National Transportation Safety Board
Office of Research and Engineering
Washington, DC 20594

CEN23FA360

ELECTRONIC DEVICES

Specialist's Factual Report

February 28, 2024

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A. ACCIDENT

Location: Oklahoma City, Oklahoma
Date: August 13, 2023
Time: 1250 central daylight time (CDT)
Airplane: Piper PA-24-250, N7910P

B. ELECTRONIC DEVICES SPECIALIST

Specialist: Gerald Kawamoto
Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

A group was not convened. The NTSB Vehicle Recorder Division received the following electronic devices:

Recorder Manufacturer/Model:	Garmin G5
Part Number:	4JQ011865
Serial Number:	011-03809-00

Recorder Manufacturer/Model:	JP Instruments (JPI) FS-450
Part Number:	450000-P
Serial Number:	5973

Recorder Manufacturer/Model:	Apple iPad Mini 4
Part Number:	A1538
Serial Number:	F9FVLEJXGHKJ

1.0 Garmin G5 Description

The Garmin G5 is an electronic flight instrument with a 3.5-inch color display that can be installed as an attitude display indicator (ADI) and/or horizontal situation indicator (HSI). The G5 contains integrated attitude and air data sensors and can also be interfaced with external sensors. Non-volatile memory[1] is recorded to a front mounted microSD card.

[1] Non-volatile memory (NVM) is semiconductor memory that does not require external power for data retention.

1.1 Garmin G5 Data Recovery

Figure 1 shows the G5 devices as received. There was no microSD card present in the front microSD slot, thus no data were recovered.

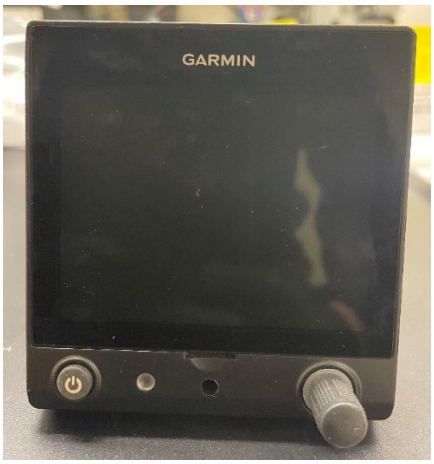

Figure 1. Garmin G5 as received.

2.0 JPI FS-450 Description

The JPI FS-450 is a panel mounted gauge capable of displaying fuel information to the operator. The fuel status is dependent on the user to properly program the amount of fuel onboard the aircraft prior to each flight. The device stores the last remaining record of fuel used and fuel remaining in gallons.

2.1 JPI FS-450 Data Recovery

The JPI FS-450 sustained damage during the accident event, as shown in figure 2. The circuit board containing the central processing unit (CPU) and non-volatile memory chip was not recovered, therefore no data were recovered.

Figure 2. Front and back of the JPI FS-450 components as received.

3.0 Personal Electronic Devices Description

The iPad Mini 4 is a personal electronic device (PED). PEDs are a category of devices comprised primarily of portable computing devices and mobile phones. Portable computing devices are typically capable of internet access, email, messaging services, and can run user-installed applications to perform specific tasks. Depending on the model, mobile phones can perform many of the same tasks as portable computing devices, plus have voice call and text messaging capabilities. PED user and system data is typically stored on non-volatile memory and can be accessed through manufacturer-provided interfaces.

3.1 Personal Electronic Devices Data Recovery

The iPad Mini 4, as shown in figure 3, sustained mechanical damage rendering it inoperable. Evaluation of the internal components revealed damage to the electronic components, therefore no data were recovered.

Figure 3. Front and back of the iPad Mini 4 as received.

Submitted by:

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Recorder Specialist