

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, DC 20594

November 14, 2012

On Board Image Recorder

Specialist's Factual Report
By Bill Tuccio

1. EVENT

Location: Fairbanks, Alaska
Date: July 26, 2012
Aircraft: Hawker Beechcraft F33A, N334DH
Operator: Private
NTSB Number: ANC12FA079

2. GROUP

A group was not convened.

3. SUMMARY

On July 26, 2012, about 1015 Alaska daylight time, a Beech Bonanza, F33A airplane, N334DH, sustained substantial damage during a forced landing, following a loss of engine power after takeoff from the Fairbanks International Airport (FAI), Fairbanks, Alaska. The airplane was being operated by the pilot as a visual flight rules (VFR) cross-country flight under the provisions of Title 14, CFR Part 91, when the accident occurred. The certificated airline transport pilot, and one passenger sustained minor injuries. Visual meteorological conditions prevailed, and a company flight plan had been filed. The flight departed Fairbanks International Airport at approximately 1015, destined for Homer, Alaska. A set of aircraft mounted cameras was sent to the National Transportation Safety Board's Image Laboratory for readout.

4. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Division's Image Laboratory received four Contour Roam Model 1600 video recorders and one Contour Roam Model 1400 video recorder with an integrated GPS.

4.1. Recorder Description

The Contour Roam is a portable, waterproof, rugged high definition capable video recorder. The camera is equipped with a 170 degrees wide-angle lens integrated into a 4 inch long, 2 inch wide body. The body also contains the

camera controls, a laser for camera alignment, a battery, an internal microphone, a microSD memory card slot supporting up to 32 GB of storage, and a USB port. Recorded audio and video can be written directly to the microSD card as well as the USB port. The video is capable of recording up to 1920 x 1080 pixels at frame rate of 30 feet per second.

4.2. Recorder Damage

Upon arrival at the NTSB laboratory, it was evident that the cameras had sustained minor damage, as shown in figure 1. The 32 GB microSD cards were removed from each camera and the video and audio information was extracted from four of the five microSD cards normally, without difficulty. No video files were found on the Contour Roam 1400 GPS unit's microSD card.

Figure 1. Five Contour Roam cameras as received.



4.2.1. Video Files

The video files were recorded at 30 frames per second and contained high definition video and audio content from four of the five cameras; one camera contained no recorded video or audio. The pertinent video was recorded from different perspectives on the aircraft, including two forward facing perspectives, one side facing, and one rearward facing. All cameras and microphones were mounted outside of the aircraft.

4.3. Timing and Correlation

The times used in this report are reported as Video Elapsed Time. Elapsed time begins at the first engine start attempt. Times are expressed as mm:ss, where mm is minutes, and ss is seconds.

4.4. Summary of Recording Contents

In agreement with the Investigator-In-Charge, a video group did not convene and only this summary report was prepared. This summary describes images from all four cameras.

The aircraft first started its engine at 00:00. The first start resulted in a loud engine sound, consistent with high RPM for about 2 seconds, followed by a decrease to a sputtering, low RPM sound until about 00:15 when the engine stopped. The engine was then successfully cranked and started at about 00:22.

The aircraft idled until about 03:58, when it began to taxi to runway 20L at FAI. The aircraft taxied without stopping, from the ramp to the hold short line for 20L, via north on taxiway Charlie and then left on Tango. The aircraft came to a stop on taxiway Tango at 05:45, pointing northwest.

The aircraft remained stationary at taxiway Tango, holding short of runway 20L, for about 5 minutes and 30 seconds. While the aircraft was holding short, other aircraft also held short nearby, including a twin engine aircraft, and two other single engine aircraft. Briefly during this hold short period, the elevator moved up and down, as observed by the elevator shadow on the ground. The audio recorded the sound of engines operating for brief periods at higher RPMs; however, none of the four audio sources were consistent with a sound similar to the accident aircraft operating at higher RPMs.

At 10:15, the accident aircraft began to move forward, passing the hold short line heading west, then turning south on to runway 20L. The accident aircraft lined up on the left side of the runway centerline, and a twin engine aircraft occupied the right side of the runway, just aft of the accident aircraft. The accident aircraft transitioned from taxi to the start of the take-off roll, without stopping, at 10:46. By about 10:55, the aircraft was abeam taxiway Bravo and continued to accelerate.

At about 11:06, the aircraft became airborne, just passed the Sierra taxiway. The aircraft initially climbed straight ahead over runway 20L. At about 11:24, the aircraft passed abeam taxiway Quebec, above runway 20L.

At about 11:27, the engine sound ceased rapidly; taking about one second to transition from the take-off power sound to no discernible engine sound. The lack of engine sound continued until the end of the recording. The remaining sound until impact was the sound of air flow over the microphones, a sound which decreased as the aircraft came closer to impact, and ceased abruptly after impact.

At about 11:32, the aircraft rolled to about a 10 degree bank angle to the left, and then immediately rolled to the right in about a 30 degree bank angle as the pitch attitude decreased. As the aircraft turned, the area where the aircraft would impact the ground became visible; a grassy area just beyond a curving body of water.

The aircraft remained in a right turn of decreasing bank until about 11:48, when it was just over the body of water before the impact point.

The aircraft began to impact the grass at 11:51 just beyond the body of water, and slid through the grass until about 11:55, when it came to a stop.

Following the impact, most of the cameras continued to operate and recorded the post-crash response of various personnel and equipment.