



U.S. AIR FORCE

HQ AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

Technical Order 00-105E-9 Presentation

Aerospace Emergency Rescue and Mishap Response Information (Emergency Services)



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TO 00-105E-9

AEROSPACE

EMERGENCY RESCUE AND
MISHAP RESPONSE INFORMATION
(EMERGENCY SERVICES)



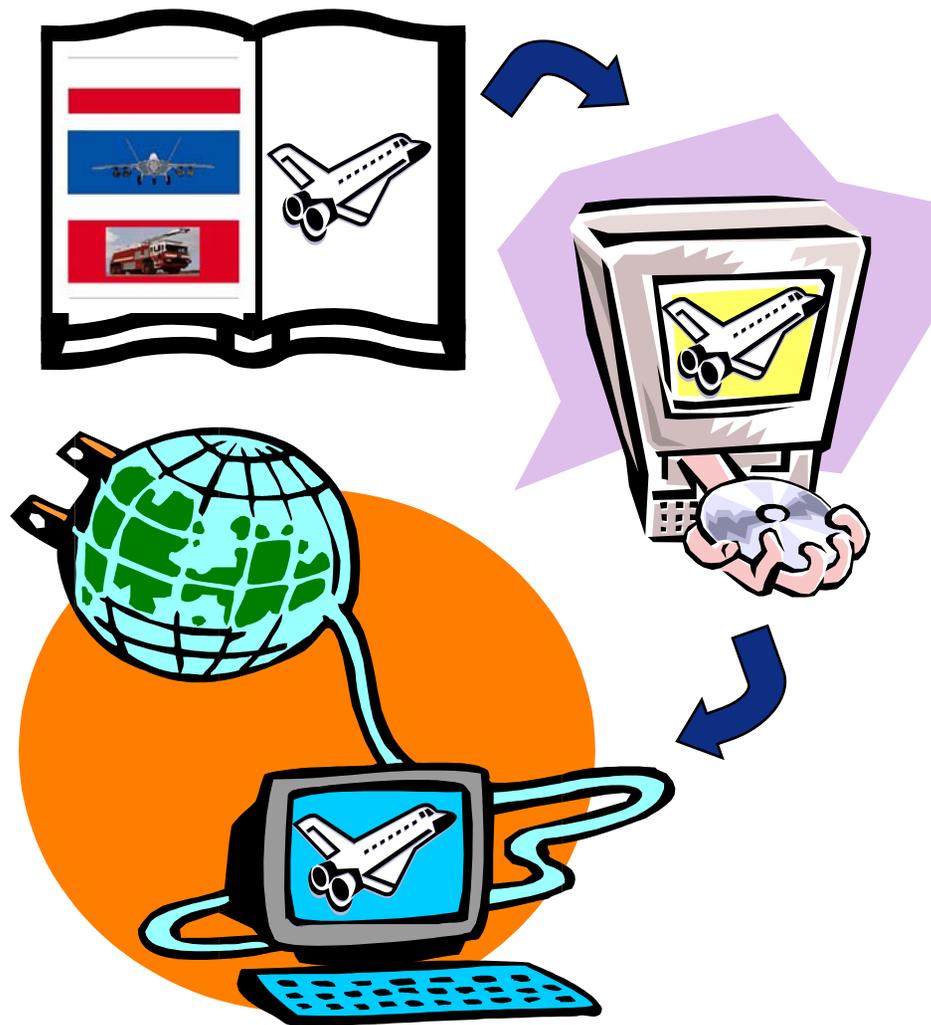
1 JULY 2004



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Overview

- **USER INFORMATION**
- **00-105E-9 HISTORY**
- **CURRENT STATUS**
- **CHAPTER 3 DETAILS**
- **FUTURE REVISIONS**
- **WEB SITES**
- **QUESTIONS?**
- **CONTACT OUR OFFICE**





■ **DISCLOSURE STATEMENT:**

- **This Technical Order (TO) is a Security Assistance Technical Order Data System (SATODS) used for the management of TOs. It is used by foreign governments or international organizations and is cleared to share this information with the general global public. This TO is designated as the NATO Crash Fire Rescue (CFR) Standardization Agreement (STANAG) 3896 superceding Allied Engineering Publication (AEP) - 11.**

■ **DISTRIBUTION STATEMENT:**

- **Approved for public release; distribution is unlimited. Questions concerning technical content and distribution should be directed to HQ AFCESA/CEXF Attention: Air Force Fire and Emergency Services - Egress Manager, 139 Barnes Drive Suite 1, Tyndall AFB, FL 32403-5319.**



