Record of Conversation

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: August 9, 2013
Person Contacted: Edward Friedman
NTSB Accident Number: ERA13LA314

Narrative:

Mr. Ken Hovermale who represents Mr. Edward Friedman contacted NTSB by phone on August 9, 2013, at 1100 EDT. Also on the call was Mr. Edward Friedman.

Mr. Friedman provided an e-mail address of [redacted] At the start of the conversation I mentioned that I wanted to brief them both as to the status of the investigation, but wanted to get the interview performed first. Mr. Friedman mentioned that he had spoken with mechanic Ben Mosher yesterday who gave him current status of his aircraft parts vis-à-vis their shipping to NTSB.

Mr. Friedman mentioned the timeline page submitted with the NTSB Pilot/Operator Aircraft Accident/Incident Report and wants to make slight corrections related to times. He did mention that he has now has firm times of the fuel purchase, and Kathleen (his partner) received a call at 1701 EDT on July 3, 2013, in relation to the ELT signal.

Mr. Friedman was asked near the beginning of the phone call if he was taking any medication and he stated yes. He is currently taking 50 mg Tramadol every 6 hours, and with that he is also taking Tylenol. He last took Tramadol and Tylenol at 0600 hours on 8/9/2013. He was asked if the medication prevented him from operating a car and reported that his injury to his left leg and the fact that every vehicle he owns is equipped with a manual transmission prevents him from driving, not the medication itself. He is not to put weight on his left leg for 10-12 weeks. He reported that he was released from the rehabilitation hospital on August 7, 2013; having continuously been under in- house medical care from the date of the accident to that date.

July 3, 2013 Details:

KLEW- He had a flight scheduled for the afternoon through Lighthawk for the purpose of black bear tracking. He would be flying with a person whom he had not flown before. The weather pattern in the previous couple days precluded him from flying in the morning due to fog. He went to the KLEW Airport in early afternoon having arranged to meet the passenger at KWVL Airport between 1430 and 1500. He performed a preflight inspection of the helicopter which included checking the engine oil. He reported that he may have added 1 quart of oil. He also performed a check of the engine before departure which included checking the magnetos and doing a check of needle split. He listened to 122.8 MHz, and departed at 1430, for the estimated 35 minute flight to KWVL.

After an uneventful flight and landing at KWVL, he disengaged the main rotor but allowed the engine to continue to operate and hot fueled the helicopter himself filling both fuel tanks. He reported that his credit card receipt shows the fuel being paid at 1515, and believes about 9 gallons were purchased [He has since confirmed 13.5 gallons after finding his receipt]. He did not check the fuel tanks or fuel strainer for contamination reporting that there was not adequate time for possible contaminants to settle and that he had drained the fuel prior to take off from KLEW. He further reported that he had previously fueled at KWVL and had not had a problem with the fuel from that airport, and further stated that with this aircraft he has never had a problem with the quality of fuel purchased at any airport.

While at KWVL and before takeoff, he set up the passenger's gear and gave the passenger a safety briefing, and also as his usual custom, informed her of the operational aspects of the helicopter explaining engine instruments and controls. He recalled showing Lisa the needle split, but does not recall doing a check of the magnetos since the engine had been continuously running. The weather in the area included calm wind and high overcast clouds. He departed at 1530, and proceeded to the study area northeast of KWVL. While en-route to the study area, and flying up the Sebasticook River as far as Benton Falls Dam, he showed the passenger a number of bald eagles and eagle nests he regularly monitors in conjunction with the Maine Dept. of Inland Fisheries and Wildlife, and then began tracking the bears.

They first started high between 1,000 and 2,000 feet performing a grid search until receiving radio collar signals, then when homing in on bears began descending (they were using 2 different antennas). He reported that he has a science background and has been radio tracking using a helicopter for about 8 years. While flying about 50 feet above the tops of trees at an airspeed between 10 and 20 knots, with a wind "fairly calm", or no more than1 to 3 knots, with the engine instruments reading normal, he began a "fading right turn" (a right turn with a sideways component of flight leading into it) with a "modicum" of left anti-torque pedal input while slowing.

