



Introduction of the Emergency Response Methodology

For more than 50 years, Army Aviation instructors have trained and evaluated crewmember responses to aircraft emergencies the same way. Central to this training was memorization and rapid execution of emergency action steps, and today's Army aviators are products of this approach. This methodology undoubtedly saved lives over the last half century, especially in earlier generations of aircraft lacking redundant systems and requiring constant inputs to maintain control. However, as our aircraft have evolved to become more capable and sophisticated, our approach to training flight crews must evolve as well.

In 2019, the United States Army Aviation Center of Excellence (USAACE) initiated a review of the Aviation branch's current emergency training approach. As Aviation formations continue to train for large-scale combat operations (LSCO) where crews must routinely operate close to obstacles and terrain, we have experienced several mishaps that highlight the need to update our approach to preparing aviators for emergencies.

In all instances, but especially in the terrain flight environment, it is essential to respond to aircraft emergencies in context with the aircraft's flight profile. To help mitigate the risk associated with operating in these complex flight environments, USAACE developed a two-phased approach to change how crewmembers

react to aircraft emergencies: the Emergency Response Methodology (ERM).

Phase 1 focused on revising Shared Rotary Wing Task 1070, Respond to Emergencies, to define a fundamental approach all helicopter crews use to survive any emergency. The emergency response method in the updated version of Task 1070 (known as FADEC-F) provides a fundamental logic appropriate for any emergency; it creates a construct for crews to communicate and respond to the emergency while prioritizing aircraft control above all else. This ensures crews respond in context to the situation rather than simply applying rote memorization in stressful situations where specific

steps could be confused or accidentally omitted.

In all instances, crews must fly the aircraft first. This follows the old aviator adage of Aviate-Navigate-Communicate, but Task 1070 now codifies a formal, trainable response process for crews to follow. USAACE recently released all products related to Phase 1: Task 1070, as part of the 2020 publishing of all helicopter aircrew training modules; a standardization

communication (STACOM) to clarify implementation guidance; and a training package to standardize training across the force. While priority for this effort focused on rotary-wing aircrew training modules first, the USAACE Directorate of Training and Doctrine will ultimately publish updated versions of

“ Analysis from recent aviation mishaps indicates training deficiencies exist in crew reactions to emergencies, particularly in LSCO flight profiles with junior aircrew — Army Aviation branch identified the need for change. ”

Task 1070 for all Army aircraft. By implementing an overarching emergency handling logic across the Aviation branch, Army aircrews will be better prepared to respond to emergencies in context with the profiles required in LSCO.

Fly the aircraft
Alert the crew
Diaagnose the emergency
Execute the emergency procedure
Communicate
Fly the aircraft

Phase 2 of this effort is ongoing and complements the emergency response method in Task 1070 by updating the look, design and content of current aircraft checklists. After a thorough analysis of sister-service and partnership aviation products, USAACE developed smarter and more intuitive crewmember checklists in a flight reference card (FRC) format, which include normal and expanded procedures as well as emergency procedures. The emergency section of the FRCs includes logically grouped, tabbed and color-coded sections for warnings, cautions, advisories and mission equipment

malfunctions. The FRCs feature simplified emergency procedures and pertinent amplifying information supporting specific situations to aid in fault diagnosis and crew decision-making. By enabling our crews with updated FRC-format flight crew checklists, we will resource them with the intuitive and purpose-designed products necessary to expedite access to pertinent information during demanding flight conditions. Whereas Task 1070 (FADEC-F) will contextualize the crew’s response to emergencies, FRCs will expedite access to pertinent information during an emergency, facilitating informed diagnosis and execution of emergency action steps.