TO 00-105E-9 History

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- **Paper media from 1970 to 1996**
- **Circa 1970: Aircraft Egress Technician to manage publication, required to have knowledge and experience with escape systems**
- **1 JULY 1970 : Technical Order Contents**
 - **USAF, US Army, and Civil Reserve Air Fleet aircraft**
- **1 May 1989: Firefighter Multimedia Training System - Interactive Aircraft Familiarization Courseware SME, use TO as basic information for courses**
 - **18 Courses Developed with F/A-22 under development**
- **25 JULY 1990: Added Skin Penetration Points - new data requirement**



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- **12 MAY 1994 : Added Airframe Materials and Composites - new data requirement**
- **2 JANUARY 1995 : Military position ends/Contract position starts**
- **30 MAY 1996 : Paper Media Printing Funding Ends**
 - **Secretary of the AF informs TO ALC Managers to develop a “paperless environment” for TOs**
 - **ASC/WMO @ Eglin AFB, FL funded electronic media conversion**
 - **Realized Savings of \$300K (paper media) vs. \$30K electronic media**
- **3 OCTOBER 1997 : Digitization Process Starts**
 - **Original TO took 18 Months to convert for USAF, US Army and CRAF aircraft**



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- **1 NOVEMBER 1998 : HQ AF/IL determines TO for Hazardous Aerospace Material Mishap Emergency Response (HAMMER) IPT guidance**
 - **Directed to add US Navy and NATO aircraft**
 - **NATO approves of publication consolidation and ends 15 years of Allied Engineering Publication – 11 “Illustrated Information On Fire Hazards And Rescue Features For NATO Aircraft” (Mobilization Kit Requirement) and complies with STANAG 3896**
- **21 JANUARY 1999 : CD-ROM Published**
 - **AF TO System changed with civilian account tracking problems (Legacy vs. JCALS)**
 - **Decision to go to web based pub instead of JCALS**



TO 00-105E-9 History

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- **8 OCTOBER 1999 : Web Site established @ Robins AFB, GA for public and restricted sites**
 - **Added US Navy aircraft (AF/LE task c/w)**
 - **Started digitizing NATO aircraft**
- **8 NOVEMBER 1999 : HQ AFCESA Fire Protection web page posts Safety Supplements – linked from main site**
- **28 MAY 2000 : Provided Interim CD-ROM for NATO & Partners for Peace Nations at the 11th CFR Working Group in Brussels, BE June 26, 27 2000 for WG approval (50% of NATO aircraft added)**
 - **29 June 2000 : Provided CD-ROMs to UK's RAF, Fire/Rescue, Safety, Civil Aviation Authority, BAA Gatwick Fire Service, Air Accidents Investigation, and Environmental Sciences Groups for review and comment at DERA Haslar meeting in Gosport,UK**



TO 00-105E-9 History

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- **15 DECEMBER 2000 : Finished Revision 7 and sent to web master at Robins AFB GA for managerial review, posting, and editorial changes to web page**
 - **NATO aircraft complete, sent CDs to nations**
- **15 January 2001: Posted Revision 7 to web site**
- **1 MAY 2001 : Briefed the Air National Guard Aircraft Mishap Recovery Working Group about use of TO for mishaps and secondary response teams**
- **29 OCTOBER 2001 : Provided NATO/PfP Nations at the 12th CFR Working Group at Texas A&M on pub status**
- **15 DECEMBER 2001 : Provided Charleston AFB SC briefing and use of pub for their Mishap Recovery Teams in preparation for a possible C-17A incident**



TO 00-105E-9 History

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- **30 SEPTEMBER 2002 : Revision 8 posted to web site**
 - **New title used for first time widening scope of publication**
 - **Informed MAJCOMs, Joint Services, NATO & civilian users**
 - **Added the FAA/ICAO Aircraft Designations**
 - **C/W FAA Order 7110.65, Air Traffic Control (ATC)**
 - **Prevents confusion during emergency response**

- **31 March-1 April 2003: The 13th NATO CFR Working Group met at Brussels, BE - 20 nations represented**
 - **Reviewed and updated current aircraft inventories, provided custodial reports on CFR Standardization Agreements and provide status of US action items**
 - **Last issue of CD-ROMs agreed to by the Nations**
 - **Requested aircraft information from all nations present**
 - **STANAGs are to be re-looked for Terrorism features**



