**NATIONAL TRANSPORTATION SAFETY BOARD**
Vehicle Recorder Division
Washington, DC 20594

August 7, 2013

# Onboard Image Recorder

**Specialist's Factual Report**
**By Sean Payne**

## 1. EVENT

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|---|---|
| Location: | Atlanta, GA |
| Date: | May 23, 2013, 14:56 Eastern Daylight Time (EDT) |
| Aircraft: | Hawker Beechcraft A36, N8225T |
| Operator: | Private |
| NTSB Number: | ERA13LA252 |

## 2. GROUP

A group was not convened.

## 3. SUMMARY

On May 23, 2013, about 1456 Eastern Daylight Time, a Beech A36, N8225T, was substantially damaged when it had an aerodynamic stall and impacted terrain shortly after takeoff at DeKalb-Peachtree Airport (PDK), Atlanta, Georgia. The private pilot and four passengers were not injured. Visual meteorological conditions prevailed, and an IFR flight plan had been filed for the personal flight destined for Venice Municipal Airport (VNC), Venice, Florida, which was conducted under Title 14 Code of Federal Regulations Part 91.

## 4. DETAILS OF INVESTIGATION

On May 30, 2013, the NTSB Vehicle Recorder Division's Image Laboratory received the following image file:

**Image File or Recording Device:** **Sequence%2001.mp4**

### 4.1. Recorder Description

In an email discussion, the owner/operator noted that the file was from a passenger's cell phone and that it was "probably a Samsung". No other details are known about the device.

## 4.2. Recorder Damage

The condition of the cell phone is unknown, but assumed to be undamaged.

### 4.2.1. Video Files

The file was delivered in an MP4[1] format of 1920 x 1080 resolution at 29.97 frames per second with a 48000Hz audio track. The video, captured on a cell phone, was recorded oriented in a vertical position, causing the file to be cropped and two black bars added to either side of the video to maintain a 16:9 aspect ratio[2].

The video is from a rearward facing passenger on the right side[3] of the aircraft. The video captures a view out of the right rear passenger window looking toward the aircraft's right horizontal stabilizer. As the video progresses, a portion of the aircraft's cabin is captured including a view of the baggage storage area and another passenger sitting in the rear most forward facing seat on the left side of the fuselage. An additional passenger in the rearward facing seat on the left side can also be seen briefly as the camera pans during the recording. The video is 36 seconds and 19 frames in length (36.43 seconds).

## 4.3. Timing and Correlation

Time is expressed as video elapsed time, which is time from the beginning of the recording. Times are expressed as SSFF, where SS represents seconds and FF frames of video elapsed time. Additionally, the video elapsed time in seconds has been added in parentheses immediately following the convention noted above.

## 4.4. Summary of Recording Contents

In agreement with the Investigator-In-Charge, a video group did not convene and a summary report was prepared. Figure 1 shows the field of view of the rearward facing passenger's cell phone during most of the recording.

The video begins with a view out the right rear window as the aircraft is on takeoff roll, accelerating on the ground and crossing the runway numbers. The recorded engine noise on the audio track sounds constant and healthy. At 1018 (10.6 sec.), as the aircraft continues its takeoff roll, the camera begins to pan toward the interior of the cabin. As the camera pans right, the reference to the horizon is lost at 1408 (14.26 sec.). As the camera pans inside the aircraft a view of the baggage area is shown and a young adult male is seen reading in the left rear forward facing seat. The baggage area is noted to have an amount of luggage great enough to fill the cabin to the ceiling and is restrained by a cargo net. Additional baggage can be seen in front of the cargo net area. The camera continues to pan right and at 1418 (14.6 sec.) the horizon is now visible again

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[1] MPEG-4 Part 14 -- A digital multimedia container format used to store video and audio.
[2] The ratio of width to height of a media file.
[3] All references to the left or right side of the aircraft in this report will be with respect to the visual orientation of the pilot flying.

outside of the left rear passenger window. At approximately 1515 (15.5 sec.), an aircraft pitch change in the positive direction is observed and the aircraft begins to rotate for takeoff. Almost immediately after rotation, at 1602 (16.06 sec.), the first indication of the audible stall warning is heard. The aircraft continues in a nose up attitude as the camera pans camera right and the left side rearward facing passenger, an adult, is captured at 1701 (17.03 sec.). At this instant the stall warning alarm is intermittent at a high rate.

Between 1800 (18.0 sec.) and 1900 (19.0 sec.), the stall warning alarm briefly ceases, little change in pitch attitude is noted, thus the aircraft is still pitched nose up. At 2006 (20.2 sec.), the stall warning horn is heard again and continues to fluctuate in frequency. At 2020 (20.66 sec), the camera pans back toward the left rear forward facing passenger and the aircraft is noted to be in a nose high position. At 2300 (23.0 sec.), the horizon is visible again. At this moment, the camera pans back to the left outside of the right rear window and shows the aircraft in a nose high position. Between 2500 (25.0 sec.) and 2700 (27.0 sec.), a sound similar to a very slight engine surge is noted. At 3001 (30.03 sec.), the aircraft appears to have reached its highest altitude, an estimated 50 – 100 feet off the runway's surface. At the same instant, the engine noise becomes reduced by a significant amount. By 3311 (33.36 sec.), the camera shows the elevator control surface exhibiting a range of motion between neutral and a positive pitch command which continues from this now until the end of the recording. At 3316 (33.53 sec.), the stall horn becomes steady for the remainder of the recording. The aircraft is in an obvious descent trend and the elevator control surface can last be seen at 3505 (35.16 sec.) exhibiting a significant pitch up command. The camera rapidly changes its field of view and at 3529 (35.96 sec.) an impact sound is heard. The recording terminates at 3613 (36.43 sec.).

**Figure 1: An illustration of the field of view of rearward facing passenger's cell phone.**