He reported that perhaps 2 seconds from turn initiation the right turn (with the helicopter now perhaps 30-40 feet above the trees), escalated in the same direction into a spin (despite left pedal) about the main rotor axis consistent with sudden loss of tail rotor authority. As the out of control spin began and helicopter descended, his passenger asked "what's going on?" to which Friedman replied "I don't know" before pulling up on the collective to ease their imminent contact with the trees (approximately 40 feet in height). He stated by phone that because he was so low he could not lower collective (increasing his rate of descent), apply forward cyclic and accelerate out of any possible disturbed air. He does not know how many turns were completed but the helicopter was in the trees within about 2 seconds of the time from spin initiation-the time it took for his passenger to ask her question and for his response.

He blacked out upon entering the trees, and believes he was out for 30 minutes (now 40 minutes knowing actual ELT transmission time). He vaguely recalled Lisa helping him from the helicopter, and he thinks she was more disoriented than him, but she removed him from the helicopter and helped stabilize him. Their phone/radio communications were shot, and Lisa (the passenger) got the survival bag out of the helicopter at Ed's instruction. The next time reference he had by his watch was Lisa leaving to get help about 1800. She walked to get help flagging down a passing motorist. He estimated it was 45 minutes to 1 hour before 1st responders arrived. He was placed on a litter and walked out of the site, and was transported to a hospital for treatment of his injuries.

He later reported that his partner (Kathleen) received a phone call in reference to an ELT activation at about 1700 hours.

He stated that he had once in the past previously experienced loss of tail rotor effectiveness in a hover due to tailwinds, and knows in that situation the helicopter wants to weather cock, but he advised he did not experience the same conditions during the accident flight.

He reported there were no annunciations, audible warnings, nor did he feel any unusual vibrations going into the right turn or up to the point of the helicopter yawing to the right, reporting that he is pretty keyed in to rpm sounds. He was asked if he recalled the manifold pressure at the start of the right yaw but he did not recall; he did state that neither he nor the passenger were heavy; therefore, there was not a lot of demand for power. He also reported he did not notice any changes to the engine in terms of sound or gauges from the moment of the start of the right turn to the tree contact; however, his eyes were outside and not inside.

He was asked whether the helicopter nose tucked or dropped during the uncontrolled yaw to the right and he reported his sense was during the yaw there was no sudden change in attitude.

He was also asked to provide a list of his injuries*; he advised he would. He was wearing the four- point restraint and reported it was fastened snug.

He estimated the time of the accident at 1700 hours.

His partner (Kathleen) received a call at 1701 regarding the ELT. Mr. Friedman asked if I had the time the ELT activated and I replied I did not. I also advised him that I would find that out and advise. Following the interview I called the AFRCC and was advised that the 1st ELT signal was received at 2049Z, or 1649 hours local. Mr. Friedman and his attorney were provided that information in an e-mail the same date at 1230 EDT.

The digest was e-mail to the pilot and his attorney for review on August 9, 2013, about 1534 EDT. They replied with edits/comments on, August 19, 2013.

*List of Injuries

1. [redacted]
2.
3.
4.
5.

6. [redacted]
7.
8.
9.
10.

[redacted]

RECORD OF CONVERSATION

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: July 9, 2013
Person Contacted: Lisa N. Bates
NTSB Accident Number: ERA13LA314

Narrative:

Ms. Bates was contacted by phone on July 5, 2013, at 1542 EDT. She was called via the NTSB Communication Center to her mother's cellular phone of [redacted] Also on the conference call was FAA inspector Mark Auclair.

She provided an e-mail address of [redacted] and a home address of [redacted] Belfast, Maine [redacted] She confirmed her cell phone was damage as a result of the accident. Ms. Bates stated that she is not a pilot, and excluding the accident flight had only 1 previous time flown on a helicopter. That flight occurred about 2 to 3 year ago on a 15 minute flight. She reported the helicopter on that flight was larger than the accident flight helicopter. She stated that she had not flown with Mr. Friedman before, and the purpose of the flight was to aerial telemetry for radio transmitted collared black bears. LightHawk (501C3 Organization) arranged the flight with the pilot in conjunction with Unity College for the State of Maine to study 3 radio collared black bears. The accident flight was the first of what was planned to be many more flights. She stated that Mr. Friedman volunteered his time, services, and helicopter.

