



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

June 18, 2015

KMH-820, Multi-Hazard Awareness System Download

CEN15FA136

This document contains 4 embedded photos.

A. ACCIDENT

Location: Argyle, TX
Date: 2/4/2015
Aircraft: Cessna 441, Registration Number: N441TG, Serial #: 441-0200
NTSB IIC: Andrew T. Fox

B. EXAMINATION PARTICIPANTS:

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C. SUMMARY

Download of the KMH-820 (Serial number- 1340), Multi-Hazard Awareness System was conducted on June 18, 2015, 0800 PDT at the facilities of Honeywell, Redmond, WA.



Figure 1: Photo of data plate

D. INSPECTION OF THE UNIT PRIOR TO DOWNLOAD

The outer case shows signs of impact damage, deformation of the lower left corner near the main data interface connector, all connection ports appear to be intact.



Figure 2: deformation of right portion of main shell



Figure 3: deformation of left portion of main shell

E. DISASSEMBLY OF THE UNIT

Removal of outer screws and outer assembly removed.

Terrain data base cover removed, terrain data base card (Version: 429N, with a release date of 7/24/2002, TSO C151a Class B) and ports observed by NTSB investigators and party representatives appear to be intact. Circuit Card Assembly (CCA), GA EGPWS Module, KMH 820 (Part number 965-0702-001, serial number 01059, DMF 091101), observed by NTSB investigators and party representatives appeared to be intact. Internal Global Positioning System (GPS) assembly was removed from CCA, GPS appears to be intact, no apparent damage or deformation observed by NTSB investigators and party representatives.

Overall appearance of the CCA board appears to be intact and undamaged. CCA board removed, all connector pins to the interface unit observed by NTSB investigators and party representatives appear to be intact.

F. INSPECTION OF CCA UNDER MAGNIFICATION

Under times 4 magnification of the CCA, conducted by Honeywell representatives, all card components appear to be intact, no damage observed by NTSB investigators.

G. CCA BENCH TEST

Power to the CCA established through surrogate board, CCA board appears to be fully operational and downloadable, visual amber light indicating power to the CCA observed, depicted in figure 4. Data for the last operational use downloadable download of faults successful. Flight 618 established as the last flight that was recorded on the CCA board. Terrain card download successfully downloaded

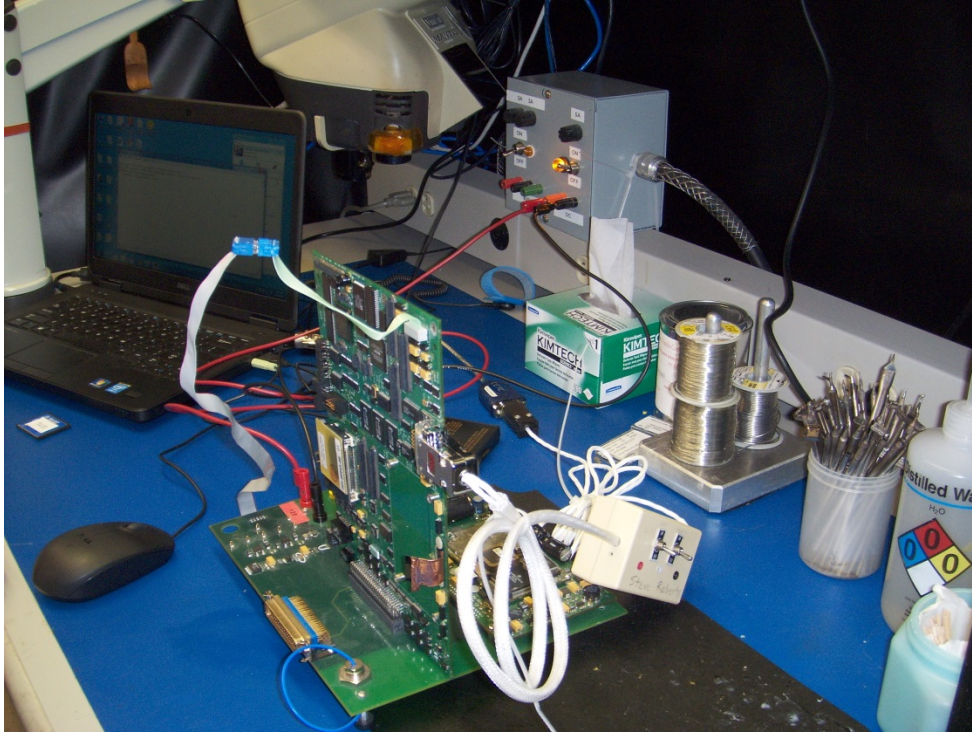


Figure 4: Bench Test

H. DATA FROM DOWNLOAD

Overview

Line number 2326 starts data for flight leg 618

Last takeoff-from KILL (KBDH) Flight leg 618, indicated by log was from KILL which is utilizing a database installed in 2002. After checking the lat/long for KILL versus KBDH, the lat/long was within close proximity of each other's.

Landing – No data available from the flight.

Alerts- line number 2348 Obstacle pull-up (OBPU) alert at lat/long 33.08565/-97.1999 Indication would have been (Obstacle, Obstacle, and then a continuous pull-up alert until corrected).

Additional Information at time of Alert:

Gear indicated: down (1)

Flaps selection: Up, no interface for the TAWS (participants reported documentation at accident site was 10 degrees extended)

GPS Altitude – 1,030 feet

Terrain Elevation – 700 feet

GPS groundspeed – 46.7 knots

Last entry line 2351 was a sink rate message however no data available due to insufficient time for data to register.

Faults-No faults indicated during accident sequence phase.

I. ADDITIONAL INFORMATION

Main circuit card for the TCAS Unit (Part number 205-00087-0001)

At the teams' request, Honeywell was able to verify that the obstacle alert was triggered by a nearby tower. From the 2002 overlay database, the obstacle was located at:

Lat 33.085827/Long -97.202152

Altitude MSL: 944 feet

AGL: 258 feet

All parties have received all data that was retrieved from the unit prior to leaving Honeywell.

J. ATTACHMENTS – Accident Flight Information



Microsoft Excel 2003
Worksheet

[Table 1: Warning_FL618](#)



Microsoft Word
Document

[Table 2: Warn File Headers](#)

Submitted by: Debra J. Eckrote