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DEBRIEFING

Flight Safety is Everybody's Business

ANYBODY OUT THERE?

Dual CDU Failure on the Griffon CH-146

WITHOUT COMMUNICATIONS AND NAVIGATION YOU HAVE NO ONE TO TALK TO AND NOWHERE TO GO!

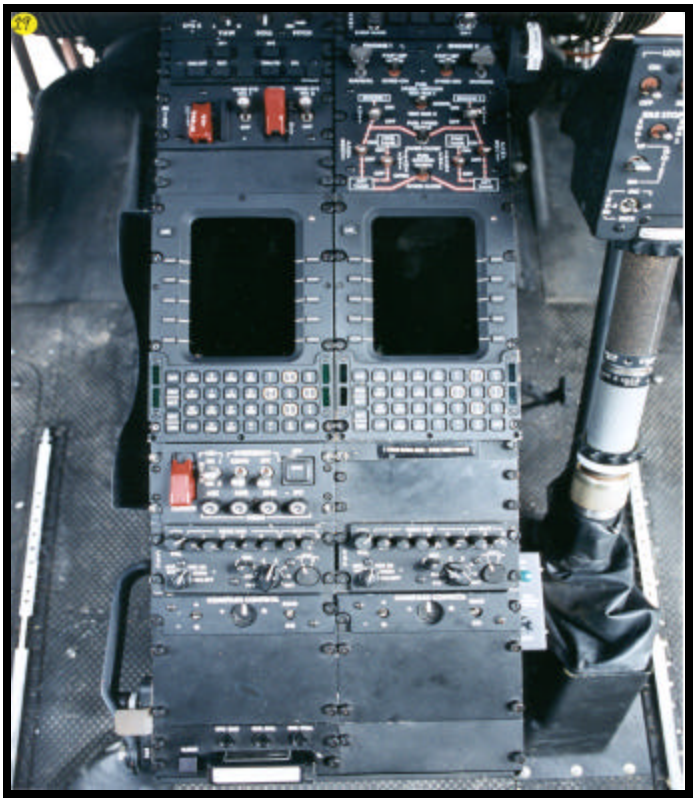
The following article was submitted by Master Warrant Officer Jean-Rock Tremblay, CH-146 Avionics System Life Cycle Materiel Manager, Director Aerospace Equipment Program Management (Transport and Helicopters) 6-3-4. The article refers to flight safety occurrence FSIS #115594 from March 2004.

On the CH-146 Griffon, all avionics equipment is controlled through the Control Display Unit (CDU) which is part of the Avionics Management System (AMS). The CDUs provide the primary interface for the systems control and data input and display. In the event of a CDU failure, the second CDU takes over maintaining control of all communications and navigations. If both CDUs fail, and all communication and navigational information is frozen, as it was in the reference incident, the aircrew is left both blind and mute - not a good condition when entering Bosnian airspace.

In this occurrence the aircrew experienced a number 1 CDU failure; after pulling the circuit breakers, it was noted that both CDUs had locked up. All systems were frozen at previous indications. Communication frequencies could not be changed, and Secure Voice was no longer functioning. Once both circuit breakers were reset, both CDUs functioned normally. One hour later, the same set of events occurred and again there was no caution panel illumination.

Further investigation revealed that a CDU failure is a common problem. This is not limited to the Griffon fleet but occurs on many aircraft types across the Canadian Forces. As a search of the Flight Safety Database demonstrated, the failure is usually limited to a single CDU but, as witnessed in this occurrence, a dual failure is possible. A technical investigation was called, and both CDUs were sent to the manufacturer for testing. Although the fault has often been believed to be a software problem, the reason for the failure has not yet been conclusively determined.

So what should you do?



1. FOR AIRCREW - DON'T TAKE YOUR INFORMATION FOR GRANTED. Your CDUs can fail at anytime. All anomalies should be taken seriously and investigated by maintenance personnel. The failure of the AMS can have serious consequences - information and comms are critical to safety and mission success. Fortunately, in this case, the crew experienced the dual failure on a clear day so though they were mute they were not blind and this permitted them to maintain control of the aircraft and the situation.

2. FOR MAINTAINERS - GO THE EXTRA DISTANCE WHILE DOING A FUNCTIONAL CHECK - SOFTWARE ANOMALIES ARE DIFFICULT TO DETECT!

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