On the accident date about 1415, the pilot called her while he was at Aurburn, and advised her that the helicopter would not start. His mechanic was with the helicopter. She relayed that the temporary fix was in order to shutdown the helicopter a terminal was needed to be disconnected from the battery. A socket was needed to do so. The pilot flew from Auburn to Waterville, where she was located. During the pilot's preflight check, he notified her about items of the aircraft, and also emergency procedures.

The accident flight departed Waterville, Maine, between 1530 and 1600, with her seated in the right seat with the seatbelt and shoulder harness tightly secured. She was also wearing a headset. She later stated that she thought the harness was too tight but thought it was good like that and

left it that way. After takeoff the flight proceeded over a watershed, and they looked at eagle nests. They then proceeded to the black bear study area near Unity Pond.

They flew over the areas she knew the target bear frequented and finally picked up the signal of the bear's collar. They honed in on the bear's location by running transects. They established that the bear was on the Northeast side of the tracks and descended to get a more accurate sense of where it was exactly. While flying at a low altitude, she noticed the helicopter was not operating as it had previously during the flight. She did not hear any clanging or banging.

She was asked if the sound was consistent with chugging and she said yes and also equated it to her vehicle stalling. She asked the pilot what was occurring and he said he did not know. The helicopter began spinning counterclockwise and the pilot was attempting to correct. She saw both hands and feet on the flight controls attempting to correct. Within seconds, the helicopter was falling through trees. She was asked what altitude they were flying at and she said they were low but she could not determine the altitude. She was not sure if the counterclockwise rotation continued to the ground, and she was asked if she heard any horns or heard any lights on the instrument panel; she said no.

After coming to, she was not aware of why she was there, or where she was located. She began talking and the pilot who was coherent began speaking to her which oriented her. She heard a buzzing sound and noticed fuel leakage. Ms. Bates advised that she removed the pilot from the helicopter even though he was in pain from his injuries, and she then moved him away from the wreckage. The pilot then directed her to the buzzing sound and she was able to locate the ratchet but was unable to locate the socket. Because of that she was unable to disconnect the battery. FAA inspector Auclair informed all finding a ½ drive ratchet with 6 inch extension at the accident site, but did not notice a socket.

Because her cellular phone was damaged as a result of the accident sequence, and she could not get the helicopter radio to work, they developed a plan for her to get help. She used her GPS and logged the accident site location, then walked 2/10's of a mile to a road and then 50 yards along the road when she came upon a car. She flagged the driver (Patty Brown) down and relayed the story. Using her cellular phone she called the pilot's wife and told her of the crash and then called 911. As luck would have it she was located between 2 houses of which were occupied by first responder personnel.

She was asked about the weather and reported it was, "really good." She was also asked if she felt the engine was still operating while descending and she said yes, later commenting during corrections that she was referring to the buzzing sound associated with the battery still being electrically connected postaccident.

With respect to the equipment installed on the helicopter for tracking the black bears, she reported it was equipped with a Yagi directional antenna fixed to an aluminum pole. A coax cable ran from the antenna into the cockpit and connected to a receiver consistent in size with a walkie talkie. Somehow the sound from the receiver was able to be heard in both the pilot and her headsets. She also had a "rubber ducky" antenna connected to the receiver.

With respect to her injuries she sustained a [redacted] She was asked at the end of the conversation if she was medicated for pain and she reported last taking one (1) [redacted] at 0530 this morning. When asked how long she [redacted] for, she stated she was not sure, and medical personnel attempted to determine the same thing using a timeline chart. She did state she thinks both of them [redacted] With the suggested corrections she reported just being informed that both were [redacted]

She was asked about her GPS and she stated she thinks it may have been on in-flight.

She provided the name of her supervisor at Unity College as George Matula, who can be reached at [redacted]. Unity College is making a claim for worker's compensation.

She was asked if she felt any vibration in the floor, her feet, or the seat. She reported it felt more like chugging than vibration.

The digest was e-mailed to her for review on July 5, 2013, about 1818 EDT. She replied on July 9, 2013, at 1300 EDT; all comments were incorporated. The corrected document was sent to her for review on July 9, 2013, at 1335 EDT. She replied the same day at 1506 EDT with, "Thank you Tim. This version looks good. As far as I know that was the raw track log from the GPS. But I will check with Justin again _____"