

National Transportation Safety Board

Office of Research and Engineering
Washington, D.C. 20594

Radar Performance Study

Specialist Report
Timothy Burtch

A. ACCIDENT

Location: Green Cove Springs, Florida
Date: December 26, 2011
Time: 0554 EST
Airplane: Bell 206B, Registration N5016M
NTSB Number: ERA12MA122

B. GROUP

No vehicle performance group was formed.

C. SUMMARY

On December 26, 2011, at 0554 Eastern Standard Time (EST), a Bell 206B¹, 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, and no flight plan was filed for the planned flight to Shands Cair Heliport (63FL) in Gainesville, Florida. The flight originated from the Mayo Clinic Heliport (6FL1) in Jacksonville, Florida, about 0537.

¹ The Bell 206B JetRanger is a two-bladed, single-engine, helicopter manufactured by Bell Helicopter. See Figure 1.

D. PERFORMANCE STUDY

The performance study describes the helicopter speed and altitude for the accident flight as well as the ground track for both flight legs flown on 12/26/12. The radar data used are from a long range radar site (Whitehouse Naval Outlying Field, KNEN) located 13 NM southwest of Jacksonville International Airport and approximately 29 NM north of the accident site.

Times in the study are reported in EST as well as Greenwich Mean Time (GMT or “Z”):
EST = GMT – 5 hr.

Weather Observation

The closest weather reporting to the accident site was from an Automated Weather Observing System located at Palatka Municipal Airport (K28J), two miles northwest of Palatka, Florida. The observations were taken from automated equipment and were not supplemented by a human observer. K28J has an elevation of 48 feet and is located 14 miles southeast of the accident site. See the Meteorological Factual for more details. (Note: cloud heights are reported above ground level.)

K28J 261054Z 01003KT 10SM FEW038 BKN070 15/14 A3021

K28J weather on the 26th at **1054 GMT/0554 EST**, wind from 010° at 3 knots, visibility 10 statute miles, few clouds at 3,800 ft, a broken ceiling at 7,000 ft, temperature of 15° C, dew point temperature of 14° C, altimeter setting of 30.21 inches of mercury.

Airplane Ground Track, Altitude, and Airspeed

Figure 2 shows the radar ground track for the two flight legs that N5016M flew on 12/26/201. The blue labels in the figure indicate GMT, altitude above sea (in feet), and calibrated airspeed (in knots), respectively.

The day started with a departure from St. Augustine Airport (KSGJ) at approximately 0515 EST and resulted in a landing at the Mayo Clinic Heliport near Jacksonville, FL. The flight from KSGJ lasted about 15 minutes, and N5016 was on the ground at 6FL1 for about 7 minutes. N5016M departed the Mayo Clinic bound for Shands Cair at 0537, and the accident occurred approximately 17 minutes later at 0554.

The radar ground track, altitude, and airspeed for the final leg are highlighted in Figures 3 and 4. Note that the radar “points” are actually boxes (in white) because of the uncertainty associated with the radar data. In addition, the altitude time history shown in Figure 4 is bounded by dashed lines to indicate the degree to which altitude can be determined.

N5016M’s final descent from 967 ft mean sea level to the impact altitude of 118 ft msl occurred at about 05:52:48 at a nominal rate of climb (ROC) of about -500 feet per minute (fpm). The helicopter was abeam and west of Haller Airpark (7FL4) at this time. While the sectional chart does show power lines running northwest/southeast and just west of Haller,

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the ground track for N5016M crossed the power lines north of Haller over a minute earlier at 05:31:36. The sectional chart shows no other ground obstructions in the area.