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- **22 – 24 June 2004: The Inaugural 1st NATO CFR Working Panel met at London, UK - 10 nations represented**
 - **Working Panel convenes for first time after NATO reorganization causes host nation meetings**
 - **Limited meeting space at NATO HQTS due to NATO expansion**
 - **Reviewed and updated current aircraft inventories, provided custodial reports on CFR Standardization Agreements and provided status of US action items**
 - **Provided a presentation for the new Revision 9 and advanced composite materials burn research**
 - **Requested aircraft information from ALL nations, especially former Eastern Block aircraft**
 - **Meeting declared a success by Air Board Secretary due to the amount of work accomplished and intense discussions for all working issues and current STANAGs**



- **Safety Supplements: Critical Updates are posted at the Fire & Emergency Services web site (see web site slide)**
 - **Only current Safety Supplements are posted**
 - **Out of date Supplements will be rescinded, but will remain listed to avoid confusion**
 - **Supplements are listed on the AF TO Index**

- **Assigned web site access only – no paper or CD-ROMs are available for distribution**
 - **Funding and facilities for reproduction and storage at Robins AFB, GA has been terminated for this TO**
 - **Free public access including foreign governments**
 - **There is no cost to any user customers anywhere**



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Current Status

Revision 9

- **Segment 1: Beginning thru Chapter 3 (Foreword; List of Illustrations; FAA/ICAO Designations; Introduction; General Rescue Information; and Hazardous Materials Events and Response Procedures)**
- **Segment 2: Chapter 4 USAF Attack**
- **Segment 3: Chapter 5 USAF Bomber**
- **Segment 4: Chapter 6 USAF Cargo Pt1- C-5 thru C-18D**
- **Segment 5: Chapter 6 USAF Cargo Pt2 - C-20 thru C-40**
- **Segment 6: Chapter 6 USAF Cargo Pt3 - C-130 thru WC-135W**
- **Segment 7: Chapter 6 USAF Cargo Pt4 – VC-137 thru KC-10**
- **Segment 8: Chapter 7 USAF Electronic Pt1 E-3 30/35 thru VC-25 (Air Force One)**



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Current Status Revision 9

- **Segment 9: Chapter 7 USAF Electronic Pt2 YAL-1A (Airborne Laser) to chapter end**
- **Segment 10: Chapter 8 USAF Fighter**
- **Segment 11: Chapters 9 & 10 USAF Helicopter and Observation/ Reconnaissance**
- **Segment 12: Chapters 11 & 12 USAF Trainer and Utility**
- **Segment 13: Chapters 13 thru 16 US Army Helicopter, Trainer, Utility, & V/STOL/Cargo/Transport/ Paratroop**
- **Segment 14: Chapter 17 NASA Aerospace craft**
- **Segment 15: Chapter 18 CRAF Pt1 DC-3 thru DC-10**
- **Segment 16: Chapter 18 CRAF Pt2 MD-11 thru L-1011-500**
- **Segment 17: Chapter 18 CRAF Pt3 707 thru 737**



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Current Status Revision 9

- **Segment 18: Chapter 7 CRAF Pt4 747 thru 777 and chapter end**
- **Segment 19: Chapter 19 US Government various agencies (new chapter)**
- **Segment 20: Chapters 20 thru 22 US Navy Attack, Fighter and Special Mission**
- **Segment 21: Chapters 23 thru 25 US Navy Transport, Trainer and Helicopter**
- **Segment 22: Chapters 26 thru 28 NATO Attack, Bomber/Maritime and Cargo**
- **Segment 23: Chapter 29 NATO Fighter**
- **Segment 24: Chapter 30 NATO Helicopter**
- **Segment 25: Chapters 31 thru 34 NATO Observation/ Recon, Trainer, Tanker & Utility**



- **Segment 26: Chapters 35 to 36 NATO Small & Large Commercial**
- **Added aircraft for the US Coast Guard, National Oceanic Atmospheric Administration, Department of Commerce US Forestry Service (gov't leased aircraft for wild land firefighting) & US Marshals (Chapter 19)**
- **Added the International Space Station and micro-gravity fire behavior and extinguishment (Chapter 17)**
- **Added the DoD Manager's Space Shuttle Support Manual (Chapter 17)**
- **New Segments will be added as needed and will be re-configured as publication increases in size**
 - **Last revision was re-configured by 8 Segments**
 - **Segments have a USAF imposed 10 MB limit**



Chapter 3 Details

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- **Chapter 3: “Hazardous Materials, Events, and Response Procedures”**
- **Lists chemical and flammable liquids**
- **Includes initial response composite materials information in ERG2000 format**
- **Includes information for Hazardous Aerospace Materials, Radioactive, Composite, RAM and Conventional coatings**
- **Includes summary tables for the hazards per aircraft (DoD & NATO)**
- **Includes a section on hazardous situations found at aircraft mishap sites**
- **Includes impact crater information to determine angle of approach**



