NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, D.C. 20594

July 12, 2012

Global Positioning System Device

Specialist's Factual Report
By Ben Xu

1. EVENT

Location:	Green Cove Springs, FL
Date:	December 26, 2011 / 0554 EST
Aircraft:	Bell 206B / N5016M
Operator:	SK Logistics, d.b.a. SK Jets
NTSB Number:	ERA12MA122

2. ACCIDENT SUMMARY

On December 26, 2011, at 0554 Eastern Standard Time, a Bell 206B, N5016M, operated by SK Logistics, d.b.a. SK Jets, collided with terrain while maneuvering near Green Cove Springs, Florida. The certificated airline transport pilot and 2 passengers (a doctor and a medical technician) were fatally injured. The on-demand air taxi flight was conducted under the provisions of 14 Code of Federal Regulations Part 135. Night instrument meteorological conditions prevailed along the route and no flight plan was filed for the planned flight to Shands Cair Heliport (63FL), Gainesville, Florida. The flight originated from Mayo Clinic Heliport (6FL1), Jacksonville, Florida, about 0537.

3. DETAILS OF DEVICE INVESTIGATION

The Safety Board's Vehicle Recorder Division received the following device:

Device:	Garmin GNS 430
Device Serial Number:	97115322

The Global Positioning System (GPS) device sustained minor damage from impact forces during the accident (Figure 1). Initial examination revealed that the unit's primary liquid crystal display (LCD) was not operational. The LCD was removed, cleaned, and placed in a drying oven. Power was applied using laboratory equipment and the device start-up was consistent with normal operation.

3.1. GPS Device Description

The Garmin GNS 430 is a panel-mount all-in-one GPS/Nav/Comm device. The device is capable of storing the last COM and VLOC frequencies used. All recorded data is

stored in volatile[1] memory. An internal battery is used as back-up power to the internal memory and real-time clock during those periods when main power is removed.

The device recovered from this accident was configured through modification (Mod) level 5.

3.2. GPS Data Description

The device was manually inspected to determine the last-used frequencies (Figure 2). Table 1 summarizes these settings.

Parameter	Frequency
COM (Primary)	118.000 MHz
COM (Secondary)	119.625 MHz
VLOC (Primary)	116.00 MHz
VLOC (Secondary)	111.10 MHz

Table 1: Last frequencies set on device

[1] Volatile memory is semiconductor memory that requires external power for data retention.

Figure 1: Garmin GNS 430 (S/N 97115322)

Figure 2: Garmin GNS 430 with power applied showing last COM and VLOC settings