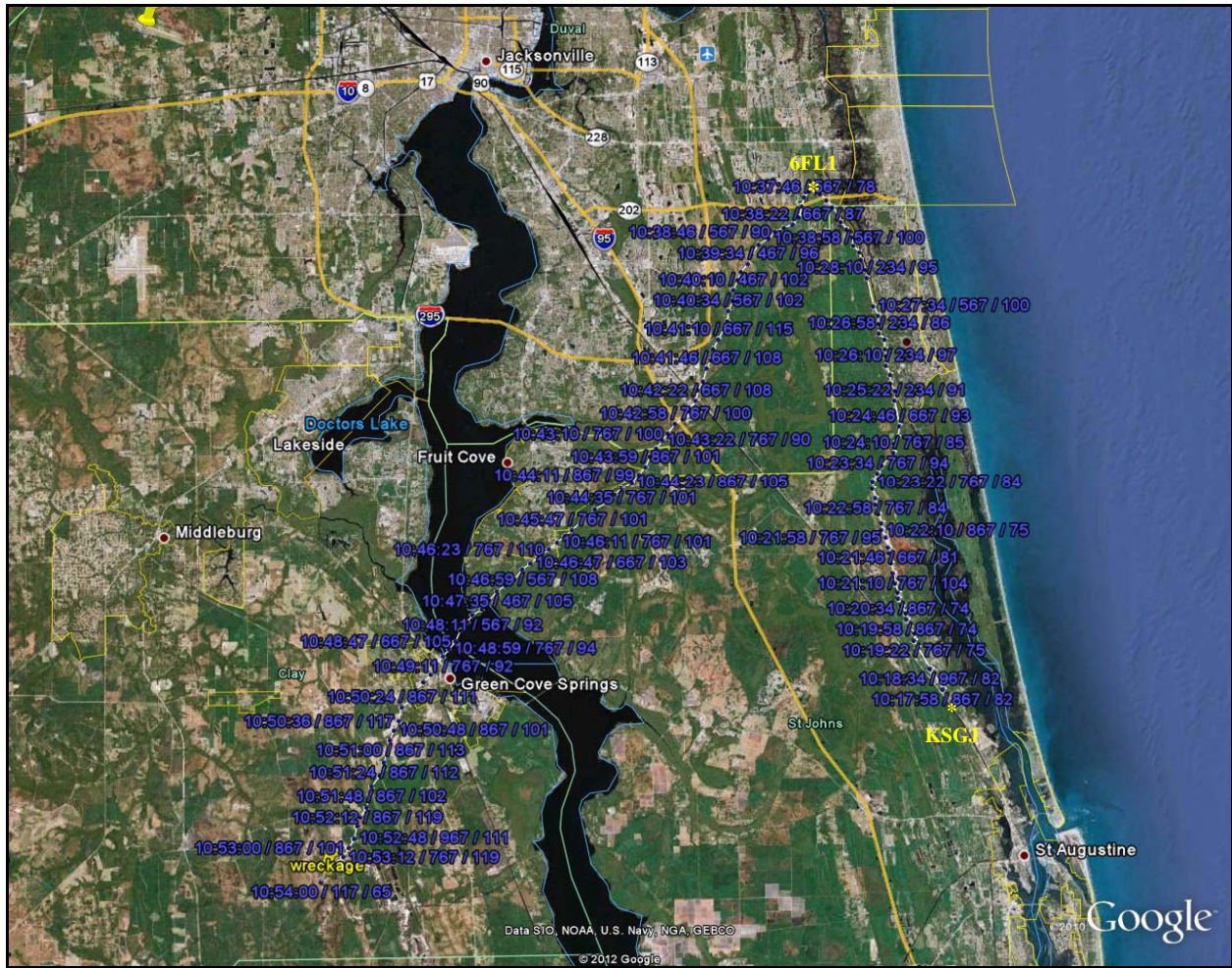
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E. Figures



Figure 1: Accident Helicopter N5016M, a Bell 206B JetRanger

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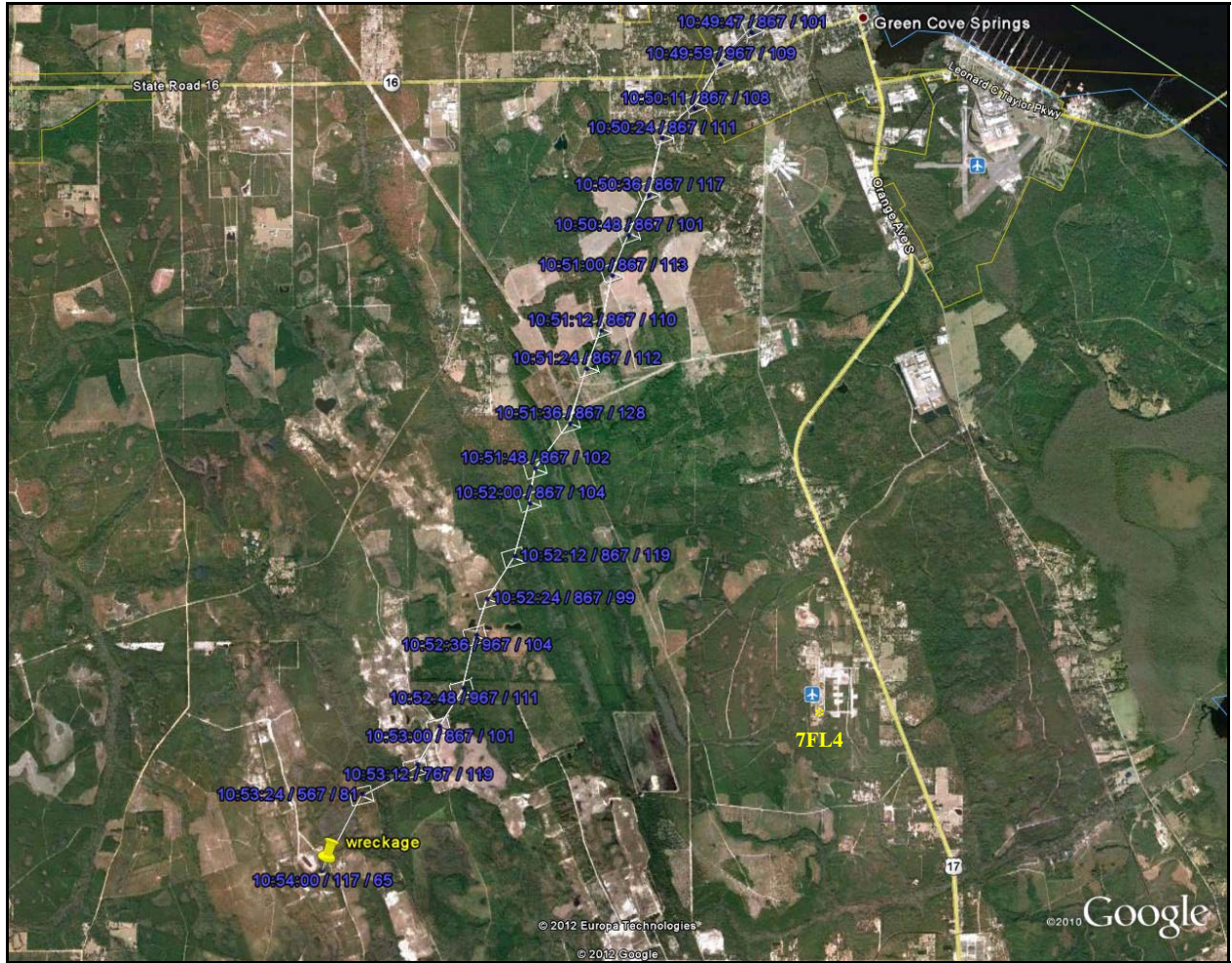


