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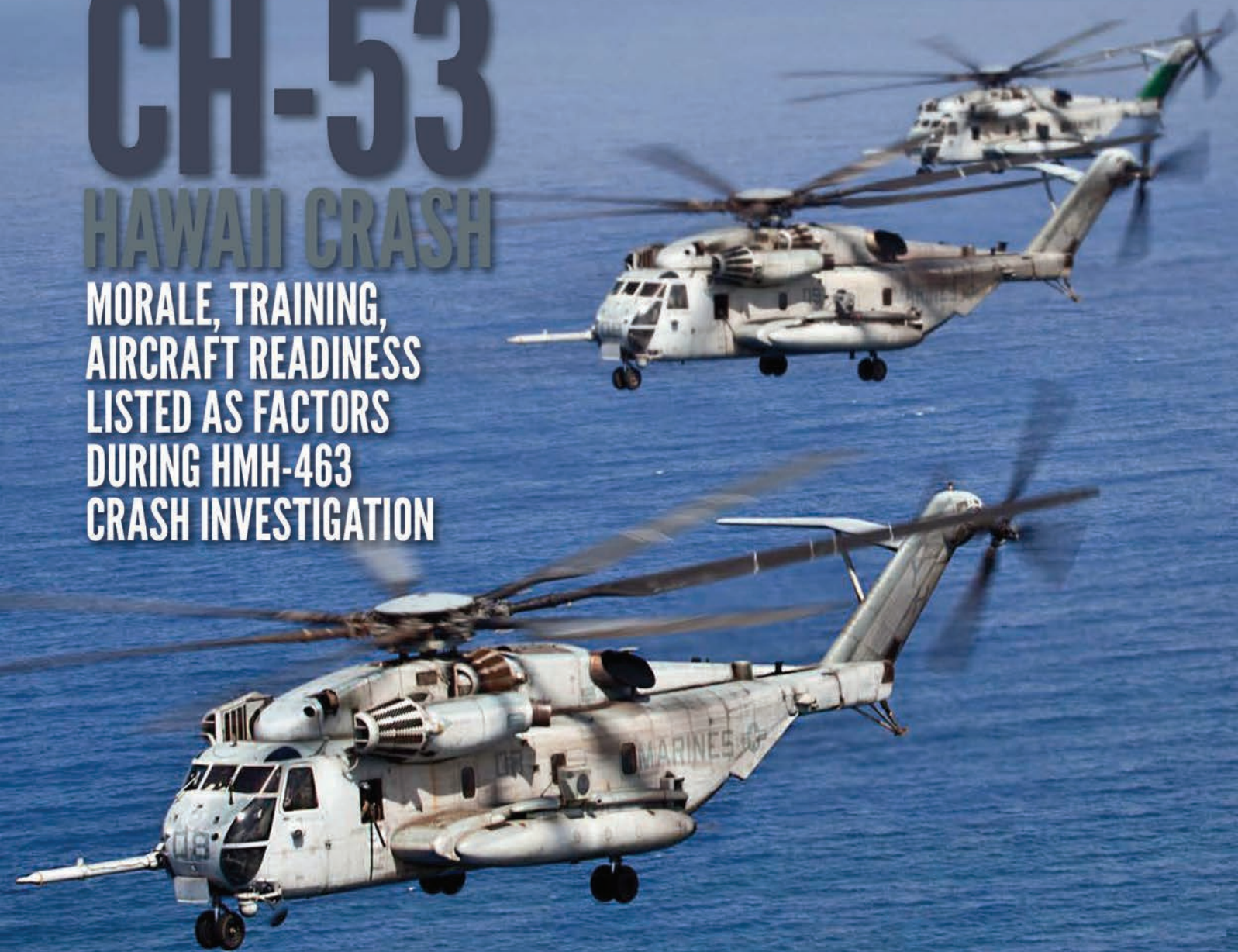
NOVEMBER 2016 VOL 34

MAGAZINE

MILITARY SPECIAL ISSUE

## CH-53 HAWAII CRASH

MORALE, TRAINING,  
AIRCRAFT READINESS  
LISTED AS FACTORS  
DURING HMH-463  
CRASH INVESTIGATION



U.S ARMY  
RETIRES HUEY

UNDERSTANDING  
AIRWORTHINESS

UK CHINOOK  
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# UNDERSTANDING AIRWORTHINESS

Last month, in part I of “Understanding Airworthiness,” helicopter DPE Matt Johnson gave us some insight as to how “airworthy” is defined in the regulations. This month continues with part II of this three-part series on “Understanding Airworthiness.”

