESS SYSTEMS MAINTENANCE**

7 SEPTEMBER 2001

SUMMARY OF REVISIONS

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10.1. The intent of egress familiarization training is to ensure non-egress personnel are aware of the hazards associated with an egress system and what to do if a hazard exists. As a minimum, initial and 15-month egress/cockpit familiarization training will include aircraft safe for maintenance procedures (if not already included in another local training course), location and installation procedures of egress system safety devices, cockpit entry/exit procedures, procedures for determining whether or not an egress component is expended, emergency procedures associated with an expended egress component, and local maintenance concerns identified by the egress workcenter supervisor.

10.3. All non-egress personnel who access aircraft cockpits with egress systems must complete initial and 15-month egress familiarization training.

10.4. The egress workcenter supervisor reviews and validates all egress familiarization training documents at least every 15-months.

10.6. 15-month familiarization training may be conducted using an aircraft, maintenance trainer, and/or any media desired by the egress workcenter supervisor.

10.7. New personnel to the unit must receive initial familiarization training prior to accessing cockpits unless last duty position involved same mission design aircraft as current duty position. Personnel not requiring initial training will attend 15-month training when they become due. Individuals overdue for annual egress familiarization training will not access aircraft cockpits until they complete familiarization training.