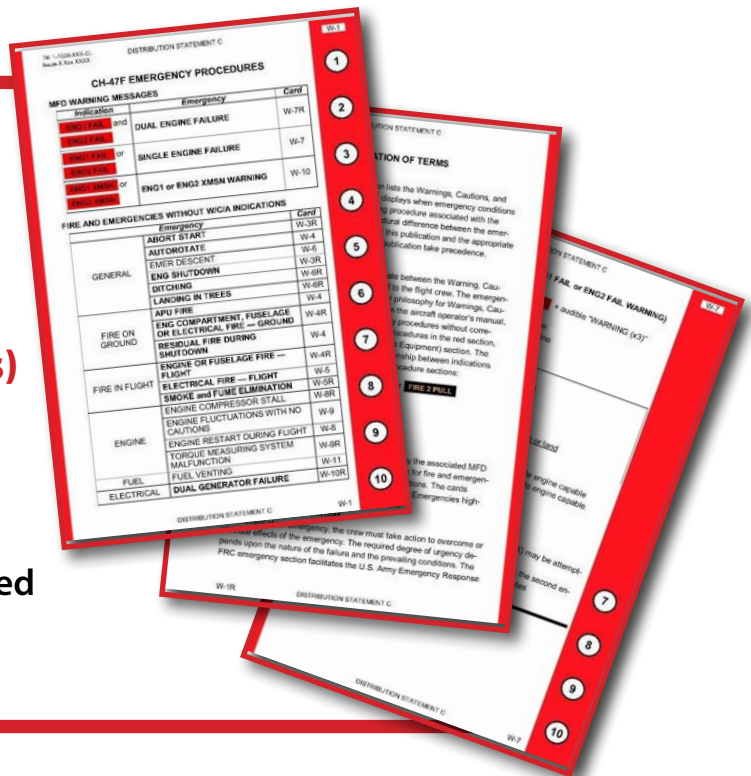
By redefining the approach we use to train crewmember responses to emergencies, Army Aviation will develop thinking crews that prioritize safe flight profiles over rote execution of underlined emergency procedures. This will enhance survivability and create a cultural shift in Army Aviation. This enterprise-wide change will not take hold unless we all commit to rethinking how we train and evaluate our crewmembers. Just as we want our crews to evaluate an emergency in the context of the situation, we must evaluate them the same way — in context. We must move past the days of associating

Phase 1: ATM Task 1070 Update

- April 2020 Rotary Wing ATMs
- Emergency Response Method

Phase 2: Aircrew CL Revision (FRCs)

- FY21 deliver to the field
- Updated/simplified emergency procedures
- Quick-access tabs/colors with expanded information



proficiency with the speed of a crewmember's verbatim recitation of emergency procedures. Speed of execution does not necessarily equate to survivability. We must focus on developing thinking flight crews who, above all else, always fly the aircraft. ■

MG David J. Francis
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FRCs are subdivided into two books. Sections are color coded and tabbed, listed in order of intensity; organized by index on the cover page.

FRC Format

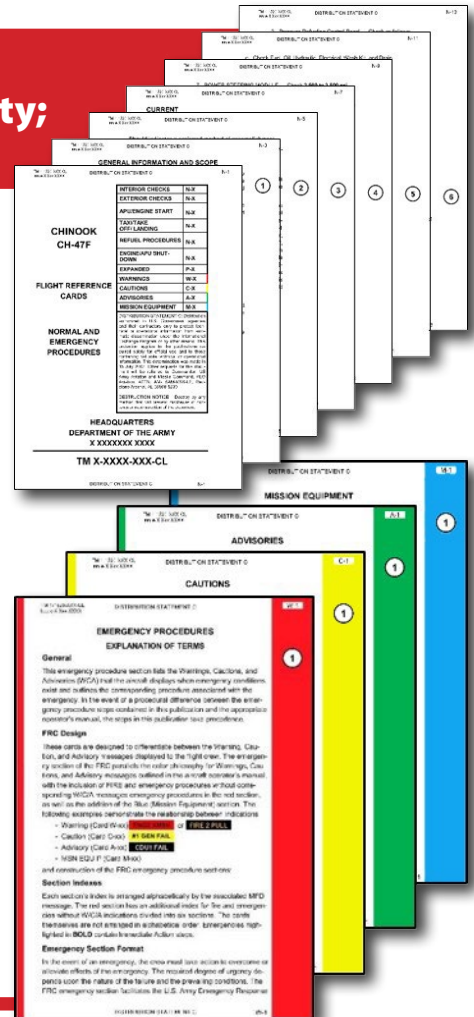
- Name of emergency
- Indications of emergency
- Immediate Actions/Action steps
- Subsequent actions
- Additional considerations

Book 1 - Normal and Expanded Procedures

- Exterior Checks
- Interior Checks
- APU/Engine Start Checks
- Taxi/Take Off/Landing Checks
- Engine/APU Shutdown
- Expanded Procedures

Book 2 - Emergency Procedures

- Warnings (Red)
- Cautions (Yellow)
- Advisories (Green)
- Mission Equipment (Blue)



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