**Now that we have established a definition for “airworthy” from part I of our series on Understanding Airworthiness let’s break it down.**

The first element that makes up the definition for Airworthy is “**the aircraft conforms to its type design.**”

To understand this statement let’s take a look at how an aircraft becomes “certified” and therefore conforms to a “type design.”

Imagine for a moment that you have a plan to build a new helicopter, a “normal” basic helicopter under Part 27 standards. As part of this process, you will assemble the parts and pieces of this helicopter necessary for it to function as a flying machine. Once you have your first “test” subject (helicopter) and you are ready to apply for FAA approval on this machine, you will submit a plethora of items as part of the process.

These items include all of the drawings, specifications, aircraft limitations and most notably, the airworthiness limitations section of the “*Instructions for Continued Airworthiness.*” This last section is critical as it is essentially the requirement on how the aircraft must be maintained to keep it in an “airworthy” state.

After developing and submitting all of the items above and an

assortment of flight testing, the FAA will issue you a “Type Design” for your particular helicopter. To be clear, this doesn’t mean that you can start making “copies” of the helicopter and selling them just yet; that will require a “Production Certificate.” The “Type Certificate” comes first.

The Production Certificate will come after you can convince the FAA that you have the necessary equipment, supplies, and facilities to produce the type certificated helicopter.

Once this is accomplished, and the helicopters are built and subsequently inspected they receive the “Standard Airworthiness Certificate” that you have become familiar with by checking for its presence in the cockpit on every preflight.

As part of the Type Certificate process, the FAA will produce what is known as a “Type Certificate Data Sheet.” The TCDS will provide you with all of the basics of the helicopter in the way of listing all items required to be part of the helicopter as well as the limitations of the helicopter.

TCDS’s are easily found on the FAA’s website; they are an excellent resource for CFI’s (and DPE’s) who may infrequently fly a particular make and model of the helicopter as the TCDS will provide you with the aircraft limitations, etc.

If you have never taken the time to look at a TCDS here is the very first statement in this document: “*This data sheet, which is a part of Type Certificate No. XYZ123 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.*”

## THE STANDARD AIRWORTHINESS CERTIFICATE

As alluded to earlier, the

Standard Airworthiness Certificate is an important document and

# AIRWORTHINESS

## PART II



*the cabin or cockpit entrance so that it is legible to passengers or crew.” (91.203(b)*

Beyond the regulatory point that it must be displayed in the cockpit area the Standard Airworthiness Certificate has two very important items of information on it. The **“Authority and Basis for Issuance”** section and the **“Terms and Conditions”** area.

The first area essentially says “this aircraft has been inspected and found to conform to the Type Certificate.” (sound familiar?) The certificate will contain a date of issuance and a signature of the FAA Representative signing the certificate. So, on that particular date that particular aircraft was found to “conform to the Type Certificate.”

But what about the duration of the Standard Airworthiness Certificate? Does it expire? No, it doesn't.

This info can be found under the “Terms and Conditions” section. It simply states *“Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the FAA, this airworthiness certificate is effective as long as the maintenance,*

*preventative maintenance, and alterations are performed in accordance with Parts 21, 43 and 91 of the Federal Aviation Regulations, as appropriate, and the aircraft is registered in the United States”.*

The Standard Airworthiness Certificate is effective as long as the proper maintenance is conducted on the helicopter.

### TYING IT ALL TOGETHER

Next month, in our last installment of this series on Understanding Airworthiness we will circle back to **FAR 91.7 – Civil Aircraft Airworthiness** specifically paragraph (b) that reads: *The pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight. The pilot in command shall discontinue the flight when unairworthy mechanical, electrical, or structural conditions occur”.*

In this final section, we will discuss how the pilot goes about determining whether his or her aircraft is airworthy and how to apply a decision logic when an inoperative item is found on the aircraft. 🐛

required by regulation to be onboard the aircraft and technically “displayed at



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