Chapter 3 Details

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- **Includes hazards information in the mishap response procedures for initial, follow-on, interim SIB, and secondary response**
- **Expanded information for advanced composites**
- **Includes PPE considerations for BBP and composites**
- **Includes PPE considerations for composites based on the work process**
- **Includes the rapid response checklist**
- **Includes various hazards worksheets**
 - **Hazards analysis sketch and hazards assessment checklist**
- **Provides cordon information for various hazard scenarios**



Chapter 3 Details

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- **Includes a team brief topic checklist**
- **Provides a summary of PPE choices to assist with selection**
- **Includes additional information for training needs of the mishap community**
 - **Depleted Uranium (DU)**
 - **Hazards Associated with Optical Elements Coated with Radioactive Material**
 - **Summary of USAF Mishap Response Phases**
 - **Mishap-Composites Awareness**
- **This information will be kept current as we learn more and aviation technology progresses**
 - **More Composite Burn Tests are funded for 2004-2005**



Future Revisions

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- **Continue to add UAVs (unmanned aerial vehicles)**
- **Weapons/Missiles/Bombs Hazardous Materials**
 - **Impact sites will present HAZMAT situations**
 - **Non-sensitive information only**
- **Next Generation aircraft entering inventories**
 - **JSF/F-35 procedures developed for Lockheed and distributed to testing and ferrying sites**
 - **NATO and European Union (EU) developments**
- **Russian built aircraft – NATO, EU and Partners for Peace inventories**
 - **Information is difficult to obtain and is requested at each NATO Crash Firefighting Rescue Working Panel**
- **Other nations closely aligned to US interests**



Future Revisions

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- **Update US Navy aircraft based on recent changes to Navy pubs**
 - **NAVAIR 00-80R-14, dated 7 June 2002**
 - **NAVAIR 00-80R-14-1, dated 15 October 2003**

- **Assist the UK Air Accident Investigation Branch and International Civil Aviation Organization Occupational Safety Response Study**

- **Assist the Air National Guard Aircraft Recovery Working Group for Secondary Response and Recovery Methodology through continued research**

- **Assist the NASA Fire Safety Working Group for fire response in micro-gravity environments**



Future Revisions

- **NATO CFRP now meets annually at a host nation location – no change to the way we conduct our business practices or obtaining information for the Technical Order and standardization agreements (STANAGs)**
 - **The advantage is to meet more often, stimulate dialog and work issues more proficiently between nations, review current STANAGs and establish new STANAGS based on firefighting trends and issues**
 - **NATO CFR Working Panel annual meeting schedule**
 - **Canada in 2005**
 - **France in 2006**
 - **Germany in 2007**
 - **Spain in 2008**
 - **Netherlands in 2009**



Web Sites

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- **HQ AFCESA Web Site: (Public - limited access)**

<http://www.afcesa.af.mil>

- Learn about the Agency, Directorates, products and services

- **TO 00-105E-9 Web Site: (Public – Global Access)**

<http://www.robins.af.mil/logistics/LGEDA/documents/to00-105e-9.htm>

- Linked to Safety Supplements
- Use most current Adobe Reader for reading and downloading

- **Fire & Emergency Services and TO Safety Supplement Web Site:**

http://www.afcesa.af.mil/cex/fire/cex_firemgmt.asp

- **NATO Crash Firefighting Rescue Working Panel Web Site:**

<http://nsa.nato.int9000/>

- request access to restricted site required



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Questions?





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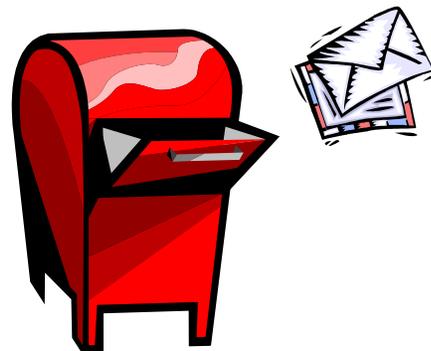
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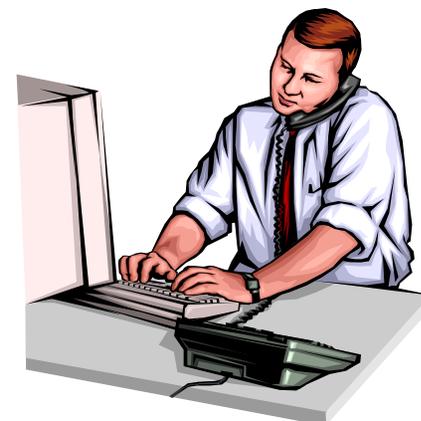
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