Figure 3: Radar Ground Track for Last 4 Minutes

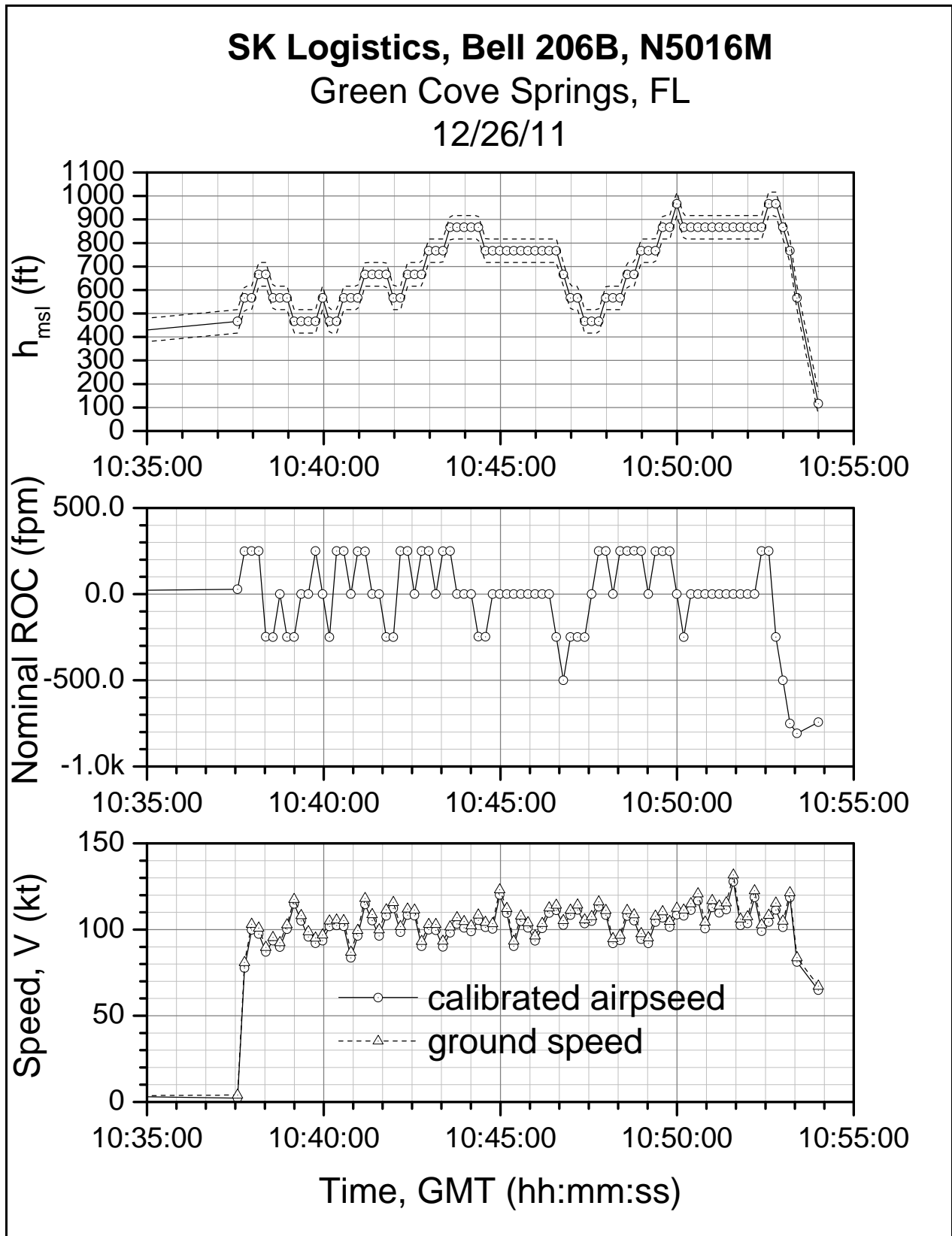


Figure 4: Altitude and Speed for Final Flight Leg – 6FL1 to 63FL