

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division

Washington, D.C. 20594

September 14, 2015

Multiple Electronic Devices

Specialist's Factual Report
by Bill Tuccio, Ph.D.

1. EVENT

Location: Benson, Arizona
Date: December 31, 2014
Aircraft: Bell 206 L4
Registration: N57AW
Operator: Airwest Helicopters
NTSB Number: WPR15FA072

On December 31, 2014, at 1710 mountain standard time, a Bell 206 L4, N57AW, collided with terrain 7 miles west of Benson, Arizona. The commercial pilot and pilot rated mechanic were fatally injured, and the helicopter was destroyed. The helicopter was registered to N57AW LLC, and operated by Airwest Helicopters as 14 *Code of Federal Regulations* Part 91 positioning flight. Visual meteorological conditions prevailed for the flight, which operated on a company visual flight rules flight plan. The flight originated from Glendale, Arizona at 1550 and was destined for Sierra Vista, Arizona.

2. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following devices:

Device 1: Samsung Galaxy S5
Device 1 IMEI: 990004499224131

Device 2: Apple iPhone 3GS
Device 2 Serial Number: Unknown

Device 3: Garmin StreetPilot
Device 3 Serial Number: 55126942

2.1. Samsung Galaxy S5 and Apple iPhone 3GS Description

The Samsung Galaxy S5 and Apple iPhone 3GS are mobile smartphones capable of making calls; sending and receiving text messages, multimedia messages, and email; taking and viewing photos and videos; and other functions depending upon installed applications.

2.1.1. Samsung Galaxy S5 Data Recovery

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had not sustained any damage; however, the device was password protected. The device was sent to Samsung to bypass the password; however, Samsung could not bypass the password. The 64GB removable microSD card was also examined.

2.1.1.1. Samsung Galaxy S5 Data Description

Due to password protection, only photos, videos, and some documents on the 64GB removable microSD card were available to the investigation. None of the content on the microSD card was pertinent to the investigation.

2.1.2. Apple iPhone 3GS Data Recovery

Upon arrival at the Vehicle Recorder Laboratory, an exterior examination revealed the device had not sustained any damage; however, the device would not turn on. Repairs were unsuccessfully attempted by the NTSB. The device was then sent to a forensic recovery vendor without a successful recovery.

2.1.2.1. Apple iPhone 3GS Data Description

No data was recovered from the device.

2.2. Garmin StreetPilot Description

The Garmin StreetPilot is a portable GPS designed for automotive use. The display is capable of showing the device position over a variety of mapping options. When enabled, the device is capable of storing track information to non-volatile memory,¹ which may be downloaded using manufacturer software. The track information consists of time, latitude, and longitude; altitude is not recorded.

2.2.1. Garmin StreetPilot Data Recovery

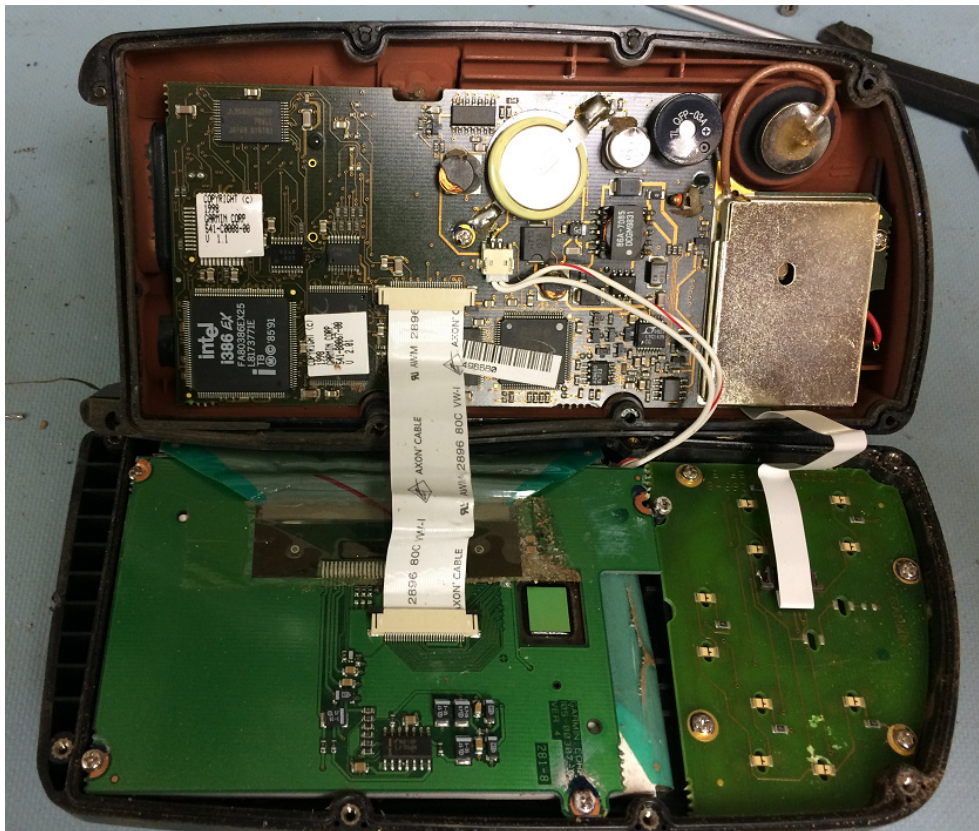
Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had sustained significant impact damage, as shown in figure 1. An internal inspection revealed no significant damage to electronic components, as shown in figure 2. The unit was repaired and downloaded using the manufacturer's software.

¹ Non-volatile memory is memory that does not need power to retain information.

Figure 1. Garmin StreetPilot as received.



Figure 2. Garmin StreetPilot, internal inspection.



2.2.2. Garmin StreetPilot Data Description

The data extracted included 3 sessions from December 30, 2014² through December 31, 2014. The accident flight was recorded starting 2348:20 UTC and ending 2357:57 UTC on December 31, 2014.

2.2.3. Parameters Provided

Table 1 describes data parameters provided by the GPS device. Date, Time, Latitude, and Longitude are recorded by the device. Groundspeed and Track are derived from the recorded parameters. Altitude was not recorded by this device.

Table 1: GPS Data Parameters

Parameter Name	Parameter Description
Date	Date for recorded data point (MM/DD/YYYY)
Time	Time (UTC) for recorded data point (HH:MM:SS)
Latitude	Recorded Latitude (degrees)
Longitude	Recorded Longitude (degrees)
Groundspeed	Average derived groundspeed (knots)
Track	Average derived true course (degrees)

2.2.4. OVERLAYS AND TABULAR DATA

Figure 3 is a graphical overlay of the accident flight, generated using Google Earth and an aviation sectional chart.

The recording began at 2348:20 UTC, when the helicopter was northwest of Tuscon International Airport (TUS). The track followed Interstate Highway I-10 southeast bound, passed TUS. The recording ended shortly after the helicopter passed TUS, at 2357:57 UTC.

Tabular data used to generate figure 3 are included as attachment 1. This attachment is provided in electronic comma-delimited (.CSV) format.

² All dates and times are referenced to Coordinated Universal Time (UTC).

Figure 3. Overlay of accident flight recording.

